



U M B R E L L A
ENVIRONMENTAL
PROTECTING YOUR BUSINESS

Environment Management System

Umbrella Environmental
9 Goldington Road
Bedford
MK40 3JY
Company Number:
13446157

Website: www.umbrella-environmental.co.uk
Email: andrew@umbrellaenvironmental.co.uk
Mob: 07498 671713

Site Address:

MISWA Chemicals Limited

54 Caswell Road Brackmills Industrial
Estate Northampton NN4 7PW



Miswa Chemicals Ltd

Registered Office

Caswell Road,
Brackmills,
Northampton,
Northamptonshire,
NN4 7PW

Permit Reference:

EPR/AP3398LQ

Document Reference:

012.1_05_003

Issue Date:

31/10/2023

Document Control

Document Title	Reference	Client	Status
Environmental Management System	012.1_05_003	MISWA Chemicals Limited	FINAL

Document History

Version	Issue date	Author	Checked	Description
D1	23/01/2023	AIL	AIL	Drafted for substantial variation application pack, Client review.
V1	15/02/2023	AIL	AIL	Client approved version for submission.
D2	31/05/2023	AIL	AIL	Amended at request by EA during allocation period.
V2	24/07/2023	AIL	AIL	Approved by client for submission.
V3	31/10/2023	AIL	AIL	Amendments requested by EA.
V4	13/11/2023	AIL	AIL	Process specifics removed.

CONTENTS

1 Introduction 8

 1.1 Permitted Activities 8

 1.2 Hours of Operation 9

 1.3 Waste Types 9

 1.3.1 Directly Associated Activity 10

 1.4 Environmental Policy 10

 1.5 Annual Waste Tonnages 11

 1.6 Total Storage Quantities 11

2 Scope of Environmental Management System 12

 2.1 Notice Board 12

 2.2 Site Surfaces 12

 2.3 Drainage 12

 2.4 Construction and Supervision 12

3 Site Infrastructure 13

 3.1 Access 13

 3.2 Security 13

 3.3 Site Information 13

 3.4 Office and Welfare 13

 3.5 Quantity Measurements 13

 3.6 Fuel Storage 13

4 Staffing and Equipment 14

 4.1 Staffing 14

 4.1.1 Management 14

 4.2 Responsibility 14

 4.2.1 Operational 14

5 Waste Movements 15

 5.1 Health and Safety 15

5.2	Duty of Care	15
5.3	Carriers Registrations	15
5.4	Description of Waste	15
5.5	Input Controls	15
5.6	Outgoing Vehicles	15
6	Operations.....	16
6.1	Incoming Waste.....	16
6.2	Waste Unloading and Inspection	16
6.3	Non-conforming loads	16
6.4	Spillages	16
7	Waste Acceptance	17
7.1	Pre Acceptance of Waste	17
7.1.1	Waste acceptance criteria	18
8	Waste Storage.....	19
8.1	Storage Areas.....	19
8.2	Waste Handling	19
9	Waste Storage and Treatment	20
9.1	Waste Delivery and Storage.....	23
9.2	Waste Treatment Summary.....	24
9.3	Residual waste	27
9.4	Waste Rejection	27
10	Product Monitoring and Dispatch	28
10.1	General Management.....	28
10.2	Plant and Equipment, Preventative Maintenance.....	28
10.3	Accidents and Incidents.....	28
10.4	Monitoring.....	29
11	Infrastructure and Equipment Maintenance Plan	31
11.1	Leak detection Program	31

12	Contingency Plan	32
12.1	Flood.....	32
12.2	Equipment	32
12.3	Staffing	32
12.4	Fire	32
13	Accident Prevention and Management.....	33
14	Competence and Training Records.....	41
14.1	Management.....	41
14.2	Staff	41
14.3	Training Needs Assessment.....	41
14.4	Emergency Procedures Training	41
14.5	Recognition of Waste Types Training.....	41
14.6	Plant and Equipment Preventative Maintenance Training	42
14.7	Duty of Care Training	42
14.8	Plant Operation Training.....	42
14.9	Permit and EMS Training.....	42
15	Environmental Emission Controls	43
15.1	Fire Prevention	43
15.1.1	Awareness and Training	43
15.2	Litter Control	43
15.3	Odour Control	43
15.4	Dust Control.....	43
15.5	Noise and Vibration Control.....	44
15.5.1	Plant Operator Noise Control Measures Summary.....	44
15.5.1.1	Management Control Measures	44
15.6	Birds, Vermin and Pest Control	44
15.7	Mud and Debris Control.....	45
16	Climate	46

17	Communication	47
17.1	Non- Conformances, Corrective Actions and Preventative Measures	47
18	Information and Records	48
18.1	Records and Reporting.....	48
18.2	Notification.....	48
18.3	Security of Records	49
18.4	Availability.....	49
19	Review Management System.....	51
20	Site Closure.....	52
21	Availability of Environmental Management System.....	53
22	Drawings	54
23	Appendices	61

Tables

Table 1 Permitted Activities..... 8

Table 2 Permitted Waste Types..... 9

Table 3 Monitoring 29

Table 4 Accident Prevention and Management 34

Table 5 Records Required by the Permit 48

Table 6 Notifications Required by the Permit 49

Figures

Figure 2 Waste brake fluid treatment process..... 25

Figure 3 Product procedure process flow diagram..... 26

Drawings

Drawing 1 Permit Boundary 012.1_09_001 55

Drawing 2 012.1_09_003 1 Km Sensitive Receptors REV A..... 56

Drawing 3 MD22024 - BERP Project Site Drawing - Rev B - Dated 30-10-2023..... 57

Drawing 4 Sensitive Receptors 2 km Plan 012.1_09_004 58

Drawing 5 Sensitive Receptors 10 km Plan 012.1_09_005 59

Drawing 6 Drainage Plan MD17007..... 60

Appendices

Appendix 1 8757UE - Noise Impact Assessments - NOVA Acoustics Ltd 62

Appendix 2 OP-HS011 - Spill Response..... 98

Appendix 3 012.1_05_009 CCRA 105

Appendix 4 Reclaimed brake fluid QC 114

Appendix 5 Reclaiming Waste Brake Fluid - Batch Mixers 116

Appendix 6 Waste Brake Fluid IBC Delivery and Storage 118

Appendix 7 Pre Waste dispatch (ENVA)..... 121

Appendix 8 Training Matrix 123

Appendix 9 P-HS002 Site Safety Gas monitoring (copy) 125

Appendix 10 IBCs Specification 127

1 INTRODUCTION

This Environmental Management System (EMS) accompanies the application for variation to an bespoke waste permit to modernise in accordance with legislation from a waste permit to an installation permit and to add an additional waste code. Site is located at 54 Caswell Road Brackmills Industrial Estate Northampton NN4 7PW.

In approx. 2012 Installation Emissions Directives (IED) was issued and those applicable bespoke waste permits that fell within the remit as defined by the IED regulations had a transition period to apply and vary their operations to be compliant. Unfortunately permit EPR/AP3398LQ was not varied to an IED permit in 2012 and now needs to be varied under a substantial variation application rather than a normal variation as described in the pre application advice received in section 01 of this application pack/

MISWA Chemicals Limited was established in 1979 and has operated in around Northamptonshire creating and exporting products worldwide. An bespoke environmental permit was applied for and issued On 28th April 2009 however to date the site has not operated this permit fully.

The existing permit enables the operation of;

'The main features of the facility are as follows. Glycol and water are recovered from waste glycol streams using filtration, settlement, flocculation, and distillation. The recovered glycol and water are then used as raw materials in other downstream processes.'

The permitted activities are described in Table 1 Permitted Activities below which also include the processing of Glycol. At present this process is not active on site as the plant has not yet be commission however, on commissioning and prior to operations a revised EMS will be submitted to the EA for approval and notification of intended and permitted activity.

1.1 Permitted Activities

Table 1 Permitted Activities

Activity Reference	Disposal and Recovery Codes	Limits of activities
S5.3 A(1)(ii) Physico – chemical treatment	R3 – Recycling/Reclamation of organic substances which are not used as solvents R5 – Recycling/reclamation of other inorganic materials R13 – Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage,	R5 operation is to be limited to the separation of water from the waste glycol Treatment consisting only of screening, flocculation, centrifuging, filtration, distillation condensing and storage of waste

	pending collection, on the site where it is produced)	Glycol (24 hour period) Processing capacity of up to 150 tonnes per day. Brake Fluid Processing capacity of up to 20 tonnes per day.
Section 5.6 - temporary or underground storage of hazardous waste.	R13 – Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Storage

1.2 Hours of Operation

Monday to Friday 07:00-18:00

No weekends or bank holidays.

1.3 Waste Types

Table 2 Permitted Waste Types

05	Wastes from Petroleum Refining, Natural Gas Purification and Pyrolytic Treatment of Coal
05 07	05 07
05 07 99	wastes not otherwise specified (wastes containing glycol only)
16	Wastes not otherwise specified in the list
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 14*	antifreeze fluids containing dangerous substances
16 01 15	antifreeze fluids other than those mentioned in 16 01 14
16 03	off-specification batches and unused products
16 03 05*	organic wastes containing dangerous substances (wastes containing glycol only)
16 03 06	organic wastes other than those mentioned in 16 03 05 (wastes containing glycol only)
16 10	aqueous liquid wastes destined for off-site treatment
16 10 01*	aqueous liquid wastes containing dangerous substances (wastes containing glycol only)
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01 (wastes containing glycol only)
16 10 03*	aqueous concentrates containing dangerous substances (wastes containing glycol only)

16 10 04	aqueous concentrates other than those mentioned in 16 10 03 (wastes containing glycol only)
16 01 13*	Brake Fluids

1.3.1 Directly Associated Activity

- Storage of non-hazardous waste (any amount) prior to treatment.

1.4 Environmental Policy

Miswa Chemicals is justly proud of its position as a manufacturer. We realize that our people are key to maintaining this position. That is why we are committed to conducting our business in a manner, which safeguards the environment in which we all live and work. The Environmental Policy sets the framework for the Environmental objectives.

To this end the Director shall ensure that the company's employees are fully aware of and committed to observing the following principles.

Principles

- We will comply with environmental legislation and where practical exceed those requirements, whilst cooperating with legislative bodies in developing and achieving improved performance.
- We will continuously improve our environmental performance by setting and reviewing environmental objectives and targets.
- We will prevent pollution to air, land or water by managing foreseeable hazards to the environment.
- We shall endeavor to minimize our impact through our operations and rehabilitation.
- We will monitor and reduce the quantity of waste materials where feasible, generated by our operations.
- We will monitor and reduce the consumption of energy where feasible, throughout our mobile and land based operations.
- We will embrace new technologies that improve efficiencies.
- We will minimize the use of diminishing natural resources where possible.
- We will communicate with and train our employees to increase environmental awareness.
- We will ensure compliance with our environmental policies and procedures through compliance with our Environment Management Plan, Environmental regulation and Biannual Management meetings.
- We will encourage our contractors and suppliers to implement their own environmental policies and standards that are equal to, or better than our own.
- We will regularly review and update this policy in light of new practices or legislation, and bring those revisions to the notice of all employees.

1.5 Annual Waste Tonnages

The total quantity of waste accepted at the site shall be up to 45,000 tonnes per annum.

