



U M B R E L L A
ENVIRONMENTAL
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Environmental Risk Assessment

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1 INTRODUCTION

This Environmental Risk Assessment (ERA) accompanies the application for a bespoke waste permit EPR/MB3002CR at Unit 1-3 Tollgate Business Park, Salisbury, SP1 2JJ. The site location is shown on plan 004.20_09_001 permit boundary with an aerial view shown in Figure 1 Site Location .

The site is an industrial unit with a history of light commercial use. The site is now to be used as a council depot with a small scale bespoke waste treatment/transfer station attached with the main focus being on bulking of waste material prior to ongoing treatment at another appropriately authorised site.

The only waste to be accepted is detailed in section 12 of this application pack 004.20_05_009 LoW. This waste material will be stored in either a purpose built bay or in a metal container e.g skip/ Roll on Roll off (RORO) container. Waste will arrive on site via the councils own fleet or approved sub-contractors (registered waste carriers) it will arrive via the southerly entrance.

This document summarises the application for a bespoke waste permit allowing for the non-hazardous waste to be accepted, treated and stored prior to onwards transportation for recovery or final disposal.

Figure 1 Site Location



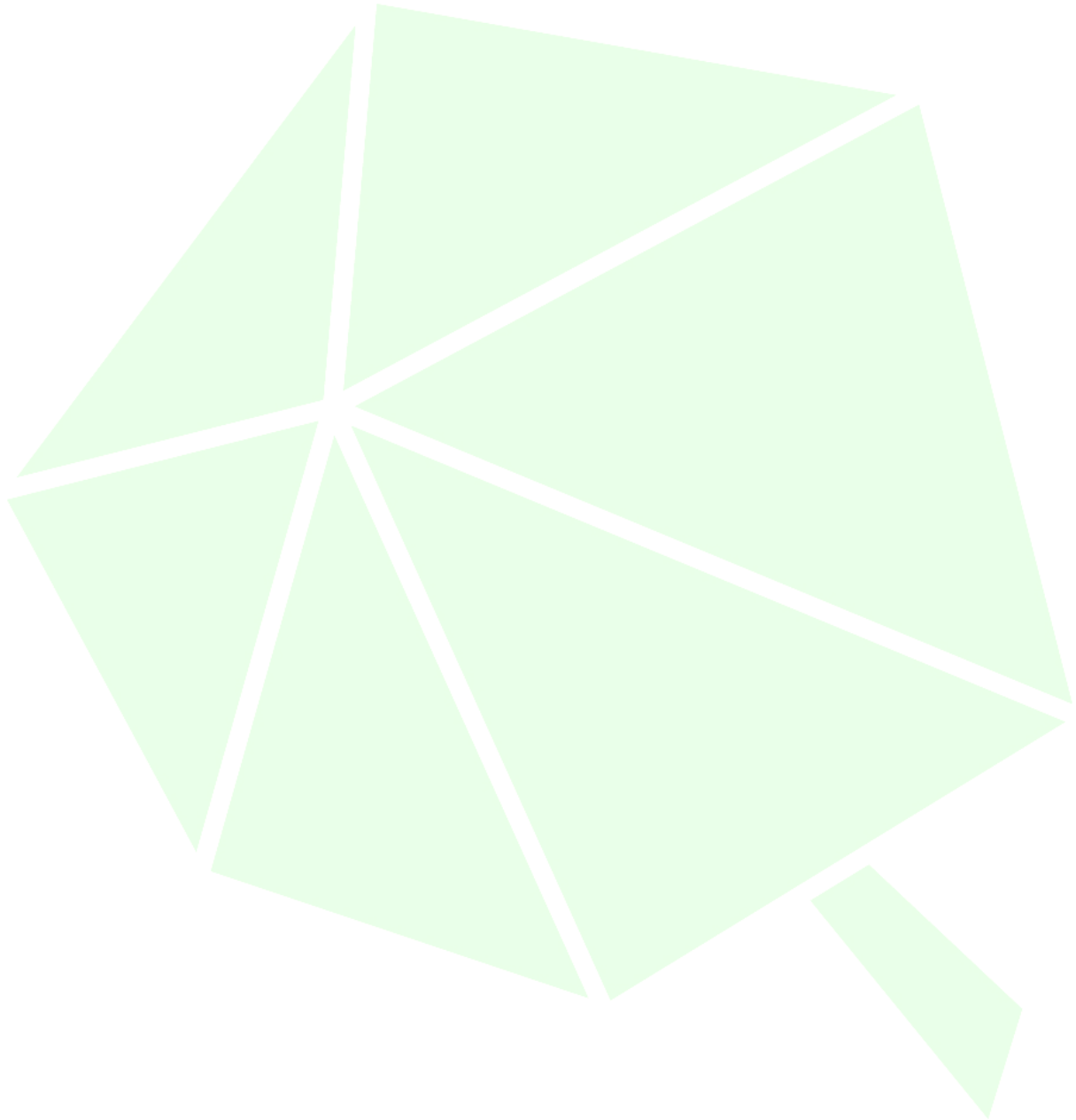
1.1 Scope

This risk assessment is based on the source-pathway-receptor approach. All potential sources of pollution associated with the acceptance, treatment and storage of permitted inert and non-hazardous waste activities have been assessed against the principle receptor types identified within the site's vicinity.

The requirement for risk management measures is then dependent on a viable pathway being present between the source and the receptor. Where such a pathway exists, management measures are required to reduce risk.

1.2 Aims

This assessment aims to consider potential environmental hazards associated with the activity, to identify sensitive receptors which these may impact, and determine the influence management practice has on reducing risk.



2 SITE SETTING

2.1 Location

The site is located at National Grid Reference (NGR) SU 15207 29663, Easting: 415207 , Northings: 129663 and what 3 words: front.charge.logo.

2.2 Humans and Property

The site is accessed from the west via the A36 and Tollgate Road. The site is based in the south east of Salisbury approximately 800 m from Salisbury City centre. The site is situated in an historical industrial area that presently encompasses schools,colleges and residential properties.

2.2.1 Historical Land Use

Site has been used as railway sidings from 1879 until 1974. The surrounding industrial area and site have subsequently been used as an industrial/commercial area.

2.3 European Designated Receptors

		Distance	Direction
DESIGNATED SITES (European)			
1	River Avon System	293 m	S
2	East Harnham Meadows	1185 m	W

2.4 Designated Receptors

		Distance	Direction
NON DESIGNATED SITES (but of impact to permitting)			
1	Medieval Pottery Kilns at Milford Farm	562 m	E
2	Milford Hill Bridge	476 m	E
3	Woodbury Ancient Village	1600 m	S
4	City Rampart East of Council House	718 m	NW

2.5 Geology

Table 1 Geology

Artificial Ground/Made Ground	On site WGR-VOID Worked Ground (Undivided) Void
Superficial and Drift Geology	On site HEAD1-V Head, 1 - Gravel Gravel
Bedrock and Solid Geology	On site NCK-CHLK Newhaven Chalk Formation - Chalk Campanian Age - Santonian Age

2.6 Hydrogeology

On site Secondary A Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

2.6.1 Superficial

Secondary A Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

2.6.2 Bedrock

On site Principal Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

2.7 Hydrology

		Distance	Direction
SURFACE WATER			
-	River Avon	293 m	S
-	River Bourne	288 m	E
-	Multiple Drainage Channels between River Avon & River Bourne	296 m	S
-	River Nadder	1183 m	SW
-	Multiple Drainage Channels within Harnham Watermeadow	1245 m	WSW
-	2 No. Lakes in Clarendon Park	1486 m	SE

2.8 Flood Risk

No flood risk from rivers, sea or surface water flooding.

2.9 Air Quality

Site is not located in an Air Quality Management Area (AQMA).

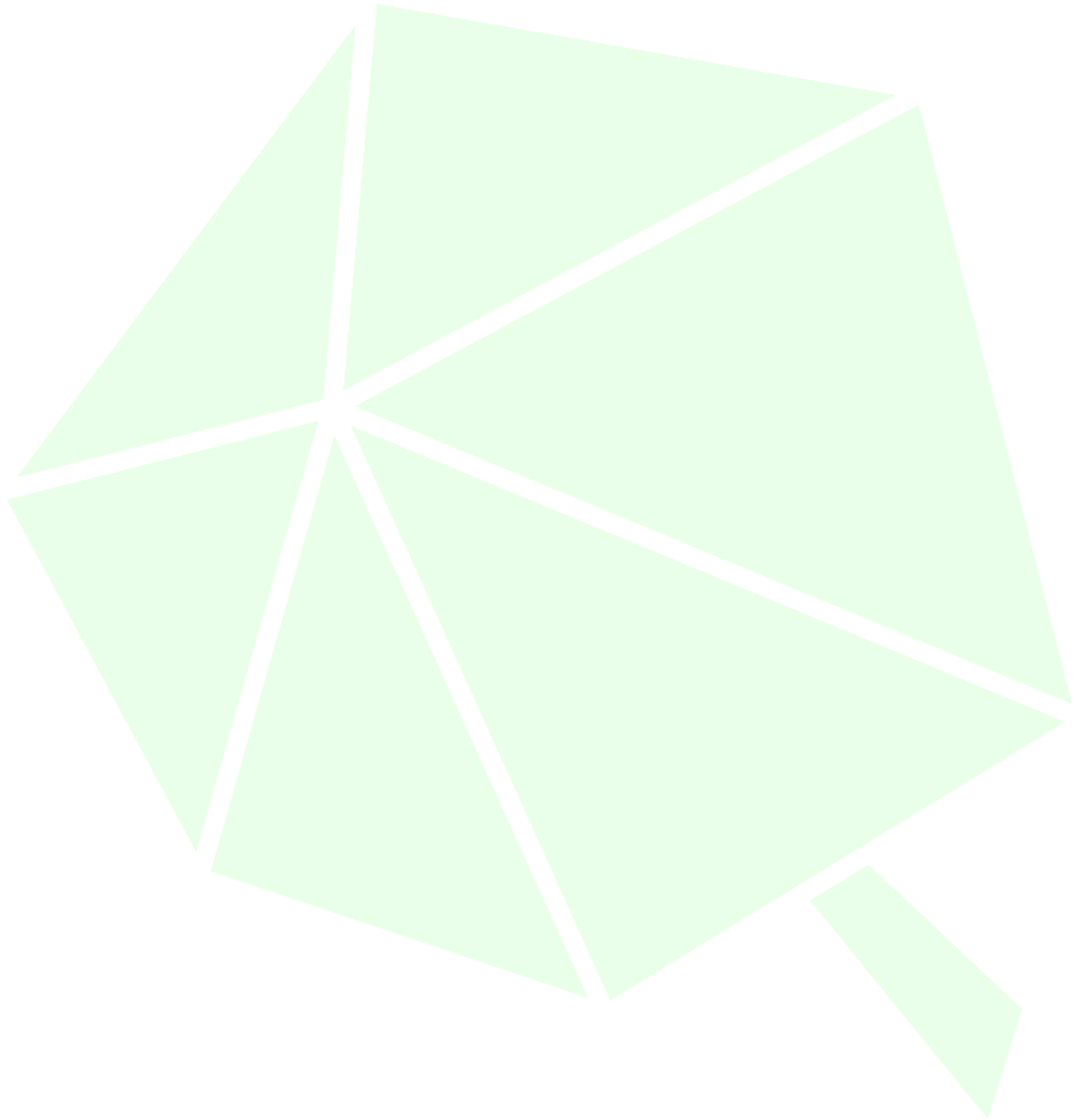
2.10 Nature of Risk Assessment

This document provides a broad and general assessment of the risk factors considered to be of significance for the site, and an evaluation of the impact from the principle risk factors to receptors within the site vicinity.