1.6 Total Storage Quantities

05	Wastes from Petroleum Refining, Natural Gas Purification and Pyrolytic Treatment of Coal	Storage volumes	Storage Type
05 07	05 07		
05 07 99	wastes not otherwise specified (wastes containing glycol only)	Up to 500 tonne	Tank Farm/IBCs
16	Wastes not otherwise specified in the list		
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)		Tank Farm/IBCs
16 01 14*	antifreeze fluids containing dangerous substances	Up to 500 tonne	Tank Farm
16 01 15	antifreeze fluids other than those mentioned in 16 01 14		
16 03	off-specification batches and unused products		
16 03 05*	organic wastes containing dangerous substances (wastes containing glycol only)		
16 03 06	organic wastes other than those mentioned in 16 03 05 (wastes containing glycol only)		
16 10	aqueous liquid wastes destined for off-site treatment		Tank Farm/IBCs
16 10 01*	aqueous liquid wastes containing dangerous substances (wastes containing glycol only)	Up to 500 tonne	IBCs
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01 (wastes containing glycol only)		
16 10 03*	aqueous concentrates containing dangerous substances (wastes containing glycol only)		
16 10 04	aqueous concentrates other than those mentioned in 16 10 03 (wastes containing glycol only)		
16 13*	16 01 Brake Fluids	Up to 50 tonnes 50,000 litres	

2 SCOPE OF ENVIRONMENTAL MANAGEMENT SYSTEM

2.1 Notice Board

Site notice board is located by the main entrance of the site. The sign in accordance with site develop a management system shall display;

- Permit holder's name
- Emergency contact name and telephone number
- A statement that the site is permitted by the Environment Agency
- Permit number
- Environment Agency telephone number 03708 506506 and the incident hotline 0800 807060

2.2 Site Surfaces

The site benefits from an impermeable site surface where all waste activities are carried out. See drainage plan MD17007 - Drainage 54 Caswell Road - No. 9 Emergency Response Drawing - Rev C - DRAFT

2.3 Drainage

There is no internal drainage to the site. Roof water is segregated from the foul lines.

Primary containment externally is provided by the tank farms that store non waste materials, with secondary containment provided by localised bunds with tertiary containment provided by a concrete site surface and kerbing, the fall of the external yard is to the middle see site drainage plan MD17007 - Drainage 54 Caswell Road - No. 9 Emergency Response Drawing - Rev C - DRAFT External yard drainage goes to foul via an interceptor and penstock valve.

2.4 Construction and Supervision

Any construction work, infrastructure improvement and replacement will be undertaken by a specialist contractor. A suitably qualified Civil Engineer will inspect works to ensure that all necessary standards and specifications are met.

3 SITE INFRASTRUCTURE

3.1 Access

The National Grid Reference (NGR) is SP 77565 58276, Eastings and Northings 477565 , 258276 and What Three Words saving.abode.cove.

Site is accessed by the A 45 and Caswell Road, Site is located south west of Northampton Town center.

3.2 Security

Site has a secure parameter made up of a 6ft high Palisade fence.

3.3 Site Information

Emergency contact numbers, hours of operation, permit number and the EA's incident number and general enquiries number will be displayed in the operational area as per 2.1 Notice Board.

3.4 Office and Welfare

Site has mains water, electricity, phones and internet.

3.5 Quantity Measurements

Twenty, 1000 litres Intermediate Bulk Containers (IBC) delivered via Heavy Goods Vehicle (HGV) once per month.

3.6 Fuel Storage

Fork Lift Trucks (FLT) utilise gas, gas cylinders are stored in a cage.

4 STAFFING AND EQUIPMENT

4.1 Staffing

When the site is open it will be staffed by a minimum of 3 members (Yards Man, Quality Check Lab Technician, Chief Batch Mixer) of staff who are aware of the following.

- Waste acceptance and control procedures
- Operational controls and environmental monitoring
- Maintenance
- Record keeping
- Emergency action plans
- Notifications to the Environment Agency

4.1.1 Management

Operations will be overseen and monitored by a TCM qualified via schemes approved under the Environmental Permitting (England and Wales) Regulations 2016 (as amended)¹

Details of the TCM will be provided to the EA. At times where the specified TCM(s) is/are unavailable, an alternative TCM will be allocated responsibility for the operations, the EA will be made aware of these changes.

Responsibilities of the TCM are to ensure permit compliance, ensure compliance with the Health and Safety policy, and the liaison with the EA and other regulatory bodies.

4.2 Responsibility

4.2.1 Operational

A minimum of three persons will be on site during operational hours. Site staff will be responsible for vehicles coming in to and leaving site, inspecting waste to ensure it is compliant with the permit, list of waste in Table 2 Permitted Waste Types, Duty of Care paper work, controlling vehicle movements, using site equipment and machinery, loading and unloading vehicles, ensuring good general housekeeping for the site and reporting any issues to the TCM. Extra staff will be brought to site if required.

¹ <https://wamitab.org.uk/wp-content/uploads/2020/06/CIWM-WAMITAB-Operator-Competence-Scheme-Version-9-Final.pdf>

5 WASTE MOVEMENTS

5.1 Health and Safety

All visitors to the site will report to the site office. First time visitors to the site will be required to complete a visitor form and read the displayed notice board giving instructions on health and safety and site procedures. They will also be informed of any works ongoing on site that may impact them.

5.2 Duty of Care

All incoming waste will be supported by the appropriate duty of care documentation detailing the source location and description of waste. A copy of this description will be kept at the site office.

5.3 Carriers Registrations

Only registered waste carriers will be contracted to remove waste from site or MISWA Chemicals Limited Management own fleet. The TCM or an trained and appointed member of staff will ensure that hauliers are moving waste from the site are registered waste carriers using standard checks such as the Environment Agency (EA) public register. Where there is uncertainty the carrier will be asked to provide a validated waste carriers certificate.

5.4 Description of Waste

All loads will be described appropriately and will only be accepted where in compliance with acceptable waste types for the site refer to Table 1 Permitted Activities. the TCM will ensure that delivered waste is acceptable and permitted by the environmental permit.

5.5 Input Controls

See waste acceptance.

5.6 Outgoing Vehicles

Waste rejected is containerised in IBCs and removed from site on a curtain sided trailer.

6 OPERATIONS

6.1 Incoming Waste

Arrives on curtain sided HGV, via the main gates on Caswell Road. Vehicle reverses in with banksman (Yards man).

6.2 Waste Unloading and Inspection

Waste is unloaded using FLT's and placed directly in to the IBC storage area shown on site plan MD22024 - BERP Project Site Drawing - Dated 14-12-2022.

6.3 Non-conforming loads

See waste acceptance procedure, in particular pre acceptance checks.

6.4 Spillages

See spill procedures Appendix 2 OP-HS011 - Spill Response

7 WASTE ACCEPTANCE

See Table 2 Permitted Waste Types.

To ensure only permitted wastes are accepted, waste acceptance criteria have been implemented and are maintained and communicated to all relevant staff.

The Waste Acceptance Procedure includes the following:

- Appendix 7 Pre Waste dispatch (ENVA)
- Initial inspection where all incoming deliveries are checked for compliance with the acceptance criteria.

The permit holder will only accept those wastes that comply with the permit. Non-conforming loads will be rejected and removed from site.

7.1 Pre Acceptance of Waste

Waste Brake fluid will only be accepted to site, in Intermediate Bulk Containers (IBCs) see Appendix 10 IBCs Specification for specification.

Context

Miswa Chemicals Ltd will enforce a waste acceptance procedure, rejecting any IBC's that fail the testing completed on-site. In order to ensure the number of rejected IBC's is at a minimum, "Enva" will conduct a number of basic tests before dispatching the waste to Miswa Chemicals.

The procedure will work in a 3 stage process where the technician will have to ask questions at each stage. If the answer to these questions at any point is "YES" they must notify their colleagues to refrain from sending the IBC to Miswa Chemicals. If the answer is "NO" then they can proceed to the next stage.

PROCEDURE

Primary

Remove the cap off the top of the IBC. Is there an overwhelming petrol/diesel smell coming from the IBC?

If so, is this smell still present when just stood near the IBC?

If the answer to these questions was YES – then refrain from sending the IBC to Miswa Chemicals.

Secondary

Visually observe the contents of the IBC. Is there a large amount of sediment? Are there any solids of size (~5 cm) with in the IBC?

Extract ~ 500 mL from the bottom of the IBC. Using the Miswa Chemicals visual colour specification, compare the sample to the specification.

If the sample is considerably darker and murky - then refrain from sending the IBC to Miswa Chemicals.

Tertiary

Using the *Karl Fischer* apparatus, retrieve a water content percentage from the sample collected in the *Secondary* stage.

If the Waste Brake Fluid has a water content less than 5% - dispatch IBC to Miswa Chemicals.

7.1.1 Waste acceptance criteria

The only waste to be accepted to site is listed below in Table 1 Permitted Activities.

To ensure only permitted wastes are accepted, waste acceptance criteria have been implemented and are maintained and communicated to all relevant staff.

The Waste Acceptance Procedure includes the following:

- A pre-acceptance procedures as per section 7.1 Pre Acceptance of Waste and Appendix 7 Pre Waste dispatch (ENVA).
- Initial inspection where all incoming deliveries are checked for compliance with the acceptance criteria.

The permit holder will only accept those wastes that comply with the permit. Non- conforming loads will be rejected And removed from site.

Waste IBCs will be stored prior to waste acceptance which could take up to 1 month. If non conforming it will be rejected and returned to Enva.

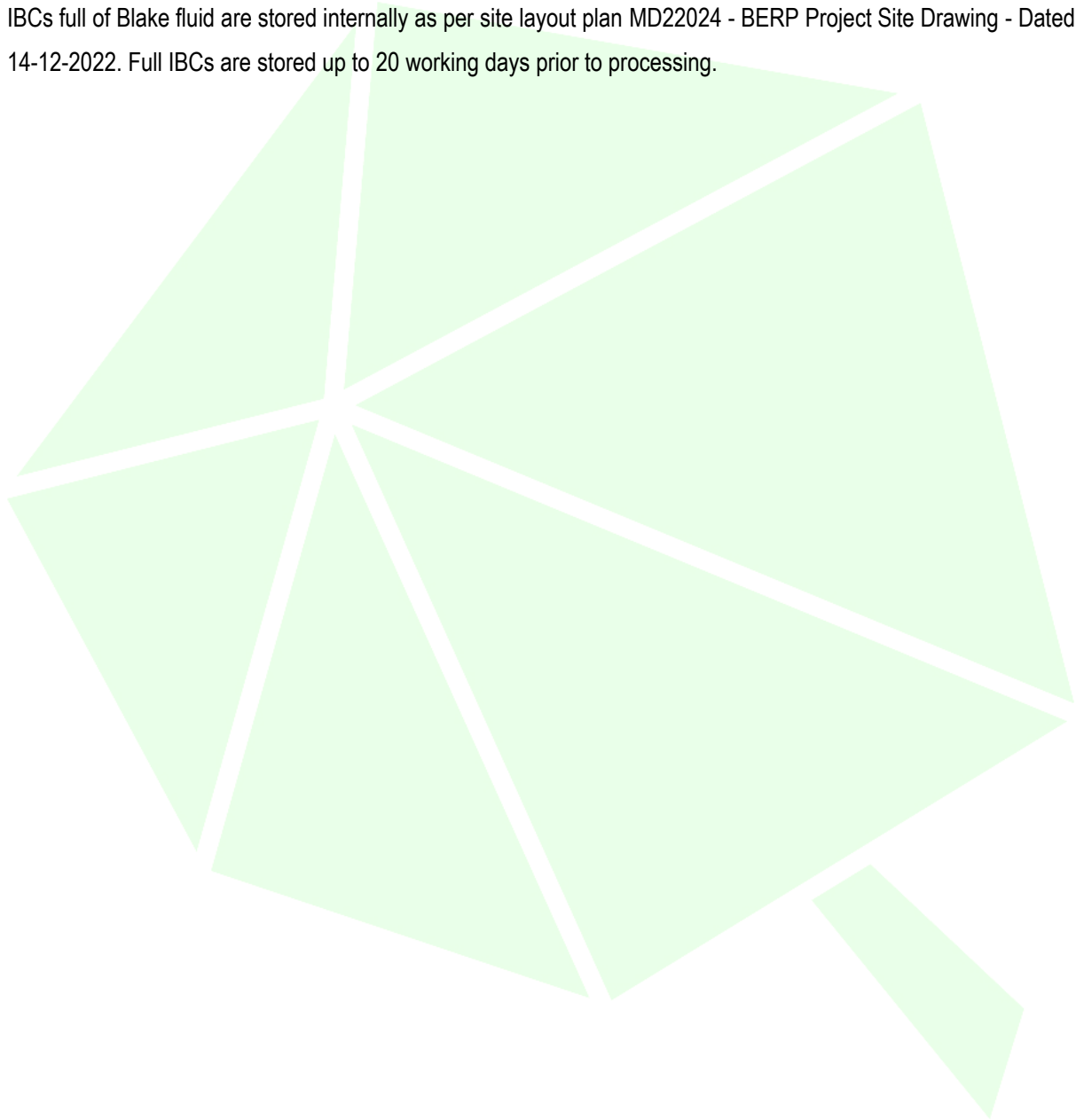
8 WASTE STORAGE

8.1 Storage Areas

IBCs are stored internally as shown on site layout plan MD22024 - BERP Project Site Drawing - Dated 14-12-2022.