3 METHODOLOGY

3.1 Hazard Identification

The Environment Agency's 'H1 Software Tool Version 2.78 April 2017', has been used to undertake a series of risk assessments to reveal the potential impact of the sites waste activities of their releases upon the local environment.



3.2 Types of Waste Activity Hazards

Hazard		Sources	Risk	Further Assessment
Odour	<ul style="list-style-type: none"> • Odour from storage • Odour from processing • Odour from Transfer 	<ol style="list-style-type: none"> 1. Waste delivery 2. Storage 3. Treatment Process 4. Material dispatch 	<ul style="list-style-type: none"> • Non conforming wastes 	<ul style="list-style-type: none"> • Table 8 Odour
Noise and Vibration	<ul style="list-style-type: none"> • Engine Noise (idling) • Noise from vehicle and plant movement. • Noise form reverse warnings • Noise form waste processing • Vibration from plant and vehicle movements 	<ol style="list-style-type: none"> 1. Waste delivery 2. Storage 3. Treatment Process 4. Material dispatch 	<ul style="list-style-type: none"> • Activities occurring outside • Vehicle movement • Waste handling and bulking. 	<ul style="list-style-type: none"> • Table 9 Noise and Vibration
Fugitive Emissions	<ul style="list-style-type: none"> • Dust from waste processing • Dust from Stored Waste • Litter form waste storage and/or treatment • Litter from vehicle movements • Pest form waste storage • Runoff from site operations 	<ol style="list-style-type: none"> 1. Waste delivery 2. Storage area run-off pre and post treatment 3. Treatment Process 4. Material dispatch 5. Fire Water 	<ul style="list-style-type: none"> • Dust and particulate matter liberated from external areas only during dry conditions. • Loss of material during unloading, treatment and dispatch of waste 	<ul style="list-style-type: none"> • Table 10 Fugitive Emissions
Accidents	<ul style="list-style-type: none"> • Leak from onsite oil storage • Transfer of substances • Plant of Equipment Failure • Fire in waste materials • Flooding • Vandalism 	<ol style="list-style-type: none"> 1. Waste delivery 2. Storage 3. Treatment Process 4. Material dispatch 5. Fire Water 6. Flood risk from Rivers, Sea or surface water. 7. Unauthorised access 	<ul style="list-style-type: none"> • Loss of waste from vehicles • Spillages from vehicles transferring waste in to and out of site. • Uncontrolled emissions of fire water and smoke. 	<ul style="list-style-type: none"> • Table 11 Accidents
Sensitive Areas	<ul style="list-style-type: none"> • Damage to protected ecosystems 	<ol style="list-style-type: none"> 1. Waste delivery 2. Storage 3. Treatment Process 4. Material dispatch 	<ul style="list-style-type: none"> • Sensitive receptors located around site impacted by normal operating activities and those during an incident. 	<ul style="list-style-type: none"> • Table 8 Odour • Table 9 Noise and Vibration • Table 10 Fugitive Emissions

Hazard		Sources	Risk	Further Assessment
		5. Fire Water		<ul style="list-style-type: none">Table 11 Accidents

If a hazard has been identified by the H1 screening tool that is may have an environmental impact these have been identified had have been provided mitigation in Section 4 of this document.

3.3 Identify Receptors

Receptors are those sites/activities that are at risk from the hazards that a waste activity may have impact on and are defined as below:

- Protected sites and species
- Anywhere used to grow food or to farm animals or fish
- Drain and sewer systems
- Factories and other businesses
- Fields and allotments used to grow food
- Footpaths
- Groundwater, groundwater source protection zone
- Homes, or groups of homes (such as villages or housing developments)
- Playing fields and playgrounds
- Private drinking water supplies
- Regionally important geological
- Schools, hospitals and other public buildings
- Water, for example ponds, streams, rivers, lakes or the sea –
- Conservation and habitats protected areas and areas of scientific interest

The receptors most likely to be impacted by the waste sites activities are listed below in Table 2 Key Receptors

Table 2 Key Receptors

TYPE OF RECEPTOR	ID #	DESCRIPTION	DISTANCE FROM BOUNDARY (M) APPROX	DIRECTION
		SITE		
		Site Workers	On site	-
		Site Visitors	On site	-
		COMMERCIAL		
HUMANS AND PROPERTY	1	Remaining Units Of Tollgate Business Park	0 m	W, S
	2	Multiple Industrial Units Off Blakey Road	0 m	E
	3	Southampton Road Industrial Estate	271 m	SSE
	4	Multiple City Centre Establishments East Of Castle Street	423 m	WNW
	5	Multiple Retail Units Off Southampton Road	441 m	SE
	6	Multiple City Centre Establishments Between Bridge Street & North Walk	531 m	W
	7	Multiple City Centre Establishments Between Scots Lane & Castle Street	830 m	NW
	8	Multiple City Centre Establishments West Of Castle Street	904 m	WNW
	9	Multiple Commercial Units Off Fisherton Street	969 m	WNW
	10	Salisbury WWTW	999 m	SE
	11	Multiple Retail Units Off Churchill Way West	1401 m	NW
	12	Salisbury Railway Station	1455 m	WNW
	13	Multiple Office Buildings Off Wilton Road	1464 m	WNW
	14	Churchfields Industrial Estate	1872 m	WNW
		RESIDENTIAL		
	1	Residents Of Bugmore East Of A36	57 m	WSW

2	Residents Of Laverstock South West Of River Bourne	122 m	ENE
3	Residents Of Bugmore West Of A36	271 m	WSW
4	Caravan Site Off Hatches Lane	409 m	ESE
5	Residents Of Laverstock North East Of River Bourne	541 m	NE
6	Barchester Milford House (Care Home)	570 m	ESE
7	Residents Of Central Salisbury South Of A36	718 m	NNW
8	Residents Of Harnham	890 m	SW
9	St. Nicholas Road Care Home	899 m	SW
10	Residents Of Petersfinger	923 m	ESE
11	Residents Of Central Salisbury North Of A36	1161 m	NNW
12	Residents Of East Harnham	1174 m	SW
13	Residents Of Britford	1280 m	SSE
14	Residents Of Bemerton	1298 m	WNW
15	Residents Of Bishopdown	1418 m	NNE
16	Residents Of West Harnham	1599 m	WSW
PUBLIC USE			
1	St. Martins C Of E Primary School	32 m	NNE
2	Wiltshire College & University Centre	57 m	SW
3	Godolphin School	191 m	NNE
4	Salisbury Cathedral & The Cathedral School	629 m	WSW
5	Chafyn Grove School	711 m	NNE
6	Salisbury Arts Centre	742 m	NNW
7	Bishop Wordsworth School Playing Fields	755 m	SSW
8	Mompesson House (National Trust)	895 m	W
9	Petersfinger Park & Ride	905 m	ESE
10	Salisbury Central & Riverside Car Parks	1099 m	WNW
11	Leehurst Swan School	1118 m	NNW
12	St. Andrews Church (Laverstock)	1385 m	NNE
13	St. Peters Church (Britford)	1427 m	SE
14	Britford Park & Ride (South)	1541 m	S
15	Wyvern College & St. Joseph School	1586 m	NNE
16	Exeter House School	1602 m	NNW
17	Salisbury Crematorium	1648 m	NNE
18	Harnham C Of E Junior School	1684 m	WSW
19	South Wiltshire Grammar School	1704 m	NNW
20	Manor Fields Primary School	1944 m	WNW
21	St. Pauls C Of E Primary School	1958 m	NW
ROADS & RAILWAYS			
-	Blakey Road	32 m	S
-	West Of England Railway Line	105 m	ENE
-	A36	220 m	S

	-	A30	946 m	N
	-	A354	1166 m	SSE
	RECREATIONAL			
	1	Salisbury Snooker Club	26 m	WNW
	2	Churchill Gardens	288 m	SW
	3	Greencroft Park	552 m	NW
	4	Wyndham Park Open Space	862 m	NNW
	5	Queen Elizabeth Gardens	1052 m	WNW
	6	Salisbury Tennis Club	1377 m	WSW
	7	Edgcombe Park	1377 m	NNE
	8	Laverstock & Ford Sports Club	1456 m	NNE
	9	Harnham Cricket Pitch	1477 m	WSW
	10	Victoria Park	1616 m	NNW
	11	Ashley Road Play Park	1708 m	NW
	12	Castle Hill Country Park	1727 m	NNW
	13	Five Rivers Leisure Centre	1765 m	NW
	14	Middle Street Meadow	1792 m	W
	15	Harnham Community Sports & Social Club	1802 m	WSW
	16	Fisherton Recreation Ground	1864 m	NW
	17	Bishopdown Sports Field	1893 m	NNE
	AGRICULTURAL			
	1	Packet Of Arable Land Off Milford Mill Road	320 m	E
	2	River Bourne Community Farm (Allotment Gardens)	540 m	NNE
	3	Packets Of Arable Land West Of Laverstock	559 m	NNE
	4	Packets Of Arable Land South Of Bugmore	609 m	SSW
	5	Packets Of Arable Land North Of Petersfinger	614 m	E
	6	Packets Of Arable Land South Of Petersfinger	632 m	SE
	7	Packets Of Arable Land South Of River Avon	737 m	S
	8	Packets Of Arable Land East Of Laverstock	816 m	ENE
	9	Packets Of Arable Land Surrounding Britford	1152 m	SSE
	10	London Road Allotment Gardens	1201 m	NNE
	11	Tunnel Allotment Gardens	1246 m	N
	12	Packets Of Arable Land South Of The Harnhams	1427 m	SSW
	13	Warres Acre Allotment Gardens	1743 m	WSW
	14	Ashley Road Allotment Gardens	1768 m	NW
	ATMOSPHERE			
	-	AQMA for Nitrogen dioxide (NO2)	250 m	W
WATER	SURFACE WATER			
	-	River Avon	293 m	S
	-	River Bourne	288 m	E

ENVIRONMENTALLY SENSITIVE	-	Multiple Drainage Channels Between River Avon & River Bourne	296 m	S	
	-	River Nadder	1183 m	SW	
	-	Multiple Drainage Channels Within Harnham Watermeadow	1245 m	WSW	
	-	2 No. Lakes In Clarendon Park	1486 m	SE	
		GROUNDWATER			
	-	Bedrock Geology - Principal Aquifer	On site	-	
	-	Superficial Layer - Secondary A Aquifer	On site	-	
		DESIGNATED SITES (European)			
	1	River Avon System	293 m	S	
	2	East Harnham Meadows	1185 m	W	
		NON DESIGNATED SITES (but of impact to permitting)			
	1	Medieval Pottery Kilns At Milford Farm	562 m	E	
	2	Milford Hill Bridge	476 m	E	
	3	Woodbury Ancient Village	1600 m	S	
	4	City Rampart East Of Council House	718 m	NW	
		LISTED BUILDINGS AND PARKS			
		1	Church Of St Martin	145	SW
		2	18-24, St Martin's Church Street	200	WSW
		3	Sluice House	626	S
	4	Summer House At Milford Manor	334	E	
	5	Milford House And Flats A, B And C	659	E	
	6	Wall Extending East From Milford Manor	340	NE	
	7	Little Manor	298	NE	
	8	The Wilderness	216	NNW	
	9	16, St Martin's Church Street	201	WSW	
	10	14, St Martin's Church Street	206	WSW	
	11	23-35, St Martin's Church Street	195	W	
	12	1-7, St Martin's Church Street	231	W	
	13	The Tollgate Inn Tollgate Inn	240	W	
	14	59-65, Rampart Road	361	NW	
	15	94 And 96, Milford Hill	363	NW	
	16	93, Milford Hill	357	NW	
	17	Milford Hill House (Youth Hostel)	352	NW	
	18	London Road Inn	471	NW	
	19	Hillcote	652	NNW	
	20	82, St Ann Street	286	W	
	21	78 And 80, St Ann Street	303	W	
	22	70-74, St Ann Street	318	W	
HERITAGE LOATIONS					

23	68, St Ann Street	326	W
24	60-66, St Ann Street	336	W
25	Joiners Hall	352	W
26	54, St Ann Street	360	W
27	Conservative Club	371	W
28	Old Porch In Garden Of No 44	385	WSW
29	48, St Ann Street	381	W
30	46, St Ann Street	388	W
31	Vale House	397	W
32	Salisbury Museum	418	W
33	The Blackmore Museum To The Rear Of The Salisbury Museum	430	WSW
34	34 And 36, Ss Ann Street (See Details For Further Address Information)	450	W
35	Albion Hotel	465	W
36	22, St Ann Street (See Details For Further Address Information)	482	W
37	Craddock House Friars Cottage Friary Cottage Friary Court	516	W
38	18, St Ann Street	527	W
39	12-16, St Ann Street	540	W
40	St Anne's Manor	563	W
41	4, St Ann Street	573	W
42	2, St Ann Street	577	W
43	Old Bell Inn St Ane's Garage	585	W
44	76 And 77, Exeter Street	595	WSW
45	81 And 82, Exeter Street	603	WSW
46	83-85, Exeter Street	603	WSW
47	86 And 87, Exeter Street	610	WSW
48	90 And 91, Exeter Street	620	WSW
49	The Close Wall	634	WSW
50	Church Of St Osmund (Roman Catholic)	626	WSW
51	95 And 96, Exeter Street	637	WSW
52	99 And 100, Exeter Street	647	WSW
53	101-104, Exeter Street	650	WSW
54	105-107, Exeter Street	649	WSW
55	108 Exeter Street	667	WSW
56	109a 109b And 109, Exeter Street	665	WSW
57	Bishop's Gate	681	WSW

58	110, Exeter Street	663	SW
59	111 And 112, Exeter Street	666	SW
60	St Osmund's Church School	749	SW
61	St Elizabeth's Convent And St Osmund's Roman Catholic Primary School	782	SW
62	St Nicholas's Hospital	921	SW
63	Harnham Lodge	1117	SW
64	Rose And Crown Terrace	1212	SW
65	7, St Nicholas's Road	962	SW
66	9 And 11, St Nicholas's Road	977	SW
67	16 And 18, St Nicholas's Road	996	SW
68	Ayleswade Bridge Old Harnham Bridge	1000	SW
69	2-14, Harnham Road	1062	SW
70	The Rose And Crown Inn	1100	SW
71	All Saints School	1279	SW
72	Churchyard Wall To Road Of All Saints Church	1303	SW
73	Church Of All Saints	1308	SW
74	Outbuilding To East Of Old Parsonage	1651	WSW
75	Old Parsonage	1664	WSW
76	Old School	1715	WSW
77	Outbuilding To West Of Old Parsonage	1691	WSW
78	The Cottages	1699	WSW
79	Manor Farmhouse	1723	WSW
80	Church Of St George	1781	WSW
81	Elim Hunters Cottage The Old Cottage	1718	WSW
82	Old Mill Flats The Three Crowns Public House	1716	WSW
83	Old Mill Cottage	1723	WSW
84	The Laurels	1789	WSW
85	Mill House And Old Mill	1643	WSW
86	Rose Cottage	1636	WSW
87	The South Canonry, Now Bishop's House	1130	WSW
88	Entrance Of 71 The Close From West Walk Into Screen Walls Gate Piers And Overthrow	1071	WSW
89	71A And 71B, The Close	1081	WSW
90	2, St Nicholas's Road (See Details For Further Address Information)	889	SW
91	De Vaux House	911	SW
92	8, St Nicholas's Road	933	SW

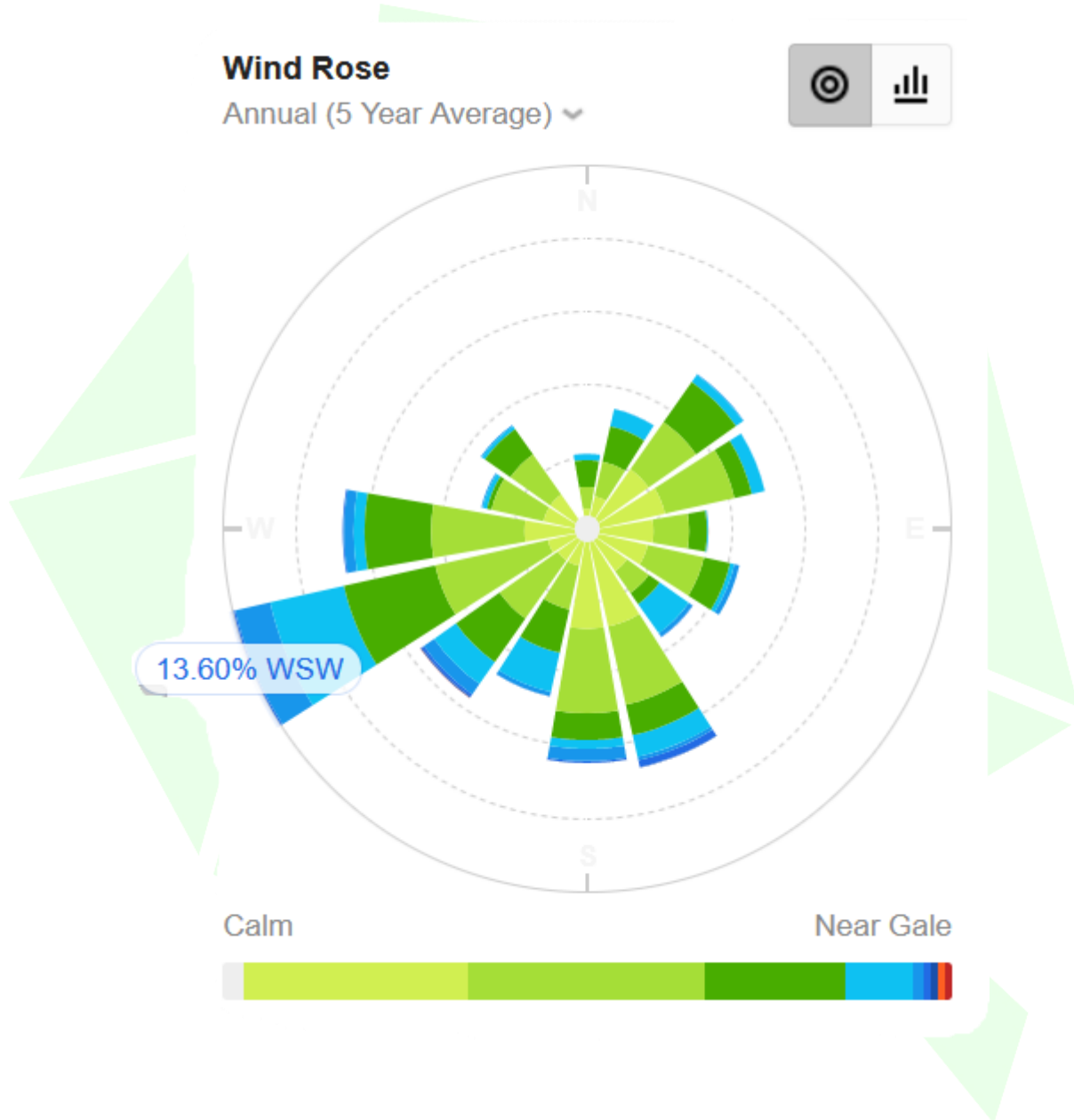
93	10 And 12, St Nicholas's Road	960	SW
94	Rear Garden Wall Of No 9	973	SW
95	De Vaux Lodge	948	SW
96	7, De Vaux Place	906	SW
97	1-6, De Vaux Place	963	SW
98	73, The Close	983	SW
99	72, The Close	991	SW
100	South Or Harnham Gate And South Gate House	977	SW
101	Cathedral School	816	SW
102	53-69, St Ann Street	314	W
103	117 And 119, Dolphin Street	338	W
104	Dolphin's Cottage	381	W
105	St Martin's House	390	W
106	111-115, Dolphin Street	343	W
107	109, Dolphin Street	344	W
108	11, St Ann Street	491	W
109	Training College	377	W
110	50-56, Barnard Street (See Details For Further Address Information)	413	W
111	97A, Brown Street (See Details For Further Address Information)	497	W
112	5, St Ann Street	529	W
113	The Priory	489	W
114	Priory Lodge	500	W
115	89 And 91, Brown Street	504	W
116	87, Brown Street	505	W
117	81, Brown Street	509	W
118	77 And 79, Brown Street	512	W
119	71a And 75, Brown Street	514	W
120	14-20, Trinity Street	500	W

3.4 Wind Rose

Wind rose shown below in Figure 2 Wind Rose shows that the prevailing wind in west south westerly (WSW). This wind rose is an annual average for the last 5 years. The weather station this information is taken from is located in the centre of Salisbury SP1 1 approx. 876 M west north west of the site.

Figure 2 Wind Rose

www.willyweather.co.uk



3.5 Pathways

Table 3 Potential Pathways

Hazard	Potential Receptors	Pathway
Odour	Humans/Property/ Sensitive Areas (Designated)	Atmosphere
Noise and Vibration		Atmosphere, Physical
Fugitive Emissions	Ground Water/Humans/Property/ Sensitive Areas (Designated)	Atmosphere, Physical
Fire, Spills and Contaminated surface water.		Atmosphere, Physical, Infiltration via the ground
Vermin, Birds, Insects	Humans/Property/ Sensitive Areas (Designated)	Atmosphere, Physical

3.6 Risk

Environmental Risk is the probability of an receptor being exposed to an environmental hazard and the impact of such exposure. The Primary risk is assessed with no mitigation in place such as managerial procedures and physical engineering.