8.2 Waste Handling

IBCs full of Blake fluid are stored internally as per site layout plan MD22024 - BERP Project Site Drawing - Dated 14-12-2022. Full IBCs are stored up to 20 working days prior to processing.



9 WASTE STORAGE AND TREATMENT

There are no point source emissions from this process. The process is self contained and waste material is moved via a series of Tanks and pipework pre, during and post treatment. It is then removed from site via tanker.

Storage Area	Volume (litres)	Technical Requirement	Storage Description
IBC Internal (32 IBCs)	32,000 (Up to)	<ul style="list-style-type: none"> • Sector Guidance Note IPPC S5.06 'Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous waste' May 2013 European Directive 2010/75/EU — on industrial emissions • Develop a management system: environmental permits.² • Integrated Pollution Prevention and Control Reference Document on Best Available Techniques on Emissions from Storage July 2006 • Control and monitor emissions for your environmental permit³ • Containment systems for the 	Appendix 10 IBCs Specification.
IBC Internal (16 IBCs)	16,000 (Up to)		Internally stored IBCs are stored on an impermeable site surface with no internal site drainage. (Any spillages would be contained on the immediate site surface).
IBC Internal (12 IBCs)	12,000 (Up to)		In process IBCs are stored on racking away from vehicle movements. IBCs are stored on large drip trays capable of holding either 110% of an individual IBC or a combined volume of 125%.

² <https://www.gov.uk/guidance/develop-a-management-system-environmental-permits>

³ <https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit>

Storage Area	Volume (litres)	Technical Requirement	Storage Description
PR23 (Processed brake fluid awaiting blending).	7,000 (Up to)	prevention of pollution (C736) ⁴ <ul style="list-style-type: none"> <li data-bbox="1137 331 1534 767">• Best Available Techniques (BAT) Reference Document for Waste Treatment Industrial Emissions Directive 2010/75/EU (Integrated Pollution Prevention and Control); EUR 29362 EN; Publication Office of the European Union, Luxembourg, 2018 <li data-bbox="1137 691 1489 767">• Chemical Waste Appropriate Measures⁵ 	Tank farm is design to contain 125% of the total volume of material stored within. Brake fluid will be accepted to site. If this changes a review of the EMS and associated risk assessments will be undertaken to ensure no potentially incompatible waste are mixed. Present process on site is carried out with a sealed system
PR2	2,000 (Up to)		Tank farm is design to contain 125% of the total volume of material stored within. Brake fluid will be accepted to site. If this changes a review of the EMS and associated risk assessments will be undertaken to ensure no potentially incompatible waste are

⁴ <https://www.ciria.org/>

⁵ <https://www.gov.uk/guidance/chemical-waste-appropriate-measures-for-permitted-facilities/4-waste-storage-segregation-and-handling-appropriate-measures>

Storage Area	Volume (litres)	Technical Requirement	Storage Description
			mixed. Present process on site is carried out with a sealed system
TF3	210,000 (Up to)		Tank farm is design to contain 125% of the total volume of material stored within.
TF2	56,000 (Up to)		
TF8 (Fully Processed material awaiting transport off site).	210,000 (Up to)		<p>Brake fluid will be accepted to site. If this changes a review of the EMS and associated risk assessments will be undertaken to ensure no potentially incompatible waste are mixed. Present process on site is carried out with a sealed system.</p> <p>Bunding is Brick built with an impermeable render on the inside of the bund.</p>

9.1 Waste Delivery and Storage

- Both driver and Miswa Yard Co-Ordinator must be in attendance at all times.
- All drivers/operators must hand the documentation to the Yard Co-Ordinator for verification.
- The Yard Co-Ordinator will instruct the driver where to position his vehicle.
- On receipt of the delivery documentation the Yard Co-Ordinator shall hand the driver the internal delivery procedure which they will read and sign it. The Yard Co-Ordinator will read and sign the driver's paperwork and retain a copy.
- The Yard Co-Ordinator will wear a suitably charged gas monitor at all times during the delivery.
- The Yard Co-Ordinator will secure the site by closing the entrance gates, not locking.
- The Yard Co-Ordinator will place physical barriers across entrances to the operational area to prevent unauthorized staff members and vehicles accessing the unloading point.
- The driver must be shown to the location of the Safety Shower in case of accidental contact
- Each individual Waste brake fluid IBC shall be identified with a unique internal code which shall be noted down on the list report.
- A one litre sample will be extracted from each IBC, it is important that the sample is labelled with the same unique identifier as the IBC that it was extracted from.
- Each 1 litre sample will be taken over to the laboratory, along with the list report. Here the QC lab technician will follow the Waste Acceptance QC working instruction.
- If any of the samples are to fail the QC process then this will be noted on to the list report and a non-conformance will be raised listing the results leading as to why that particular IBC failed.
- The now completed list report can be handed over to the Yard Co-Ordinator so that he/she will be able to identify which IBC's have passed the pre-acceptance tests and which have failed.
- The failed IBC's will remain on the HGV and will return to the waste provider. The waste provider will receive a report including the results as to why the IBCs in question have been rejected.
- The IBC's that have passed the waste acceptance procedure can now be unloaded, by use of fork lift truck. These will be placed into the designated waste storage area, highlighted in the permit boundary extension.

9.2 Waste Treatment Summary

1. Using the “waste batch sheet” fill out the necessary information:
 - Name of Batch Mixer
 - Time of start
 - The Date
 - The waste IBC identifier
2. Use a forklift truck to place the Waste Brake fluid IBC on to IBC 0. When ready slowly open the tap on the bottom of the IBC. The waste Brake Fluid will begin to flow into IBC 0. It is important that a slow sensible flow rate is achieved so that the top layer is not reached too quickly.
3. The valve connecting IBC 0 and the plant can now be emptied and the double diaphragm pump can begin to operate. This will push the spent brake fluid through a multi-filtration process.
4. The re-claimed brake fluid will then be stored in PR23 until required.
5. Once all of the IBC's from the delivery have been reclaimed, all IBC should be decanted into one single IBC.
6. This IBC will be left until two clear layers have reformed. Then the reclamation process can occur on this final IBC. This is to ensure maximum reclamation from a waste delivery.

Figure 1 Waste brake fluid treatment process

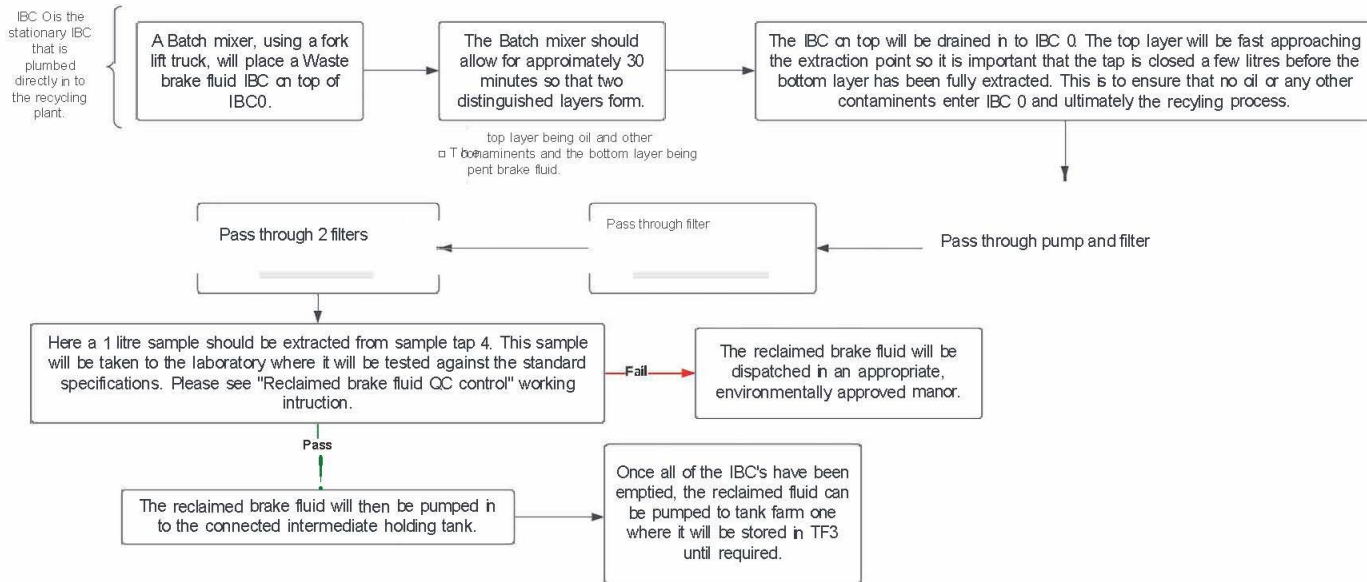
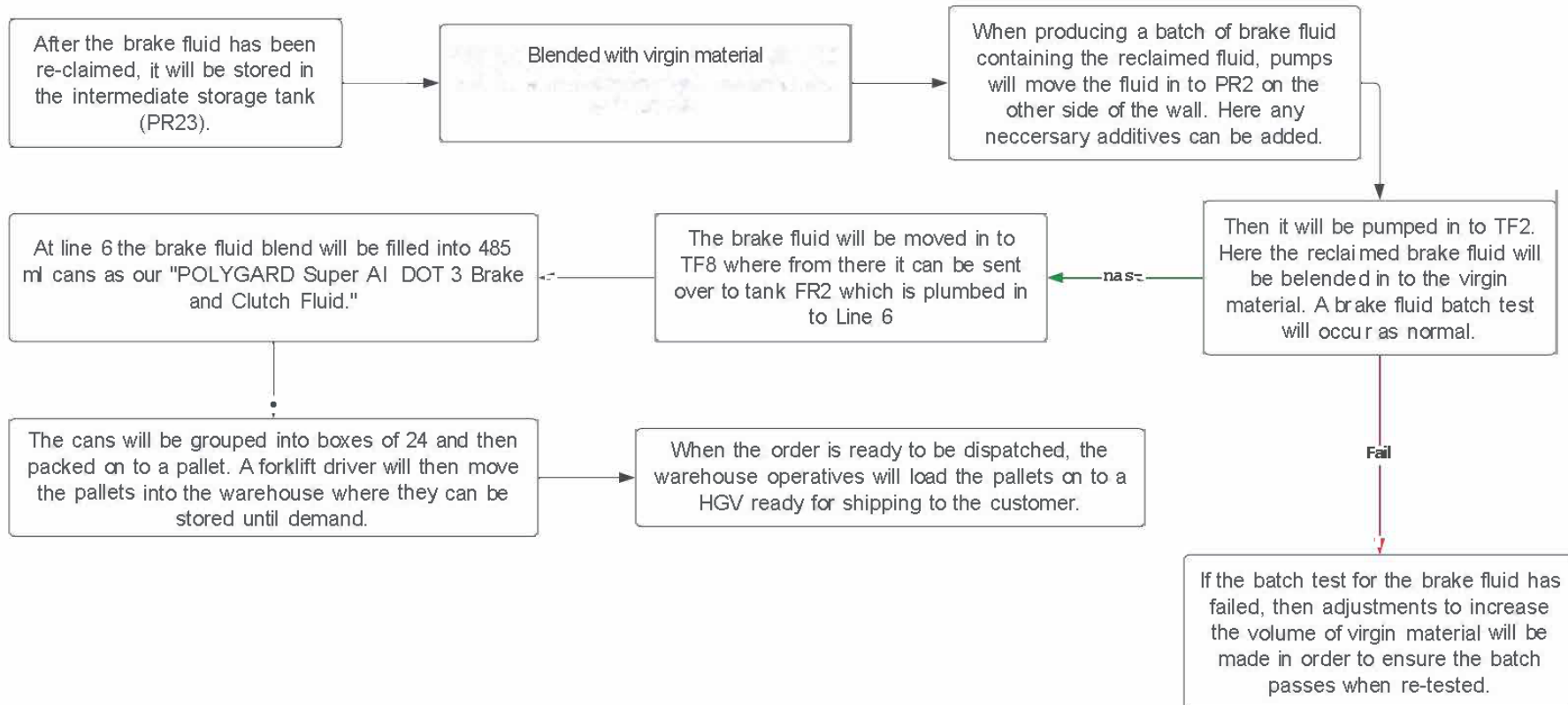


Figure 2 Product procedure process flow diagram



These process is supported by Appendix 4 Reclaimed brake fluid QC Appendix 5 Reclaiming Waste Brake Fluid - Batch Mixers Appendix 6 Waste Brake Fluid IBC Delivery and Storage

9.3 Residual waste

As apart of contractual arrangements all residual waste is returned to Enva for onward treatment/disposal at another appropriately authorised facility.