To assess risk the probability and the consequence of exposure have to be assessed see below tables.

Table 4 Probability of Exposure

Probability of exposure
HIGH – exposure is probable: direct exposure likely with no / few barriers between hazard, source and receptor.
MEDIUM – exposure is fairly probable: feasible exposure possible, barriers to exposure less controllable.
LOW – exposure is unlikely: several barriers exist between hazards source and receptors to mitigate against exposure.
VERY LOW – exposure is very unlikely; effective, multiple barriers in place to mitigate against exposure.

Table 5 Consequence of Exposure

Consequences of Exposure
HIGH – the consequences are severe: sufficient evidence that short or long term exposure may result in serious damage.
MEDIUM – consequences are significant; sufficient evidence that exposure to hazard may result in damage that is not severe in nature and reversible once exposure ceases (e.g. irritant).
LOW – consequences are minor; damage not apparent though reversible adverse changes may occur.
VERY LOW – consequences are negligible; no evidence of adverse changes following exposure.

Application of the probability and consequences of a hazard gives a risk rating as shown by the matrix below in

Table 6 Risk Matrix

		Consequences			
		Very Low	Low	Medium	High
Likelihood	High	Low	Medium	High	High
	Medium	Low	Medium	Medium	High
	Low	Low	Low	Medium	Medium
	Very Low	Very Low	Low	Low	Low

3.7 Management of Risk

For all the hazards identified in section 3.2 above, managerial procedures and hard infrastructure engineering have been developed in accordance with relevant guidance documents¹²³⁴

Residual risk will remain and these are detailed in the activity risk tables.

Table 7 Activity Risks

Reference	Process
AR1	Waste receipt
AR2	Waste storage pending treatment or recovery/disposal
AR3	Waste treatment processes
AR4	Material dispatch for recovery/disposal

¹ <https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit#odour-management-plan>

² Sector Guidance Note S5.06: Recovery and disposal of hazardous and non-hazardous waste

³ H3 Noise Assessment and Control (Part 2)

⁴ H1 Software Tool Version 2.78 April 2017'

Table 8 Odour

Odour							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
<p>AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site)</p> <p>AR2 Storage (Secure Storage)</p> <p>AR3 Treatment processes (Treatment consisting</p>	<p>Humans & Property</p> <p>Protected Nature Conservation Sites</p> <p>Atmosphere</p> <p><i>Inhalation of particles.</i></p> <p><i>Deposition of dust/particles on property and land.</i></p>	Air	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> • All vehicles delivering and collecting materials to/from the site are covered. • Daily maintenance and inspection of storage areas. • All vehicles, plant and machinery would be operated and maintained in accordance with manufacturer's specifications. • All plant based on the site would be equipped with upward facing exhausts. • Vehicle speeds are restricted to a maximum of 10 mph. • 004.20_05_006 OMP provides managerial procedures to prevent odour. 	LOW

only of minimal manual sorting). AR4 Material Dispatch (Recovery/disposal)							
--	--	--	--	--	--	--	--

Table 9 Noise and Vibration

Noise and Vibration							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site) AR2	Noise sensitive locations ⁵ Protected Nature Conservation Sites	Air, Land	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> Machinery is inspected and maintained regularly in line with manufacturer's recommendations. Daytime operations only. See Appendix 1 SALIS-3200-A_NIA_v1.2 for LOW Impact outcome. 	LOW

⁵ Notes: Noise-sensitive location defined in H3 Horizontal Guidance for Noise Part 2 – Noise Assessment and Control published by the Environment Agency as - 'Any dwelling, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity, which for its proper enjoyment requires the absence of noise at nuisance levels'. Part 1 of H3 suggests that 'commercial premises may be [noise sensitive], depending upon the activities undertaken there'.

<p>Storage (Secure Storage) AR3 Treatment processes (Treatment consisting only of minimal manual sorting). AR4 Material Dispatch (Recovery/disposal)</p>							
---	--	--	--	--	--	--	--

Table 10 Fugitive Emissions

Litter and Debris							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site) AR2 Storage (Secure Storage) AR3 Treatment processes (Treatment consisting	Humans & Property Protected Nature Conservation Sites <i>Litter Nuisance</i>	Air; windblown, physical transport and deposition	LOW	LOW	LOW	<ul style="list-style-type: none"> • All vehicles delivering and collecting materials to/from the site are covered. • Waste types accepted are pre sorted reducing risk of litter and debris • Daily housekeeping of site surfaces to remove litter and debris and prevent spread. • Daily maintenance and inspection of storage areas. • Training provided to all relevant staff to collect loose litter and debris on a see it pick it up basis. • All waste activities occur as set out in Drawing 2 Site Plan 004.20_09_003 	VERY LOW

Litter and Debris							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
only of minimal manual sorting). AR4 Material Dispatch (Recovery/disposal)						<ul style="list-style-type: none"> 004.20_05_003 EMS provides managerial procedures to prevent litter and debris 	

Water							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site) AR2 Storage (Secure Storage) AR3 Treatment processes (Treatment consisting only of minimal manual sorting).	Protected Nature Conservation Sites Surface Water Groundwater <i>Contamination</i>	Land, water, runoff	LOW	LOW	LOW	<ul style="list-style-type: none"> • All waste transfers are overseen by a competent person. • Daily site inspections and good housekeeping procedures in place – recorded in site diary. • Spill kits on site and employees are trained in their use and disposal. • Fuel/oil storage is in accordance with the Oil Storage Regulations and provided with secondary containment. • No waste stored within 10 m of a water course • No waste stored within 50 m of any spring or borehole • Separate drainage system for roof water. 	VERY LOW

Water							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
AR4 Material Dispatch (Recovery/disposal)						<ul style="list-style-type: none"> Waste stored on impermeable surface. 	

Mud and Debris							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site) AR4 Material Dispatch (Recovery/disposal)	Humans & Property Amenity impact	Direct deposition	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> Daily inspections by site staff and records kept. Road sweeping as required. Transport vehicles inspected when leaving site and cleaned as required. Waste is not known to originate from locations that are muddy. Waste is inherently non muddy. 004.20_05_003 EMS provides managerial procedures to prevent mud and debris escaping. 	LOW

Pest, Vermin, Scavengers							
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site) AR2 Storage (Secure Storage) AR3 Treatment processes (Treatment consisting only of minimal manual sorting).	Humans & Property Protected Nature Conservation Sites	Air; Ground depending on vector	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> Daily site inspections and good housekeeping procedures in place. Waste stored in bays and containers. Pest control used on site. 004.20_05_003 EMS provides managerial procedures to prevent pest and vermin. 	VERY LOW

AR4 Material Dispatch (Recovery/disposal)							
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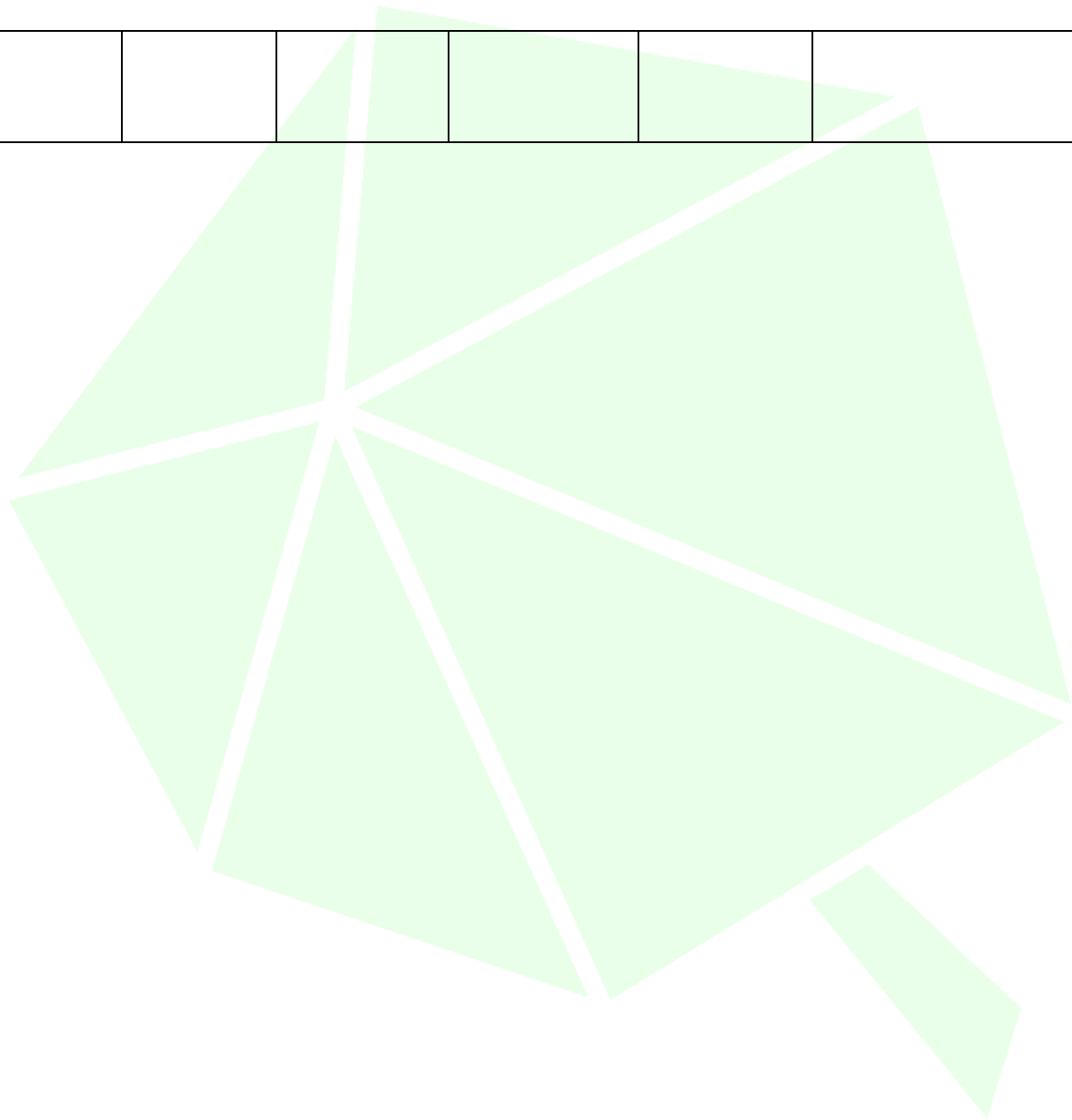


Table 11 Accidents

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
TRANSFERRING SUBSTANCES							
<p>AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site)</p> <p>AR2 Storage (Secure Storage)</p> <p>AR3 Treatment processes (Treatment consisting</p>	<p>Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere <i>Adverse impact</i></p>	<p>Land, air, water</p>	<p>LOW</p>	<p>LOW</p>	<p>MEDIUM</p>	<ul style="list-style-type: none"> • All vehicles delivering and collecting materials to/from the site are covered. • All waste that arrives is either containerised or on pallets • All waste transfers are overseen by a competent person. • Fuel/oil storage is in accordance with the Oil Storage Regulations and provided with secondary containment. All stored within secured perimeter. • Limited vehicle movements on site and 10 mph speed limit • Spill kits on site and employees are trained in their use and disposal. 	<p>LOW</p>

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
only of minimal manual sorting). AR4 Material Dispatch (Recovery/disposal)						<ul style="list-style-type: none"> • Deposit of waste occurs within a designated area. • 004.20_05_003 EMS provides managerial procedures to prevent accidents 	

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
PLANT OR EQUIPMENT FAILURE							
AR1 Reception (delivery of waste to the site) Vehicle Movements	Humans & Property Protected Nature Conservation Sites	Land, air, water	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> • Limited vehicle movements within site reduces risk of accident. • Critical spares held on site 	LOW

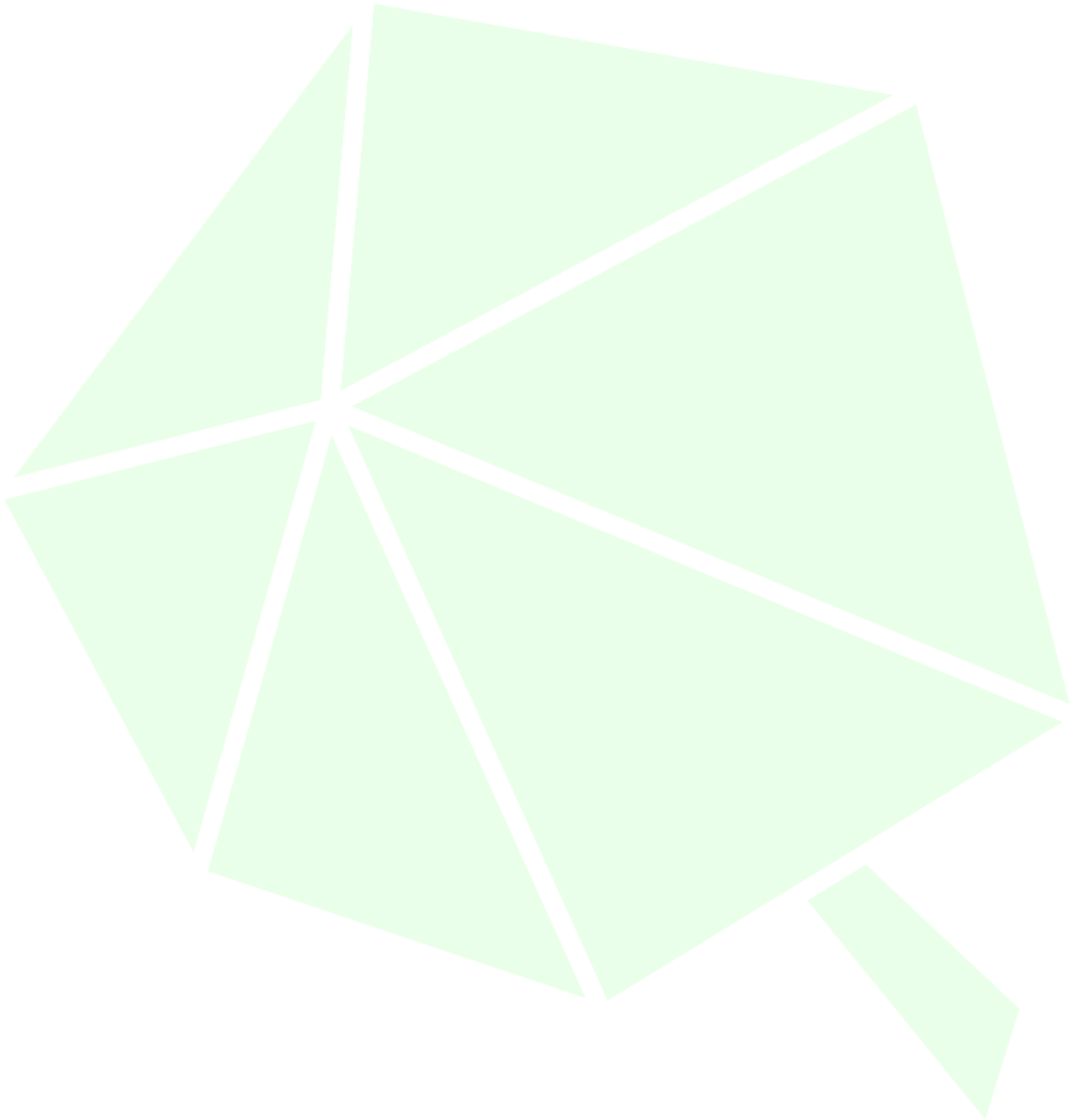
Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
(waste delivery, movement of waste within the site and transfer of waste out of site) AR2 Storage (Secure Storage) AR3 Treatment processes (Treatment consisting only of minimal manual sorting). AR4 Material Dispatch (Recovery/disposal)	Surface Water Groundwater Atmosphere <i>Adverse impact</i>					<ul style="list-style-type: none"> Planned maintenance program limits failure of key process components. Daily inspections of plant, equipment and site infrastructure 004.20_05_003 EMS provides managerial procedures to prevent plant or equipment failure. A wide range of contingency plant and equipment available from within the Council stock. 	

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
FLOODING							
N/A – the site is not identified as being at risk from flooding							
VANDALISM							
Entire Process	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere <i>Adverse impact</i>	Land, air, water	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> • Site is secured by fencing and gated. • CCTV • 004.20_05_003 EMS provides managerial procedures to prevent vandalism. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
FIRE							
<p>AR1 Reception (delivery of waste to the site) Vehicle Movements (waste delivery, movement of waste within the site and transfer of waste out of site)</p> <p>AR2 Storage (Secure Storage)</p> <p>AR3 Treatment processes (Treatment consisting</p>	<p>Humans & Property Protected Nature Conservation Sites Atmosphere <i>Loss of life and property, loss of habitat, destruction and loss of amenity</i></p>	<p>Spread through physical contact; fanned by winds</p>	LOW	HIGH	MEDIUM	<ul style="list-style-type: none"> • Fire Prevention Plan in operation, 004.20_05_004 • Waste storage areas will be separated with appropriate fire breaks or fire resistant barriers between combustible materials. • CCTV. • Potential ignition sources will be removed from waste storage areas. • The operational section of the site is a no smoking area. • All areas are subject to daily housekeeping. • 004.20_05_003 EMS provides managerial procedures to prevent fire. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>Potential to cause harm?</i>	<i>What's the risk? What do I wish to protect?</i>	<i>Route of hazard to the receptor?</i>	<i>Likelihood of this contact?</i>	<i>Harm that can be caused?</i>	<i>Remaining Risk</i>	<i>Measures to reduce the risk?</i>	<i>Residual risk after the application of managerial procedures?</i>
only of minimal manual sorting). AR4 Material Dispatch (Recovery/disposal)							

4 APPENDICES



NOISE IMPACT ASSESSMENT

Unit 1-3 Tollgate Business Park, Salisbury, SP1 2JG

Salisbury City Council

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Site Layout Plan

1 Introduction

- 1.1.1 Oaktree Environmental have been commissioned by Salisbury City Council to undertake a Noise Impact Assessment (NIA) for a site situated at Unit 1-3 Tollgate Business Park, Salisbury, SP1 2JG.
- 1.1.2 The report has been produced by Thomas Benson of Oaktree Environmental Ltd, an associate member of the Institute of Acoustics. Full credentials can be provided under separate cover, if required.
- 1.1.3 The main purpose of this report is to assess the impact of noise emissions associated with the proposed operation of the site as a waste transfer station. The report is to be submitted to the Environment Agency in support of a permit application for the revised site layout and increased throughput.

1.2 Site Description and Proposed Development

- 1.2.1 The site is located to the north of Tollgate Road, Salisbury at Units 1-3 Tollgate Business Park.
- 1.2.2 The proposed operations primarily comprise the storage of vehicles and materials associated with the street scene and parks teams.
- 1.2.3 The proposed development lies within a mixed commercial/residential area, with the units adjoining an antique shop with associated café.
- 1.2.4 Additional land uses within the vicinity of the site include; a storage depot to the east, mixed offices to the south, Salisbury Snooker Club and Indoor Bowls Club to the west. Salisbury 6th Form College is located south of Tollgate Road whilst St. Martins CofE Primary School and associated playing fields lies to the north of the site.
- 1.2.5 The nearest residential receptors within the vicinity of the site comprise the apartments and associated external amenity areas adjacent to the southern site boundary.

- 1.2.6 Additional dwellings are located on Tollgate Road, Blakey Road and Fowlers Hill, between 50-100m from the site boundary.

1.3 Hours of Operation

- 1.3.1 The site is typically operational between the hours of 06:00-16:30, Monday to Sunday.
- 1.3.2 Operations typically commence with the egress of vehicles at 06:00, these return throughout the working day.
- 1.3.3 Vehicles associated with these movements comprise; caged flatbed vehicles, roadsweepers and lawnmowers.
- 1.3.4 Remaining onsite noise sources during these times will comprise very limited use of the onsite green waste shredder and jetwash.

2 Relevant Noise Guidance

2.1 Environment Agency Guidance

2.1.1 This document has been produced in accordance with the EA's guidance "Noise and vibration management: environmental permits" updated 31 January 2022.

2.2 Noise Policy Statement for England

2.2.1 The Noise Policy Statement for England (NPSE), March 2010, sets out the Government's long-term noise policy, the aims of which are:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *Avoid significant adverse effects on health and quality of life;*
- *Mitigate and minimise adverse effects on health and quality of life;*
- *Where possible, contribute to the improvement of health and quality of life."*

2.2.2 The first aim of the NPSE is to avoid significant adverse effects, considering the shared UK principles of sustainable development.

2.2.3 The second aim provides guidance on the scenario when the potential noise impact falls between the LOAEL (Lowest Observed Adverse Effect Level) and the SOAEL (Significant Observed Adverse Effect Level), in which case it is stated, *"all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development"*. However, it is also stated, *"This does not mean that such adverse effects cannot occur"*.

2.2.4 With regards to the SOAEL, the document states, *"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations"*, thus acknowledging that this is very much dependent on the noise source, the receptor, and the time of day. Therefore, the NPSE provides the necessary policy flexibility until further guidance / evidence is available.

- 2.2.5 Other guidance will need to be taken into account when applying the principles of the NPSE, as well the nature of the proposed development and its specific circumstances.

2.3 National Planning Policy Framework

- 2.3.1 The National Planning Policy Framework (NPPF), revised in September 2023, states that Planning policies and decisions should also ensure that new development is appropriate for its location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- Mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

- 2.3.2 Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

- 2.3.3 The revised document also makes reference to the Noise Policy Statement for England.