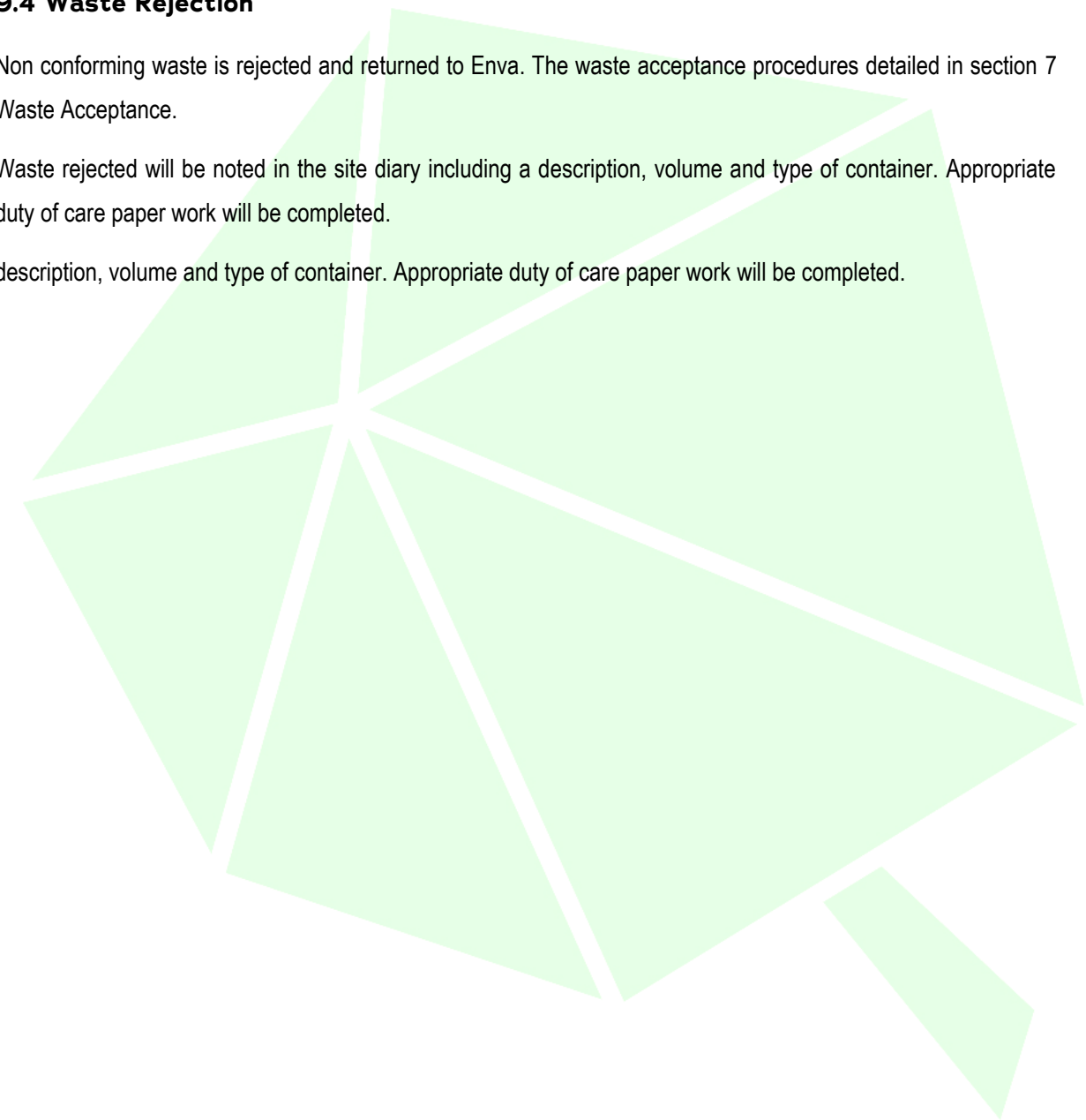
Waste rejected will be noted in the site diary including a description, volume and type of container. Appropriate duty of care paper work will be completed.

9.4 Waste Rejection

Non conforming waste is rejected and returned to Enva. The waste acceptance procedures detailed in section 7 Waste Acceptance.

Waste rejected will be noted in the site diary including a description, volume and type of container. Appropriate duty of care paper work will be completed.

description, volume and type of container. Appropriate duty of care paper work will be completed.



10 PRODUCT MONITORING AND DISPATCH

10.1 General Management

The company have detailed written procedures and recording systems covering all aspects of site and company operations.

10.2 Plant and Equipment, Preventative Maintenance

Site management will undertake or delegate additional preventative maintenance checks on a daily basis to ensure, where possible, the machinery is mechanically sound, as described in the section below.

Fuels and combustible liquids from site vehicles (forklift trucks etc.) will be controlled by ensuring each vehicle has undergone the relevant preventative maintenance checks.

Any spillages of fuel will be cleared immediately by depositing sand or absorbents on the affected area and removed to the quarantine area or to a dedicated skip to await removal to a suitably permitted facility.

All items of plant and equipment (and any additional items of plant which may be hired in to cover busier periods) are subject to preventative maintenance checks to ensure their safe operation and to prevent any potential situations which may give rise to faults or malfunction.

All mobile plant on site are subject to annual manufacturer maintenance to ensure proper working order in the form of service contracts. site manager/TCM will undertake or delegate additional preventative maintenance checks on a more frequent basis to ensure i.e. daily, before, during and at the end of each working day to ensure (where possible) the machinery is mechanically sound. These checks will be carried out using the preventative maintenance.

10.3 Accidents and Incidents

The system for the identification of potential accidents, incidents and emergency situations is through risk assessments which are routinely undertaken in accordance with the operator's health and safety policy.

In order to prevent or reduce potential accidents, incidents and emergency situations at the site, BAT is using the techniques given below:

- At introduction of new contract/working practices, procedures are established to deal with potential accidents/incidents from specific hazards, identified from experience.
- Risks are assessed on an ongoing basis and as work proceeds.
- MISWA Chemicals Limited uses its expertise to provide method statements that include recognised emergency procedures which are then briefed to all site staff and any subcontractors.
- If an accident, incident or near-miss occurs, the accident reporting procedure is used to investigate and remedy the cause. Any accident or incident that falls into the RIDDOR category shall be reported accordingly and submitted to HSE within 10 days of the occurrence.

- Site management meet regularly to review the causes of any accident/ incident and corrective and preventative actions implemented to address them. This may lead to changes in working practices, training and staff information briefings to ensure that the root cause is understood and addressed.
- Investigations are undertaken by company Management.
- Meeting the requirements of S5.06 Section 2.8.

The manner in which the facility is managed is a critical element in ensuring emissions from the site operations are minimised. Therefore, the management of the facility ensures:

- Staff are competent to manage and operate the facility i.e. fit and proper persons
- Strict waste pre-acceptance and acceptance are procedures are in place
- Procedures and control techniques in place to minimise potential emissions to air, land and water
- Operational procedures as detailed in the EMS 012.1_05_003 are in place to minimise the risk of emissions having regard to the waste types being accepted and the waste processing activities at the facility
- Operational procedures are in place to minimise the risk of odours having regard to the waste types being accepted and the waste processing activities at the facility
- Appropriate storage and handling procedures are in place
- Waste despatch procedures are in place
- Provision of a impermeable surface with appropriate kerbing to prevent escape to adjacent permeable areas
- Containment bays provided on site for the secure storage of the waste
- Wastewater management procedures in place
- There is an EMS 012.1_05_003 in place for MISWA Chemicals Limited to ensure standards are maintained, including incidents and complaints management procedures,
- Techniques in place for prevention and minimisation of resource consumption e.g. Energy efficiency, use of raw materials

10.4 Monitoring

A Batch mixer will deliver the 1 litre sample to the laboratory a long with the IBC identifier. The QC laboratory technician should then proceed to complete the table below.

Table 3 Monitoring

Test	Method No.	Specification	Result	Initial
------	------------	---------------	--------	---------

Appearance	TM-QC025	Clear Golden liquid with no visible or suspended matter.		
SG	TM-QC010	~ 1.080 (20°C)		
pH	TM-QC004	7.0 - 9.0		
Water Content	TM-QC006	< 0.5% w/w		
ERBP	TM-QC002	>205°C		
WERBP	TM-QC003	>140°C		