2.4 Planning Practice Guidance – Noise

2.4.1 Further to the guidance set out in the NPPF, Planning Practice Guidance (PPG) on Noise advises that the Local Authority should consider the following when decision making:

- Whether or not a significant adverse effect is occurring or likely to occur.
- Whether or not an adverse effect is occurring or likely to occur.
- Whether or not a good standard of amenity can be achieved.

2.4.2 As previously discussed within the NPSE, the guidance discusses the LOAEL and SOAEL and provides scenarios that could be expected for the perception level of noise, plus the associated activities that may be required to bring about the desired outcome. Again, as with the NPSE, no objective noise levels are provided for LOAEL or SOAEL.

2.4.3 It is stated that “the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation”. These factors include:

- The absolute noise level of the source and the time of day it occurs.
- Where the noise is non-continuous (intermittent), the number of noise events along with any patterns of occurrence.
- The frequency of content and acoustic characteristics (tonality etc.) of the noise.
- The effects of noise on the surrounding wildlife.
- The acoustic environment of external amenity areas provided as an intrinsic part of the overall design.
- The impact of noise from certain commercial developments such as night clubs and pubs where activities are often at their peak during the evening and night.

3 Noise Assessment Criteria

3.1.1 To assess the impacts of existing road traffic and industrial noise from the proposed development, the following documents have been used:

- BS8233:2014
- BS4142:2014
- World Health Organisation (WHO) Guidelines on Community Noise

3.2 BS8283:2014

3.2.1 This document provides guidance on the relevant level of sound insulation required by a variety of building types affected by general environmental noise and provides recommendations for appropriate internal ambient noise level criteria for a variety of different situations including residential dwellings. The table below includes the proposed noise criteria within BS8283:2014 with regards to residential properties:

Table 3.1 - BS8233:2014 Internal Criteria

Activity	Location	07:00 – 23:00	23:00 – 7:00
Resting	Living rooms	35 L _{Aeq, 16hour}	-
Dining	Dining room	40 L _{Aeq, 16hour}	-
Sleeping	Bedroom	35 L _{Aeq, 16hour}	30 L _{Aeq, 16hour}

3.3 BS4142:2014

3.3.1 BS4142:2014 provides a method for “assessing and rating industrial sound” of an industrial/commercial nature. The method described in the standard uses the rating level from a noise source and the existing background noise level to assess the potential effects of sound on the residential premises upon which sound is incident.

3.3.2 Using this method, the background sound level is subtracted from the rating level. The resulting figure is assessed using the following guidance from the document:

- The greater the difference between the background sound level and the rating level, the greater the impact on the receptor.
- An exceedance of the background level of around 10dB, or more, is likely to be an indication of a significant adverse impact, dependent on the context.
- An exceedance of the background level of around 5dB is likely to be an indication of an adverse impact, dependent on the context.
- The lower the rating level compared to the existing background level, the less likely an adverse impact, or a significant adverse impact. Where the rating level does not exceed the background level, this is indicative of a low impact, dependent on context.

3.3.3 The document introduces a requirement to consider and report the uncertainty in the data as well as also including guidance for applying a correction/penalty for certain adverse acoustic features such as tonality, impulsivity or intermittency. The following table summarises the corrections based on the subjective assessment of the noise.

Table 3.2 - BS4142:2014 Corrections and Penalties

	Tonality	Impulsivity	Other characteristics
Just perceptible	+ 2dB	+ 3dB	
Clearly perceptible	+ 4dB	+ 6dB	
Highly perceptible	+ 6dB	+ 9dB	
Readily Distinctive against Residual Environment			+ 3Db

3.4 WHO Guidelines for Community Noise

3.4.1 The WHO Guidelines (1999) recommends indoor night-time guidelines in order to avoid sleep disturbance, the document states these to be 30 dB (LAeq) and 45 dB (LA_{fmax}) for continuous and individual noise events respectively.

- 3.4.2 The document states that the number of noise events should also be considered and that individual noise events should not exceed 45 dB (LA_{rmax}) more than 10 – 15 times per night.
- 3.4.3 The WHO document also recommends that steady, continuous noise levels should not exceed 55 dB (LAeq) for outdoor living areas (balconies, terraces etc.). However, in order protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB (LAeq).

4 Background Noise Monitoring

4.1 Procedure and Monitoring Locations

4.1.1 A background noise survey was undertaken and completed on the 16th and 26th August 2023 in accordance with BS 7445-1: 2003. Locations were chosen in order to be representative of the nearest noise sensitive receptors.

4.1.2 The measurement locations are shown in Figure 4.1, below:

Figure 4.1 - Site location and noise monitoring position



4.2 Equipment Used During the Survey

4.2.1 Details of the equipment used during the survey are shown in the table below:

Table 4.1 - Survey Equipment

Description	Model	Manufacturer	Serial No.	Calibration Date
Class 1 Sound Analyser	NOR 150	Norsonic	15030504	October 2022
Microphone	Norsonic Type 1225	Norsonic	305208	October 2022
Field Calibrator	NOR 1251	Norsonic	35205	March 2022

4.3 Weather

4.3.1 The weather during the background surveys is summarised in the table below:

Table 4.2 – Weather Conditions during noise monitoring

Date	Wind Speed (max)	Cloud Cover	Temperature	Precipitation
16/08/2023	Max gusts of 1m/s	0-25-%	18 ^{oc} -24 ^{oc}	None recorded whilst onsite.
26/08/2023	Still with gentle gusts of between 1-3m/s	0-50%	12 ^{oc} -19 ^{oc}	None recorded whilst onsite.

4.4 Results

4.4.1 The results of the background noise monitoring survey are tabulated below in Table 4.3-4.4. Commentary on the background level and survey is included further on in Section 4.5.

Table 4.3 -Weekday background monitoring results for NMP 1

Measurement Time	LA _{eq}	LA ₉₀	LA ₁₀	LA _{max}
06:50-07:50 16/08/2023	50.3	38.8	55.0	69.4
07:55-08:55 16/08/2023	51.6	37.5	56.2	75.8
09:00-10:00 16/08/2023	52.4	38.5	56.5	72.3
10:20-11:20 16/08/2023	52.7	37.9	56.7	71.9
11:20-12:20 16/08/2023	53.2	38.2	56.9	78.3

Table 4.4 -Weekend background monitoring results for NMP 1

Measurement Time	LA _{eq}	LA ₉₀	LA ₁₀	LA _{max}
06:55-07:55 26/08/2023	49.0	39.4	52.5	67.5
07:55-08:55 26/08/2023	50.9	38.8	55.9	64.8

4.5 Existing Noise Climate

4.5.1 During the monitoring contributors to the background sound level were observed to include the following within the vicinity of the site:

- Road traffic along Tollgate Road mainly comprising smaller private vehicles but also sporadically larger vehicles,
- Occasional movements and activities associated with the Pheonix Emporium antique centre adjacent to the proposed operations as well as Salisbury Snooker Centre to the west.
- Birdsong.

- 4.5.2 Construction activities associated with Units 1-3 was also observed, however this was very limited. This led to the decision to place the microphone at such a distance so as to minimise the impact of these noise sources and therefore their contribution to the overall LAeq and LA90 figures is considered to be negligible.

4.6 Control of Uncertainty

- 4.6.1 Uncertainty in this assessment was controlled via the following precautions/procedures:

- Both the sound level meter and calibrator have a traceable laboratory calibration and the meter was field-calibrated both before and after the measurements.
- The measurement locations are considered representative of the existing noise climate outside the nearest residential dwellings to the proposed development.
- Background monitoring was undertaken during favourable weather conditions (e.g. dry and under 5m/s wind speed).

5 Noise Impact Assessment

5.1 Introduction

5.1.1 It is considered the most significant noise sources associated with the development comprise:

- Egress and return of bin collection vehicles, roadsweepers and lawnmowers at 06:30 and 07:00, returning at 14:30/16:00 to deposit waste collected throughout the day.
- Sporadic use of the green waste shredder.
- Limited jetwashing of vehicles and containers.

5.1.2 Noise from within the enclosed units is likely to be limited to noise arising from members of staff and very occasionally minor repairs and therefore considered to be negligible.

5.2 Background Levels

5.2.1 With regards to background levels, BS4142:2014 states that *“the objective is not simply to ascertain a lowest measured background sound level, but to quantify what is typical during particular time periods”* and also *“In practice there is no “single” background sound level as this is a fluctuating parameter. However, the level for the assessment should be representative of the period being assessed”*.

5.2.2 Therefore, the assessment will utilise the range of levels from Tables 4.3-4.4. The exception to this will be the assessment of vehicle movements between 06:00-07:00, this assessment will utilise the 15 minute LA90 value taken between the hours of 06:50-07:05 for weekdays and 06:55-07:10 for weekends.

5.3 **BS4142: Assessment**

5.3.1 The CadnaA noise models were constructed using OS mapping Opendata and Google Earth satellite imagery, whilst topographical data was imported as a digital terrain model obtained from DEFRA.

5.3.2 The model has been based on the drawings provided by Salisbury City Council.

5.3.3 The following assumptions/parameters are made within the models:

- The intervening land between the site boundary and residential properties was modelled with $G = 0.0$ i.e. acoustically reflective with the exception of the playing field to the north.
- Noise sources were not assumed to be constant, table 5.1 details the assumed “on-times” as well as the assumptions with regards to geometry of the noise source (height, point or area source etc.).
- Buildings were set as acoustically reflective, with a reflection loss of 1 dB. A maximum order of reflection of 3.0 has been assumed.
- Noise levels were determined at residential properties representing the nearest residential facades. This has been calculated via a receiver placed at 1.5m. This methodology has been agreed with the AQMAU team as part of separate permit applications.
- The predicted grid noise levels were free-field, A-weighted, sound pressure levels. The noise contours generated within the model are also at a height of 1.5 m, assumed to be the worst-case scenario.
- Surrounding residential properties were modelled at a height of between 4m for the majority of residential dwellings with the exception of the residential apartments which have been modelled as 6m in height. Commercial building heights have been taken from observations and information taken from planning public access where available.
- Onsite barriers/ waste bays have been modelled as being hard and reflective (i.e. concrete).

5.3.4 Table 5.1 below includes the measured noise levels for the anticipated activities which have been measured by Oaktree Environmental Ltd.