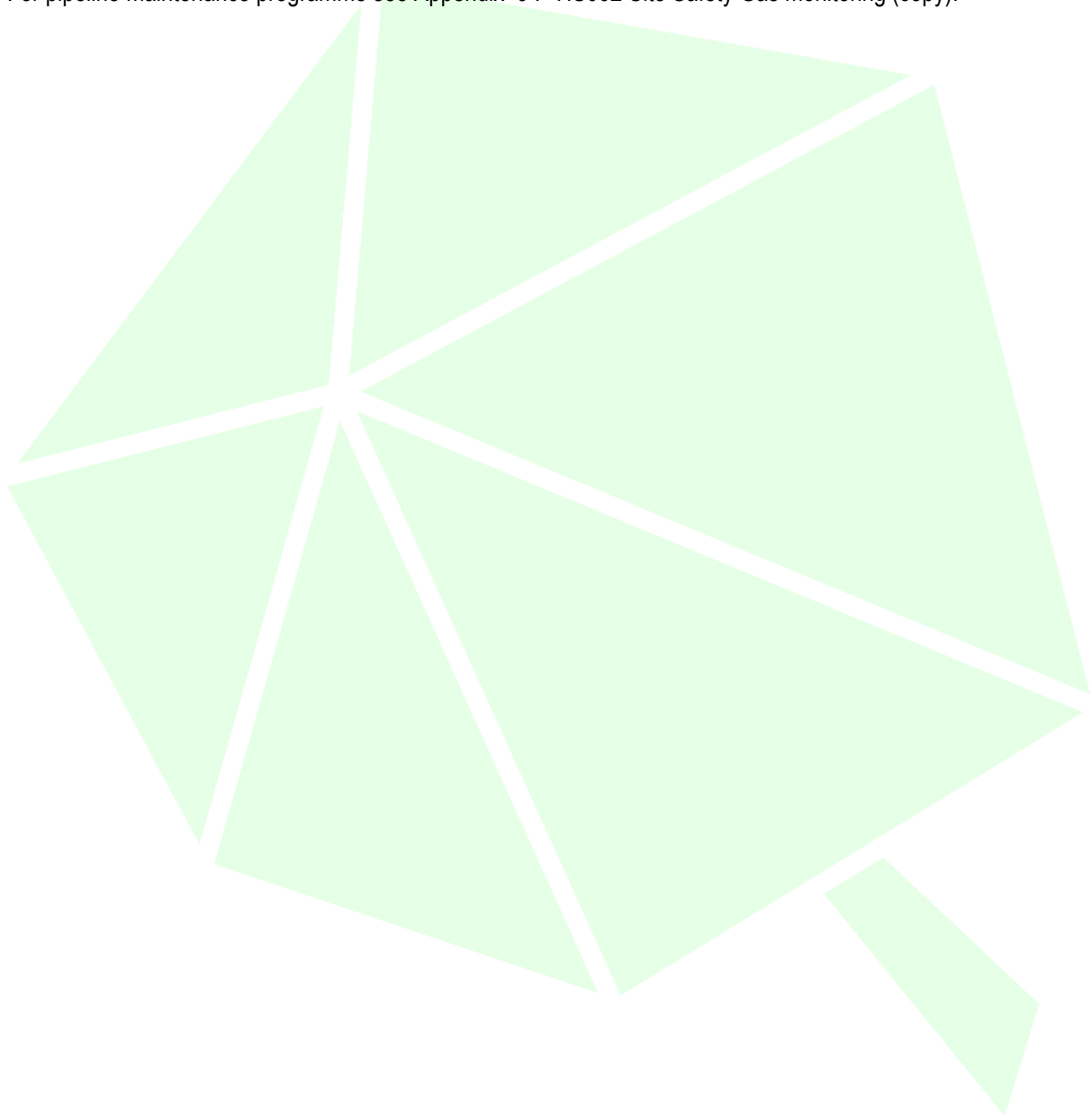
If the reclaimed brake fluid achieved results that exceeded the brake fluid industry standard specifications, then the batch mixer can be notified that the IBC has passed and therefore can proceed with the process.

It is important that the QC technician then records all of the results along with the IBC identifier on an allocated spread sheet for reclaimed brake fluid, in the QC folder.

11 INFRASTRUCTURE AND EQUIPMENT MAINTENANCE PLAN

11.1 Leak detection Program

For pipeline maintenance programme see Appendix 9 P-HS002 Site Safety Gas monitoring (copy).



12 CONTINGENCY PLAN

12.1 Flood

The site is not in a location identified as having a significant risk of flooding from coastal or river sources. However, surface water flooding may occur this is managed by monitoring local high way drains to ensure they are not blocked as well as the on site drainage system

12.2 Equipment

The equipment used on site is maintained by on site engineers and repaired on site. Localized spares are kept for smaller jobs.

If necessary, as a result of breakdown, specialised contractors would be called to repair equipment.

12.3 Staffing

Full training for all staff involved in the permitted process is provided. Only trained personnel will be allowed to operate the process.

If staff are not able to fulfil their roles then new resource will be found and fully trained prior to starting work.

12.4 Fire

Site will be evacuated as per evacuation procedure. The Fire and Rescue Service (FRS) will be notified and high risk areas notified to the FRS such as COMAH zoning.

13 ACCIDENT PREVENTION AND MANAGEMENT

Any accident or incident that has caused, is causing, or may cause significant pollution will be recorded.

These will be investigated by the TCM or senior management and where action is identified as being required, this will be recorded; responsibility will be allocated; preventative or corrective actions specified and completion required to an clearly defined time scale

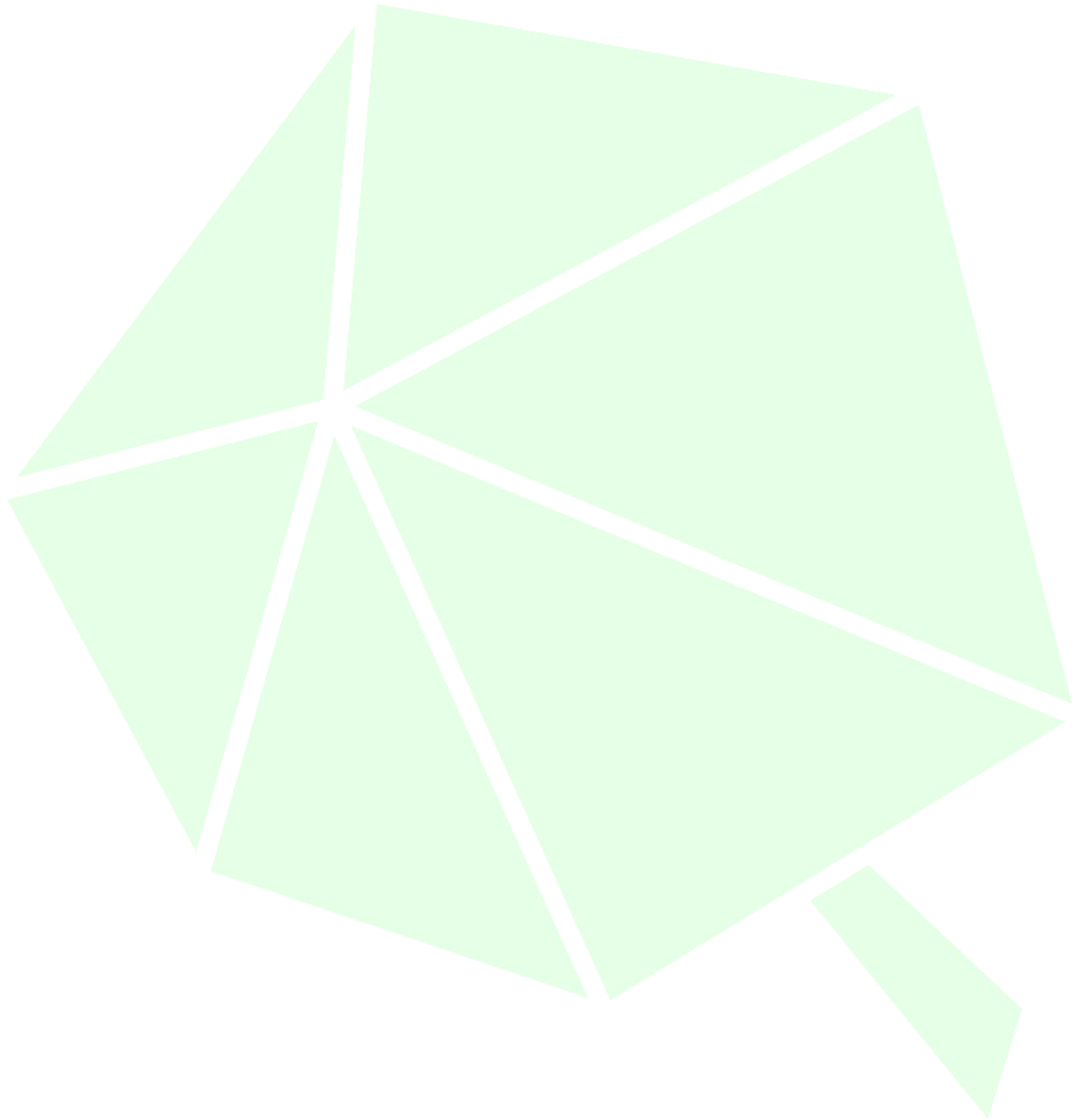


Table 4 Accident Prevention and Management

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
Transferring substances (spillage during handling between vessels)	Groundwater Unproductive Aquifer (Bedrock and Superficial Aquifer).r	Through impermeable site surface/sealed drainage system.	Consequence is low due to material handling procedures and training.	LOW	Transfer of all substances to be undertaken on an area of impermeable site surface. Continual monitoring and maintenance of surfaces.	Spillages will be cleaned up immediately upon detection. Spills kits located at strategic locations around the site will be deployed in the event of spillage. Details of the spillage will be recorded and retained. In the event of a significant spillage which has the potential to cause environmental pollution the Environment Agency will be informed as soon as is reasonably possible
	Geology Whitby Mudstone Formation					
	Neighbours No designated sites within 1 km of the site. No residential within 600 m.	Dispersion through the air	Waste is delivered contained and input in to a sealed system operated under pressure. No waste accepted on site that can be	LOW	Non liquid waste rejected.	

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
	Multiples industrial units within 500 m north, east, south and west.		blown to create a dust/litter nuisance etc....	LOW		
	Arable farmland nearest is 672 m south west.					
	Surface water features	Overground flow	Contamination and dispersion within wider water bodies.	LOW	Transfer of liquids to be undertaken within secondary containment.	
Plant or equipment failure	Site workers	Direct contact	Severe personal injury could result.	LOW	All site personnel must wear PPE at all times, and be trained in the safe operations of plant and equipment.	Record and retain all plant and equipment failures on site. Where plant or equipment failure has the potential to cause injury or pollution ensure that issue is
	Arable farmland nearest is 672 m south west.					

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
					Plant and equipment is maintained in accordance with a strict maintenance schedule to ensure risk of breakdown or failure is minimal.	clearly communicated to all relevant individuals to prevent further use.
	Groundwater Unproductive Aquifer (Bedrock and Superficial Aquifer).r	Through impermeable site surface	Contamination of surrounding area and dispersion within the wider groundwater environment.	LOW	Spill equipment available should oils or fuels be released from plant or equipment.	Where plant or equipment failure results in a leak or spillage ensure the spillages is cleaned up immediately upon detection and the faulty plant/ equipment is stored on an impermeable surface.
	Geology Whitby Mudstone Formation				Plant and equipment maintained in accordance with a strict maintenance	

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
					programme to ensure a limited risk of failure.	
Containment failure	<p>Groundwater Unproductive Aquifer (Bedrock and Superficial Aquifer).r</p> <p>Geology Whitby Mudstone Formation</p> <p>Arable farmland nearest is 672 m south west.</p>	Leaking through cracked or overtopped bunding/containment feature	Contamination of surrounding area and dispersion within the wider groundwater environment.	LOW	<p>Daily site checks will ensure ongoing inspection of the integrity of containment features.</p> <p>Regular maintenance.</p>	<p>Spillages will be cleaned up immediately upon detection.</p> <p>Spills kits located at strategic locations around the site will be deployed in the event of spillage.</p> <p>In the event of a significant spillage which has the potential to cause environmental pollution the Environment Agency will be informed as soon as is reasonably possible.</p>
Fire	Site operatives and infrastructure	Direct contact	Loss/damage of property.	LOW	Liquid waste high flash point.	

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
	<p>Neighbours</p> <p>No designated sites within 1 km of the site.</p> <p>No residential within 600 m.</p> <p>Multiples industrial units within 500 m north, east, south and west.</p>		<p>Injury.</p> <p>Business disruption.</p>		<p>All plant and equipment maintained to a schedule.</p> <p>Key business processes and documentation stored remotely for business continuity purposes.</p>	<p>With ongoing maintenance of plant and equipment risk of fire is low.</p> <p>Management systems for business continuity will aid in the event of a fire.</p>
	<p>Arable farmland nearest is 672 m south west.</p>					
Storage of hazardous substances	Site operative	Direct contact	Injury or ill health.	LOW	If handled personnel must be	All hazardous substances stored in suitable containment

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
	<p>Groundwater</p> <p>Unproductive Aquifer (Bedrock and Superficial Aquifer).r</p>	Through impermeable site surface	Contamination of underlying ground and groundwater.		<p>wearing appropriate PPE.</p> <p>Managerial procedures in place for compliant storage.</p>	<p>with bunding (where applicable).</p> <p>Hazardous substance storage areas are separate from operational areas.</p> <p>All hazardous substances will be stored in secured containers which will be locked when not in use.</p>
	<p>Geology</p> <p>Whitby Mudstone Formation</p> <p>Arable farmland nearest is 672 m south west.</p>					
Vandalism	Plant and Equipment or site infrastructure	Direct contact	Impact on business processes	LOW	Site has security fence around parameter and CCTV.	Ensure vandalism has not resulted in an environmental pollution incident.

Possible Accident/Incident	Receptor	Pathway	Consequence	Likelihood	Risk Management	What to do if the accident/incident occurs
						Inspect the site for damage and record and retain results.
Flooding	Site infrastructure	Direct	Low	Low	The site is not within a floodplain. Surface water flood risk 1 in 30 year, 0.3m - 1.0m	Ensure on site and off site drains are clear. For off site drains in high way inform local authority/highways.

14 COMPETENCE AND TRAINING RECORDS

14.1 Management

A TCM holds the relevant competence through schemes approved under the Environmental Permitting Regulations 2016 (as amended).

Details of TCM will be provided to the EA, and reported through the national operator waste returns. Copies of Certificates will be held at the site office. At times where the specified TCM(s) is/are unavailable, an alternative TCM cover arrangement will be made.

Responsibilities include day to day operations and activities at the site, ensuring compliance with Permit and Planning conditions, ensuring compliance with Health and Safety Policy, responsible for fire safety at the site and liaison with the EA and other regulatory bodies.

14.2 Staff

All site staff will be given instruction on relevant elements of the Environmental Permit, this EMS and the wider management system; to effectively and efficiently carry out their job function. Training will be documented, and records kept.

All site staff will be given relevant training and supervision on the procedures, machines and equipment used at the site.

14.3 Training Needs Assessment

All new and existing site staff are subject to a specific training regime based on their responsibilities at the site to ensure all operations are carried out without harm to the environment or amenity of the surrounding area. Training in all aspects of the site and waste operations at the site with regard to the individual responsibilities of the site staff will help to prevent incidents occurring which may have an adverse impact on the environment and/or the employees and their co-workers.

14.4 Emergency Procedures Training

In addition to normal operating conditions as specified in the site rules, employees must also be trained in dealing with eventualities which may occur outside the scope of normal operating conditions, so they are aware of how to deal with these situations in advance of an occurrence.

14.5 Recognition of Waste Types Training

All employees will be given induction training and subsequent training to identify waste types which are permitted for acceptance at the site under the site's Environmental Permit (EP) and those wastes which are not. This will include specific training to identify those common wastes which may be found following deposit and are not permitted at the site and will also include more obscure wastes and how to handle these wastes safely. All

employees will be advised that they will refer any unrecognisable or unknown wastes to site manager/TCM, who will, in turn, follow procedures outlined in the EMS and/or contact the EA to agree a suitable method for removal.

This training will be provided to all site users who handle waste on site and those in charge of administration and reporting. In-depth training will also be provided to drivers responsible for collecting wastes from the site of production. They will be trained to identify any wastes not covered by the EP for the site and inform the producer that an alternative facility must be sought for any non-compliant wastes.

Staff will also be trained in BAT procedures ensuring **only** the following EWC codes are accepted on site.

14.6 Plant and Equipment Preventative Maintenance Training

This training is provided specifically for the vehicle and plant operators in order to ensure that all plant and machinery is checked regularly to prevent any occurrences which may lead to any adverse impacts on the environment or human.

The same training will be provided to senior management enabling a dual-level maintenance programme.

14.7 Duty of Care Training

All employees dealing with consignments of waste will be trained in the completion of Duty of Care Waste Transfer Notes and Consignment Notes .

14.8 Plant Operation Training

Any employees who are required to operate loading or treatment plant for the movement or processing of waste will be required to undertake the necessary qualifications for the operation of the specific item of plant in question. This will be required prior to operating the plant and will be obtained through necessary external certification programmes.

Regardless of general plant operation certification, all operatives will be fully inducted in the operation of the specific make and/or model of plant used on site.

14.9 Permit and EMS Training

All employees will be inducted into the operating conditions as prescribed in the EP for the site. Whilst much of the above training will provide specific guidance on many aspects of these documents, all employees will be made aware of the location of the EP in the site office. All managerial positions will be made fully aware of the sites operating conditions.

Records will be kept in accordance with Appendix 8 Training Matrix.

15 ENVIRONMENTAL EMISSION CONTROLS

15.1 Fire Prevention

Site does not accept solid combustible waste the requirement of an Fire Prevention Plan has been screened out

15.1.1 Awareness and Training

All site workers and visitors where appropriate will be advised on fire procedures. This will ensure all site staff and visitors are aware of the evacuation procedures, locations and methods/use of fire fighting equipment. Records of these events will be kept in the site diary or another form. Any improvements needed to procedures, equipment or training will be reported to the TCM. Fire drills will be carried out under the direction of the TCM or senior management..

15.2 Litter Control

Waste accepted on this site is not likely to develop litter (liquid waste) and is containerised.

The site is subject to regular housekeeping and staff are required to litter pick on a 'see it, pick it up' basis.

Whilst unlikely, where litter is identified as a nuisance at or near to the site boundary, the Site Manager will immediately organise the collection of litter.

The source of the litter will be investigated and removed to a covered container ready for disposal.

15.3 Odour Control

The types of materials received at the site mean that, under normal circumstances, they do not contain significant quantities of putrescible wastes. Whilst unlikely, where such material is observed the following measures have been put in place to minimise risk. If putrescible waste is detected this is contained within the general waste container and arrangements made for disposal.

Any odour complaints received at the site will be investigated by the TCM and their findings will be used to inform corrective and preventative actions.

15.4 Dust Control

Due to the nature and quantities of the materials received on site the likelihood of dust generation is limited. Nevertheless, operations are conducted to ensure that risk is negligible. Waste processing and storage is all internal except for empty IBCs.

Visual inspection of external site areas will be made daily for dust generation and/or deposition. Regular inspection of the site perimeter will also be made to assess for presence outside the site boundary.

Findings will be recorded, and corrective/preventative action taken as appropriate

15.5 Noise and Vibration Control

Noise and vibration is not an issue on site see Appendix 1 8757UE - Noise Impact Assessments - NOVA Acoustics Ltd Noise Impact Assessment (NIA) demonstrating no significant impact.

15.5.1 Plant Operator Noise Control Measures Summary

- Reversing alarms will be white noise.
- Vehicles will adhere to the 10-mph speed limit on site.
- Engines will be switched off when not in use. Vehicles will not be left idling.
- No shaking of vehicle bodies will take place whilst raised.
- Vehicle horns to be used as a Health and Safety measure only.
- Vehicle movements will be spread evenly throughout the day where practicable.

15.5.1.1 Management Control Measures

- Users of on-site plant and equipment complete a daily defect log at the beginning of the working day if they observe that their vehicle is not working to its optimum. An on-site mechanic actions the defect log on the same working day and machines are not used until this action has been completed.
- Tool-box talks are provided by site management/TCM on a regular basis to site operatives. These talks include all aspects of the management plans for this site.
- Plant maintenance schedules using the manufacturer's recommendations where vehicles are serviced after 500 hours of operation.
- Pre-use checks are completed prior to using plant and equipment daily.
- Defects are reported and actions are taken to rectify the problem or remove the offending item from service until such time as the issue is resolved.
- All plant and equipment are visually inspected by the operator at the end of the working day.
- Throughout the day operators are vigilant in checking vulnerable areas like exhausts and engine bays.
- Specialist contractors are used to perform maintenance outside the scope and expertise of the site management and operatives.
- All documentation relating to plant and equipment maintenance is retained in the site office for inspection.

15.6 Birds, Vermin and Pest Control

The types of wastes accepted and stored at the site are unlikely to generate significant issues relating to the attraction or harbouring of pests, vermin or birds.

All reasonable measures will be taken to prevent and minimise the occurrence of pests.

Where putrescible waste is observed this will be contained within the general waste skip and arrangements made for disposal.

Daily site inspections and good housekeeping procedures will be maintained in order to reduce any occurrence and allow appropriate measures to be taken where necessary.

If an increase in a pest population is observed, the source will be investigated in order to undertake the most effective mitigation measures.

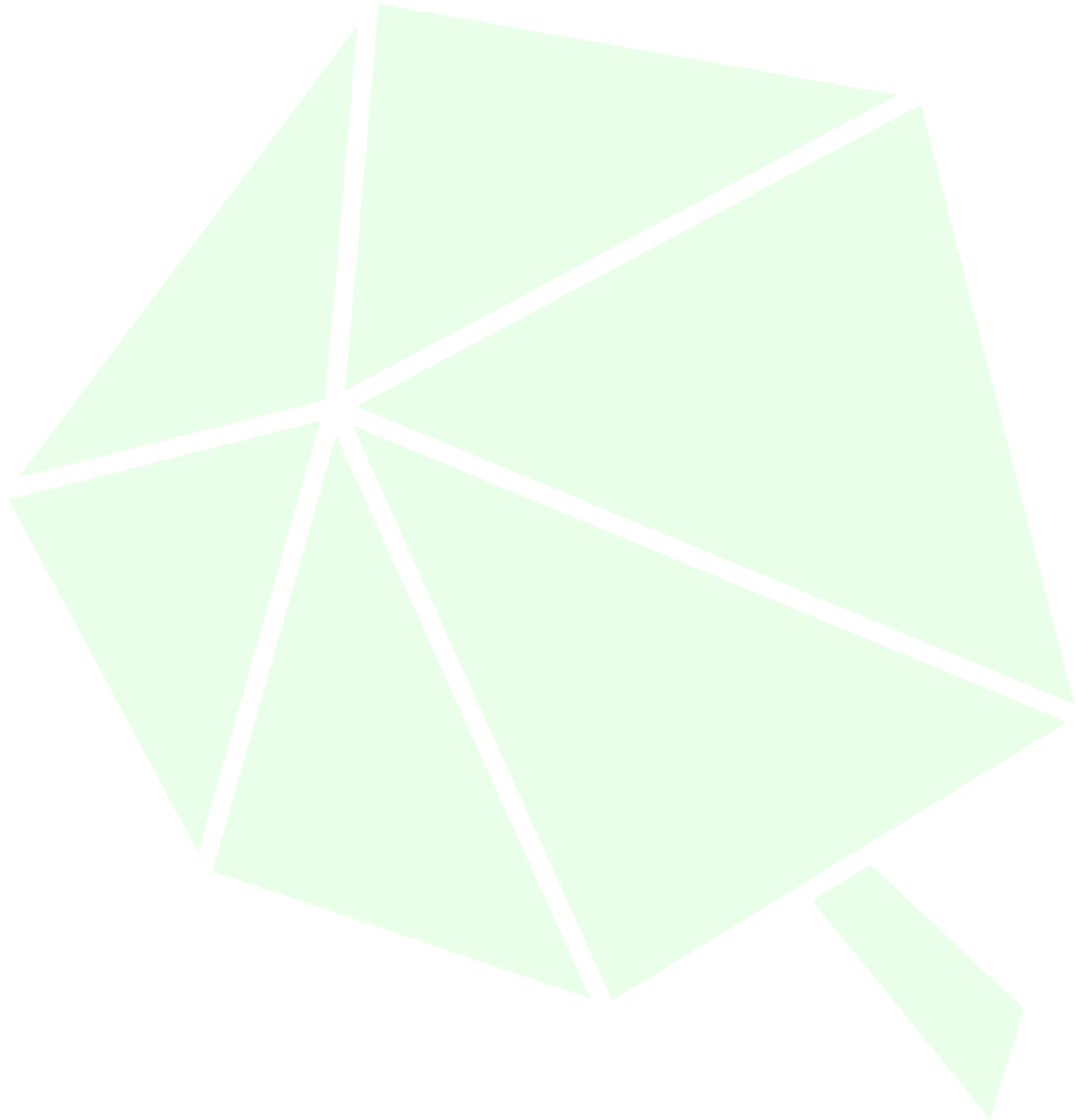
15.7 Mud and Debris Control

The likelihood of vehicles carrying significant volumes of mud or debris which would then be tracked onto main roads is limited. However, vehicles will be visually checked in wet conditions. Any vehicles found to be carrying mud or debris on the wheels or chassis will be cleaned down prior to exiting site.