Table 5.1 – Measured levels of activities

Activity	Noise Level (LAeq)	Source/comments
Jetwashing	79.7 at 2m	<p>Onsite measurement by Oaktree Environmental at the councils existing facility.</p> <p>The jetwashing activity is not undertaken every day and is generally only active for 30 minutes per day. However, the source is modelled as 30 minutes per hour within the model.</p> <p>The jetwashing is modelled as a point source 1m in height.</p> <p>Octave bands have been utilised within the model.</p>
Caged van pass-by	67.9 at 4m	<p>Onsite measurement by Oaktree Environmental at the councils existing facility. Despite the noise source having an LAeq of 67.9dB (A), the Lmax of 78.2dB (A) at 4m is used as the level within the model as this is the point at which the vehicle is closest to the measurement point.</p> <p>The movement of this vehicle is modelled as a line source 0.5m in height.</p> <p>As vehicles will travel approximately 61m at 5mph (2.2m/s or 7.9km/h), vehicles will take approximately 27 seconds to egress/access the site. A worst-case scenario of 0.5 minutes has been assumed per vehicle within the model.</p> <p>As the site will have 6 vehicles, this will equate to 6 movements between 06:00-07:00 with remaining vehicles spread across the working day.</p>

Streetsweeper pass-by	66.3 at 5m	<p>Onsite measurement by Oaktree Environmental at the councils existing facility. Despite the noise source having an LAeq of 66.3dB (A), the Lamax of 78.6dB (A) at 5m is used as the level within the model as this is the point at which the vehicle is closest to the measurement point.</p> <p>The movement of this vehicle is modelled as a line source 0.5m in height.</p> <p>As vehicles will travel approximately 61m at 5mph (2.2m/s or 7.9km/h), vehicles will take approximately 27 seconds to egress/access the site. A worst-case scenario of 0.5 minutes has been assumed per vehicle within the model.</p> <p>As the site will have 4 vehicles, this will equate to 6 movements between 06:00-07:00 with remaining vehicles spread across the working day.</p>
Lawnmower pass-by	73.8 at 1m	<p>Onsite measurement by Oaktree Environmental at the councils existing facility. Despite the noise source having an LAeq of 73.8dB (A), the Lamax of 83.3dB (A) at 1m is used as the level within the model as this is the point at which the vehicle is closest to the measurement point.</p> <p>The movement of this vehicle is modelled as a line source 0.5m in height.</p> <p>As vehicles will travel approximately 61m at 5mph (2.2m/s or 7.9km/h), vehicles will take approximately 27 seconds to egress/access the site. A worst-case scenario of 0.5 minutes has been assumed per vehicle within the model.</p> <p>As the site will have 5 vehicles, this will equate to 5 movements between 06:00-07:00 with remaining vehicles spread across the working day.</p>

Loading and removal or container	82.2 at 8m	<p>Measurement taken by Oaktree Environmental of a similar activity.</p> <p>The noise source will generally only be active for 10 minutes every other week. However it has been included as 10 minutes per hourly reference period in order to ensure a robust assessment. It is present as a noise source 1m in height.</p>
Shredding of green waste	80.0 at 10m	<p>This activity comprises a small shredder attachment to a tractor. It is a seasonal activity and generally will not certainly not take place every day. However, again it is included in order to ensure a robust assessment.</p> <p>In lieu of an onsite measurement, the octave band data has been taken from BS5228:2014. The activity is listed as "Tractor towing equipment" (Table C.4 - 74) and is likely an over estimation of noise from this activity.</p> <p>The source is present within the model as a point source 1m in height and active for 30 minutes per hour.</p>

5.3.5 As described previously, noise from within the building is negligible and has not been included within the model. Tipping is done by hand and is therefore also considered to be negligible.

5.3.6 With regards to penalties as per BS4142:2014, it is considered that the intermittent nature of the noise associated with the general operation of the site will be just perceptible at the nearest residential dwellings given the nature of the existing noise climate and therefore a 3dB penalty has been applied. It is considered a 6dB would be difficult to justify given the low "on-times" of activities and existence of surrounding commercial activities in the area.

Figure 5.1 – Modelling of typical daytime noise sources associated with the site as per the proposed layout

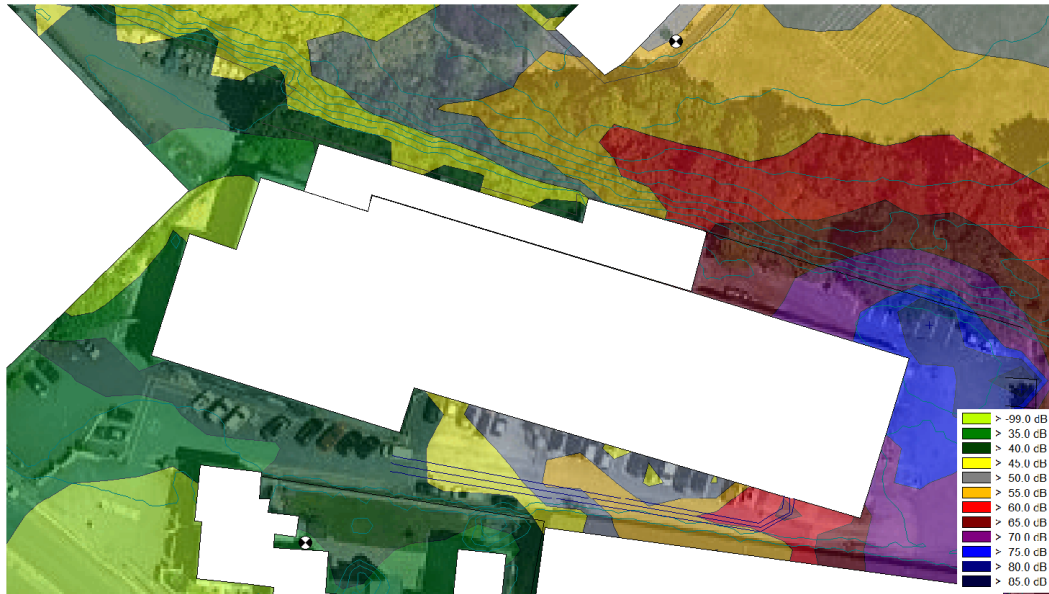


Figure 5.2 – Modelling of vehicle movements between 06:00-07:00

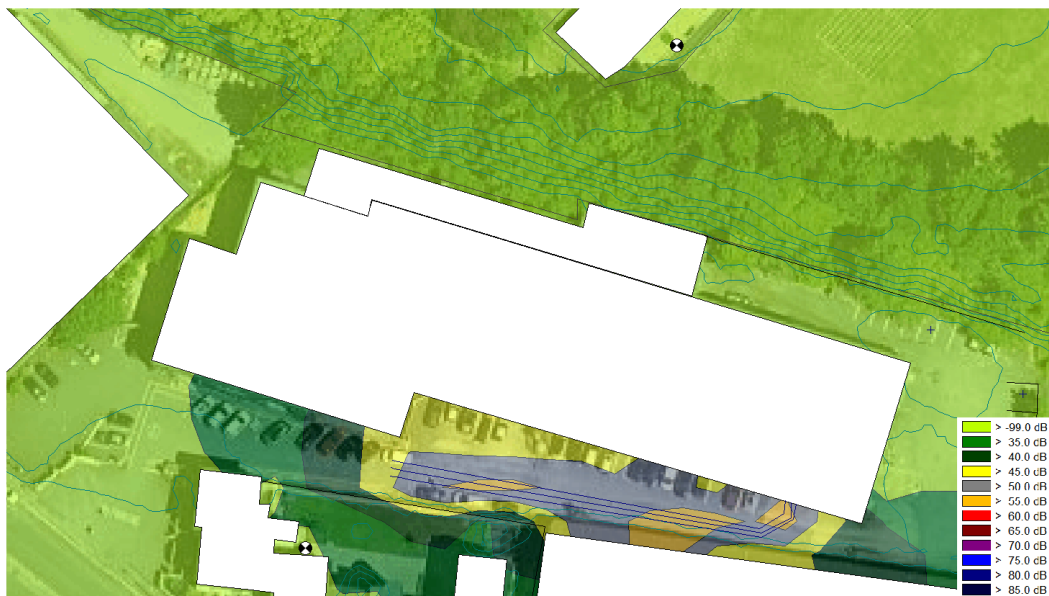


Table 5.3 – Assessment of vehicle movements between 06:00-07:00 as per BS4142:2014

	Residential dwellings off Tollgate Rd (dB A) between 07:00-17:00	Comments
Calculated noise level as per figure 5.3	35.6	
Addition of relevant penalties as per BS4142:2014	+3 = 38.6	As per Section 5.3.6
Comparison to weekday background levels	$38.6 - 37.8 = 0.8\text{dB}$ below	See subsequent discussion

Table 5.4 – Assessment of typical daytime noise sources associated with the site (proposed layout) as per BS4142:2014

	Residential dwellings off Tollgate Rd (dB A) between 07:00-17:00	Comments
Calculated noise level as per figure 5.2	39.4	
Addition of relevant penalties as per BS4142:2014	+3 = 42.4	As per Section 5.3.6
Comparison to weekday background levels	$42.4 - 37.5/39.4 = 3.0$ to 4.9dB above	See subsequent discussion

- 5.3.7 As per Table 5.3, the rating level associated with the egress of vehicles between the hours of 06:00-07:00 is lower than the background level and therefore is of **low impact**.
- 5.3.8 With regards to the assessment provided within Table 5.4, the calculated rating level is below the threshold at which an adverse impact is considered likely (+5dB). However, at times, the rating level is close to this figure.
- 5.3.9 It should of course be observed that the assessment comprises a significant over estimation of the rating level, with numerous worst-case assumptions being made, for example “on-times” assumed within the model are unlikely to be representative of the typical day to day operation of the site. It would be unusual for all external noise sources to operate within a single hourly reference time due to the sparseness of the required operations. Indeed, for the vast majority of the time, the site will be inactive.
- 5.3.10 In addition, the calculated rating level is relatively low, being below 40dB in lieu of penalties. This would ensure that both the external amenity criteria as per the WHO and internal criteria as per BS8233:2014 are achieved comfortably. Considering these added contextual factors, the assessment outcome equates to a **low impact**.

6 **Conclusion**

6.1 **Summary & Recommendations**

6.1.1 Oaktree Environmental Limited have undertaken an NIA for Salisbury City Council's site situated at Unit 1-3 Tollgate Business Park, Salisbury, SP1 2JG.

6.1.2 The primary receptors are the residential dwellings directly south of the permit boundary.

6.1.3 A thorough BS4142:2014 assessment has been undertaken of the proposed development with modelling undertaken based on the likely operation of the site.

6.1.4 The calculated noise level is below the threshold at which an adverse impact is likely to occur and therefore is of **low impact**.