Where observation identifies an issue, this will be recorded in the daily site inspection List along with any subsequent corrective or preventative actions.

16 CLIMATE

See Climate Change Risk assessment Appendix 3 012.1_05_009 CCRA



17 COMMUNICATION

On receipt of a complaint, the TCM, or their nominated person, will investigate the complaint to see if the cause can be established and if substantiated, resolved swiftly. Where additional time is required to undertake repair or replacement of infrastructure which has caused the complaint the complainant will be contacted with details on the actions being taken and the estimated timescale for completion.

All complaints will be acknowledged and investigated, with resultant actions reported to the complainant and records kept.

17.1 Non- Conformances, Corrective Actions and Preventative Measures

Any non-conformances recorded by the TCM or the EA will be actioned in a timely manner or in line with an appropriate time scale set by the EA.

Non-conformances will be remedied so that the operation that led to the non-conformance is prevented or changed, to ensure compliance with the environmental permit.

Corrective actions will be recorded in the site diary.

18 INFORMATION AND RECORDS

18.1 Records and Reporting

The Permit requires the creation and retention of specific records reporting conditions within the environmental permit details how these must be retained and how long for and are also shown in the permit.

Records must be retained for at least 6 years unless they relate to off-site environmental effects, matters which

Table 5 Records Required by the Permit

Condition	Requirement	Record
1.1	Records to demonstrate activities are managed in accordance with a written management system.	This Management Plan and associated management system documents.
1.1	Records to demonstrate activities are managed by sufficient competent persons and resources.	Evidence of technical competence. Staff training records.
TBC	Records of all waste accepted on site.	Duty of Care Waste Transfer Notes.
TBC	A quarterly summary report relating to the site and the waste accepted and removed from it during the previous quarter. Q1 Jan – Mar Q2 Apr by 30 th April – Jun by 31 st July Q3 Jul – Sep by 31 st October Q4 Oct – Dec by 31 st January	Waste Return

18.2 Notification

Notification condition specifies under what circumstances the EA must be notified. Whilst **Error! Reference source not found.** below summarises these, reference should always be made to the current environmental permit to confirm exact requirements.

Table 6 Notifications Required by the Permit

Condition	Requirement	When
TBC	Detection of any malfunction, breakdown or failure of equipment or techniques, accident or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution.	Without delay using Schedule 5 Form
TBC	Any breach of a limit specified in these standard rules.	
TBC	Any significant adverse environmental effects.	
TBC	Changes to the operator's trading name, registered name or registered office address.	Within 14 days
TBC	Any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.	Within 14 days
TBC	Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations	Within 14 days – notification should contain a description of the proposed change in operation.

18.3 Security of Records

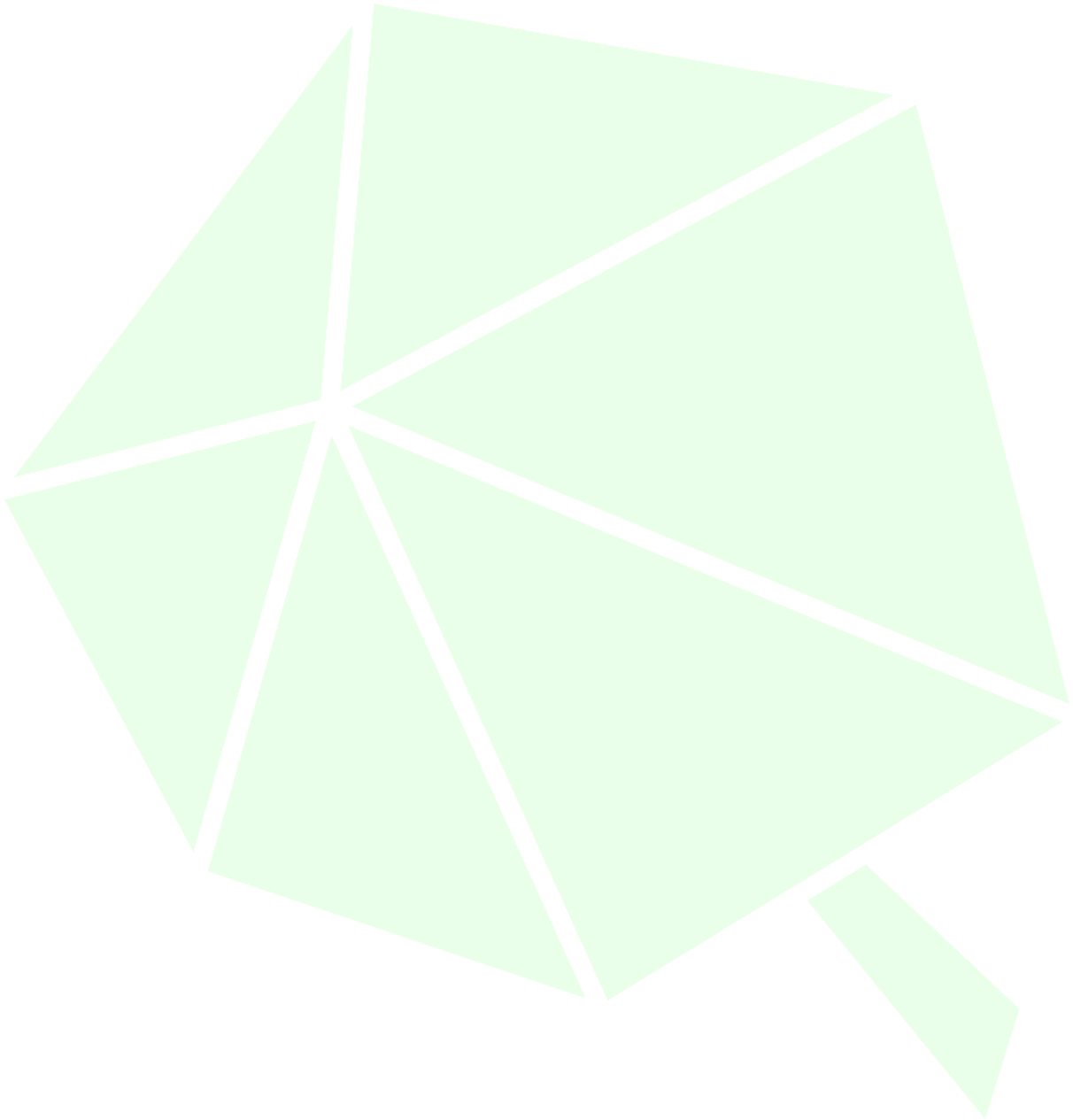
Records shall be kept securely within the site office. Where held electronically these shall be backed up on a regular basis and a copy held off site.

18.4 Availability

In accordance with the condition requiring records to be kept, all records required under the terms of the Permit shall:

- Be legible;
- Be made as soon as reasonably practicable;
- If amended, be amended in such a way that the original and any subsequent amendments remain legible or are capable of retrieval; and
- Be retained, unless otherwise agreed with the EA, for at least 6 years from the date when the records were made, or in the case of the following records until Permit surrender:
 - Off-site environmental effects; and
 - Matters which affect the condition of land and groundwater.

All records, plans and the management system required to be maintained by the Permit shall be held on site.



19 REVIEW MANAGEMENT SYSTEM

The EMS will be reviewed in its entirety at least annually or following any substantial change in site operations or complaint.

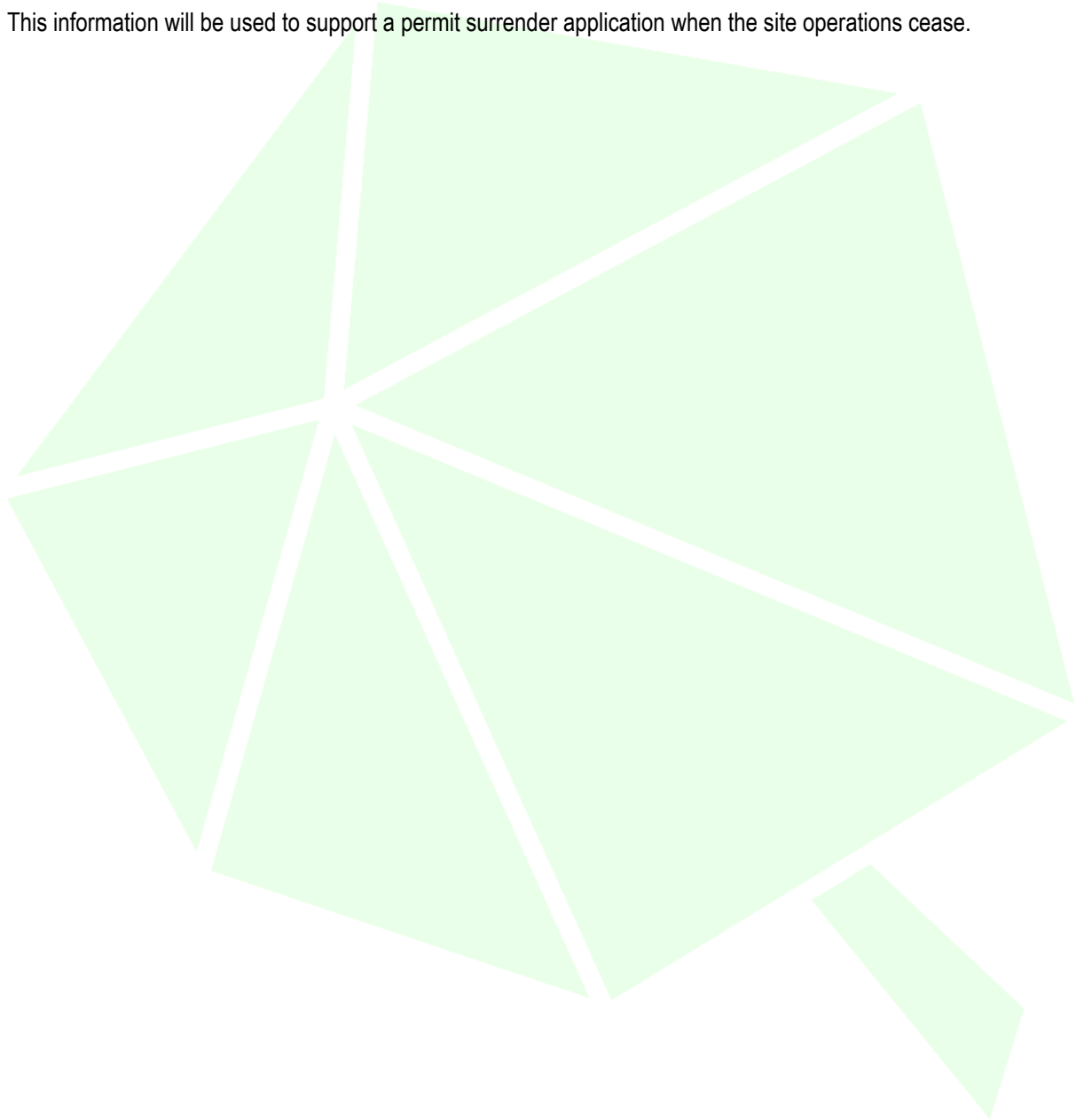
Other activities which may prompt review of the EMS are variations to the environmental permit, accident, complaint, breach or a change in the site setting or sensitive receptors.

Where the review results in required changes, this will be documented and maintained with the site records, for example, waste storage volumes, changes to abatement measures, new or altered equipment.

20 SITE CLOSURE

During the lifetime of MISWA Chemicals Limited Waste operation of the permitted site they will maintain records pertaining to the condition of the site. This will include information regarding any environmental incidents, improvements or changes to containment or abatement features, records of monitoring events, or any other details which may have impact on the site's condition.