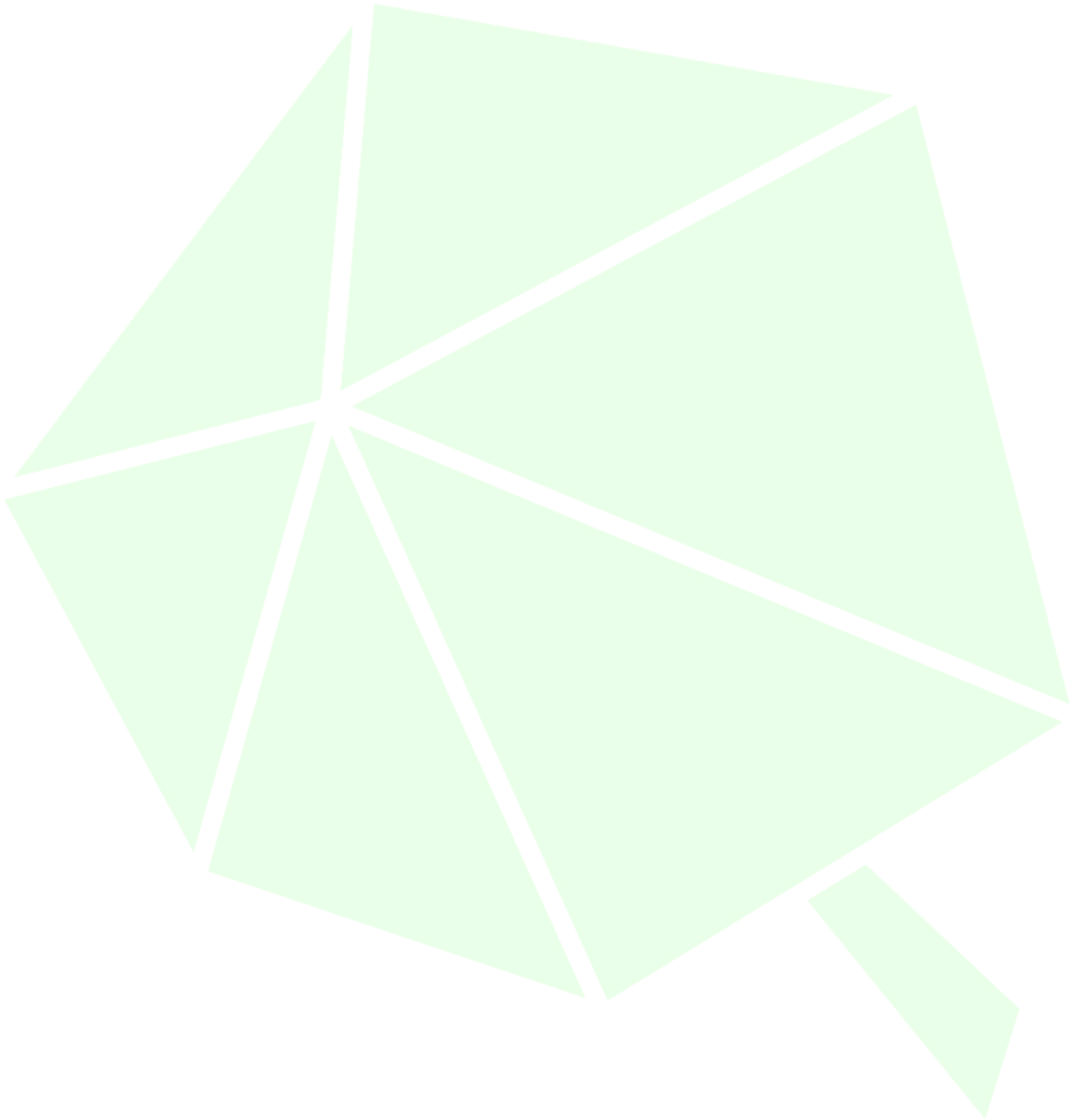
6.1.5 Additional receptors include the Primary School to the north, noise levels are slightly greater at this location than within the external amenity area to the south, however, this receptor is considered to be less sensitive and noise levels not great enough to warrant additional mitigation.

Appendix I

Drawings

Appendix I

5 DRAWINGS



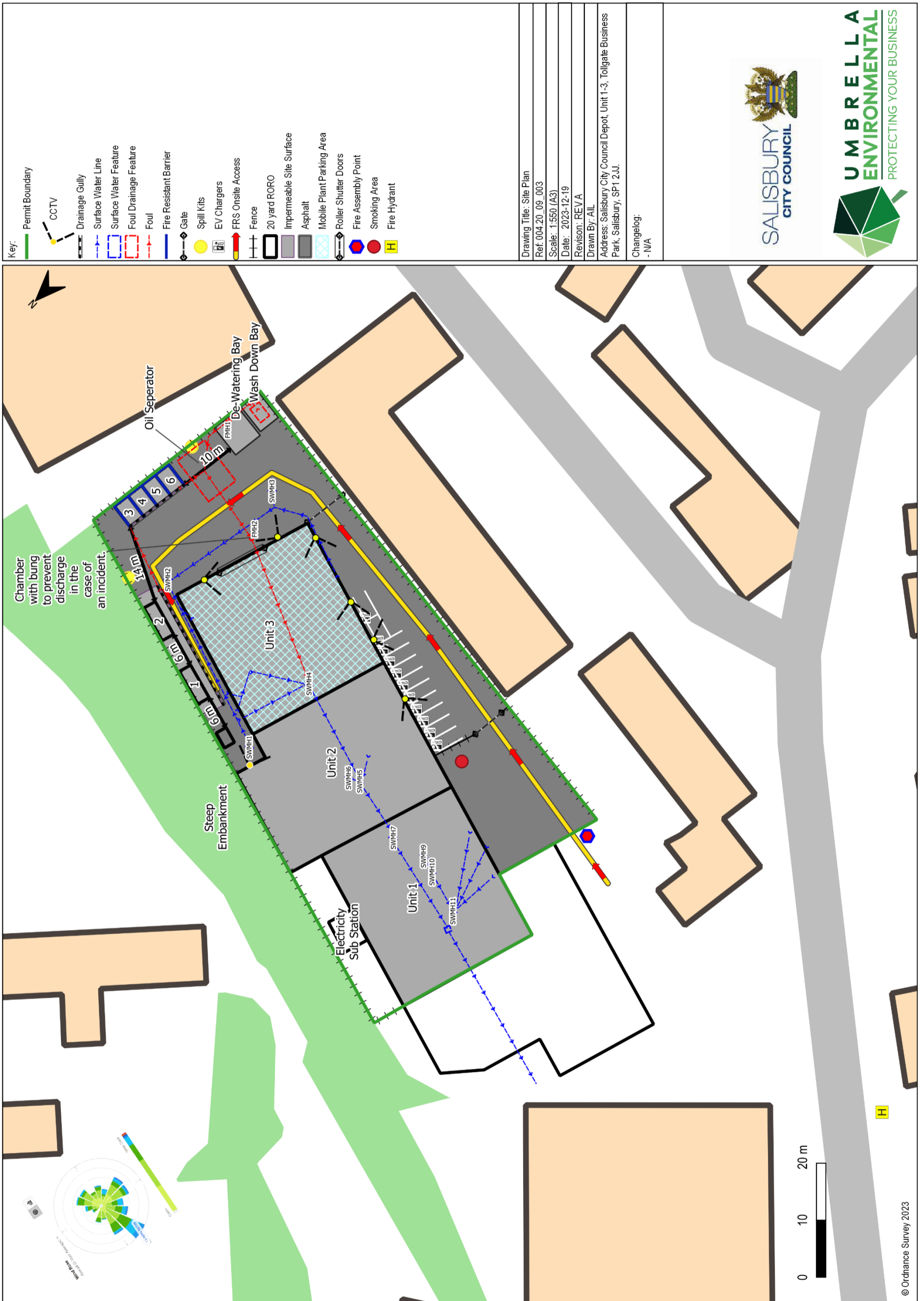
Drawing 1 004.20_09_001 Permit Boundary



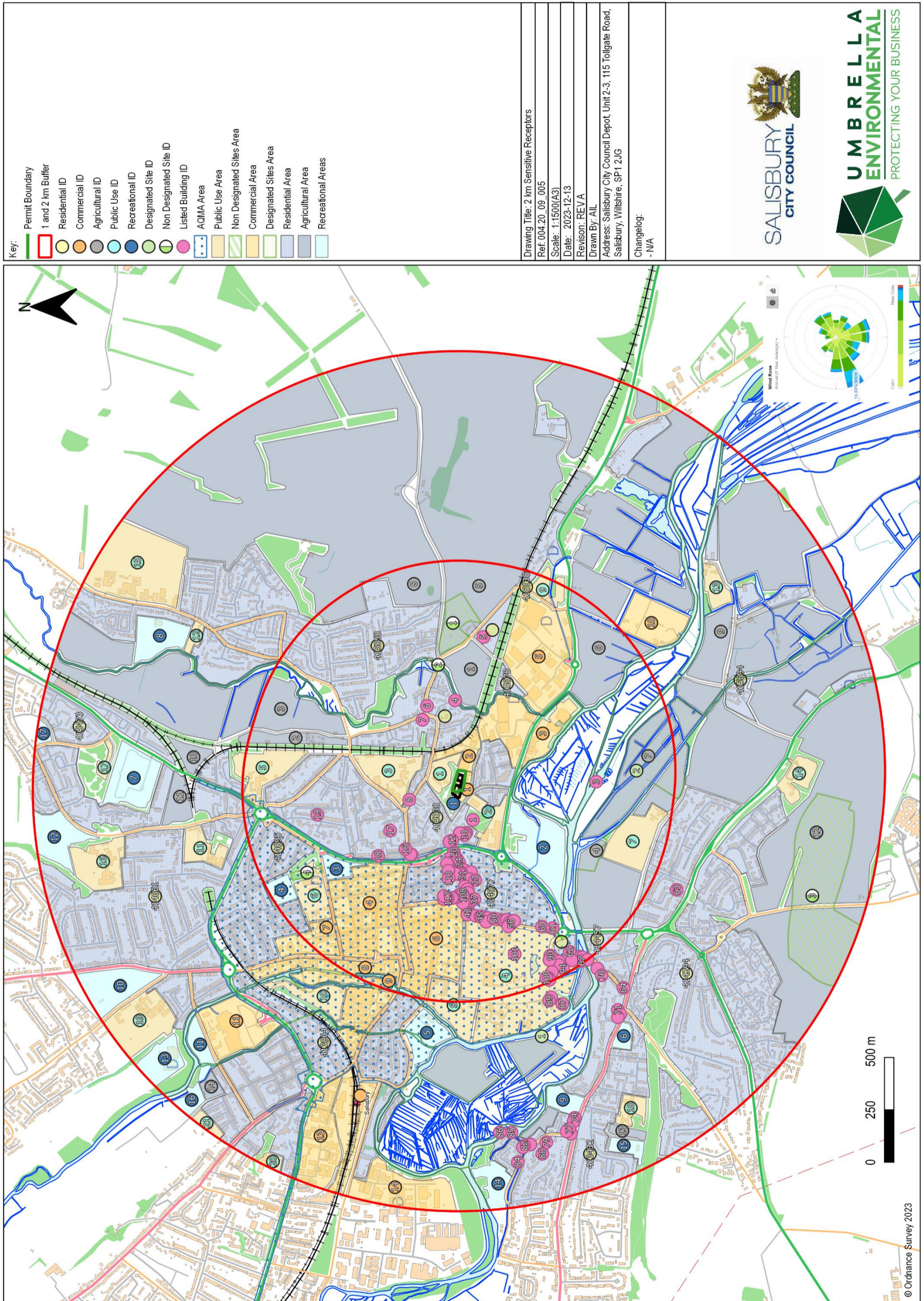
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Ref: 004.20_09_001
Scale: 1:500(A3)
Date: 2023-12-13
Revision: REVA
Drawn By: ALL
Address: Salisbury City Council Depot, Unit 2-3, 115 Tollgate Road,
Salisbury, Wiltshire, SP1 2JG
Changelog:
- N/A



Drawing 2 Site Plan 004.20_09_003



Drawing 3 Sensitive Receptors 2 km 004.20_09_005





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