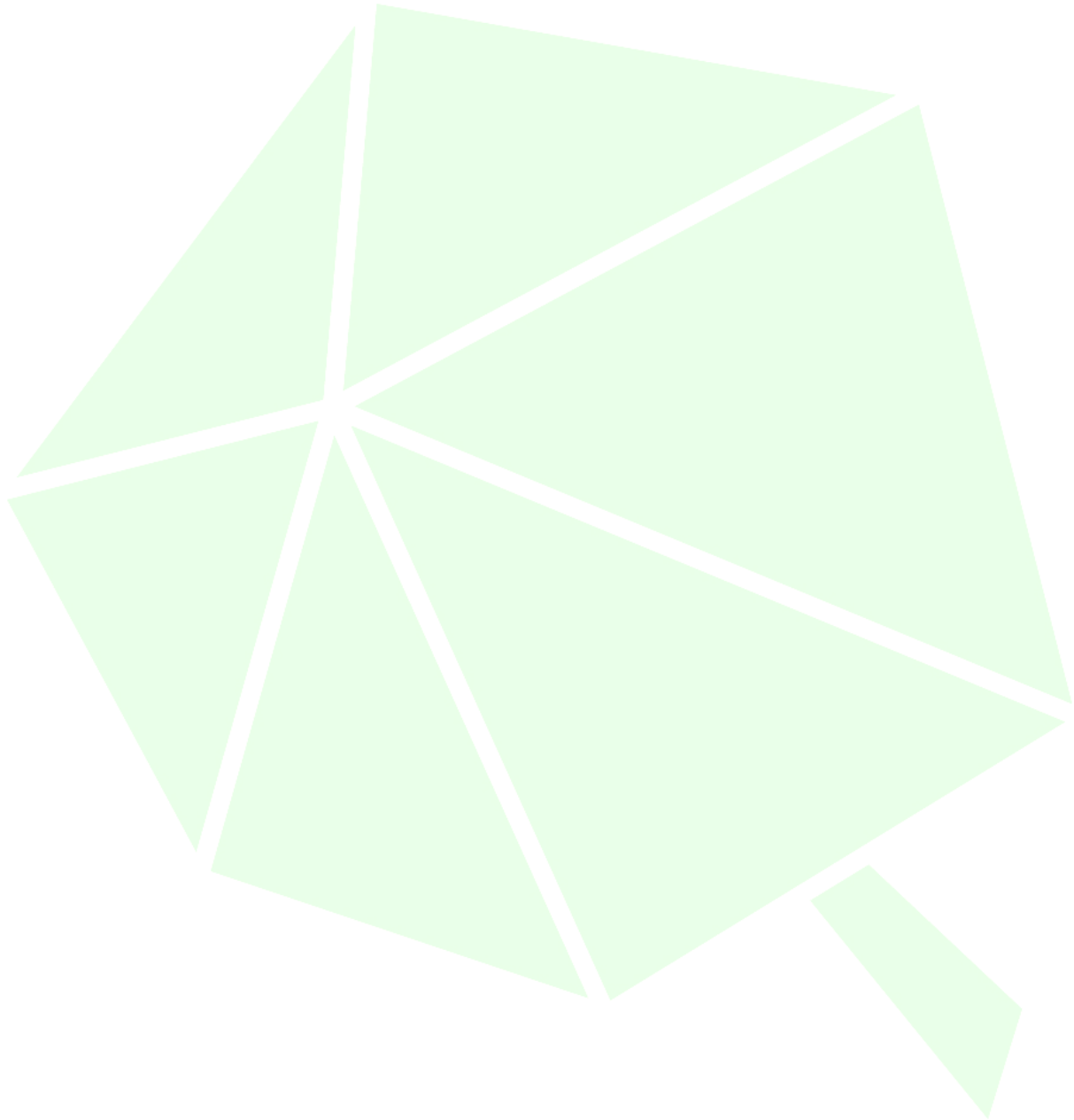
This information will be used to support a permit surrender application when the site operations cease.



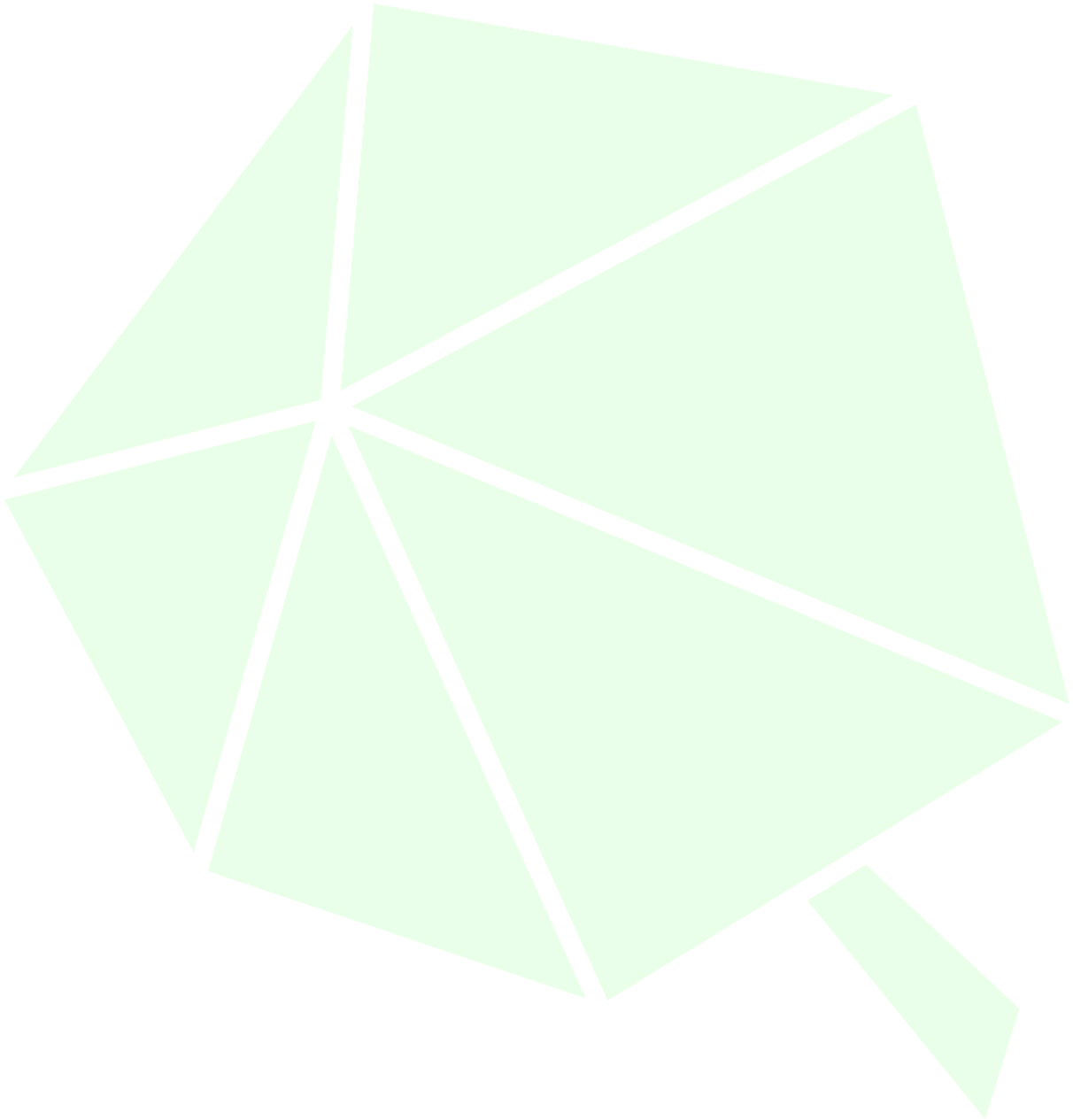
21 AVAILABILITY OF ENVIRONMENTAL MANAGEMENT SYSTEM

All site staff and visitors will have access to the EMS when it is applicable to them to ensure compliance and consistent operation of the site.

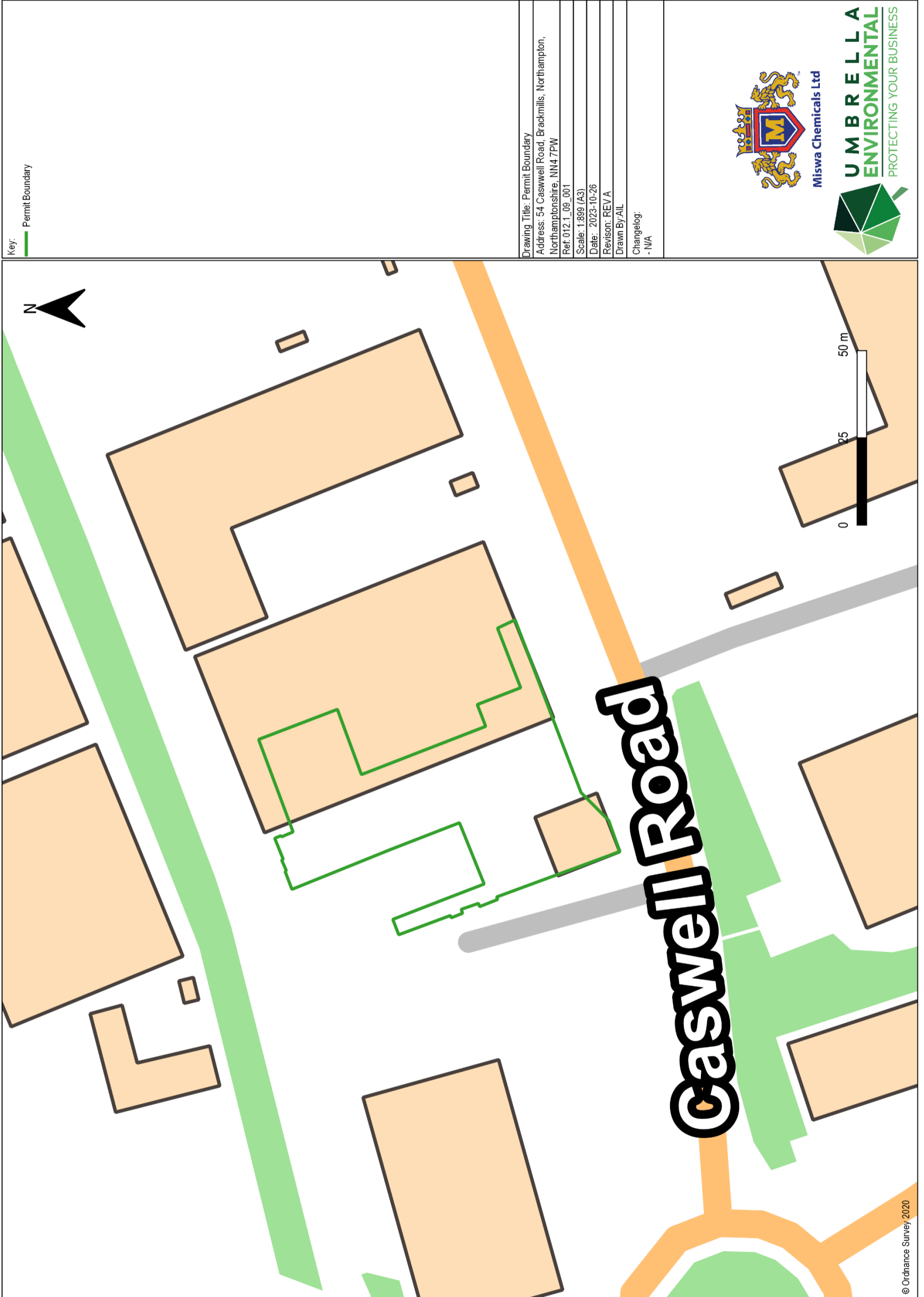
A copy of the EMS will be available in the main site office for reference purposes and at the request of regulators.



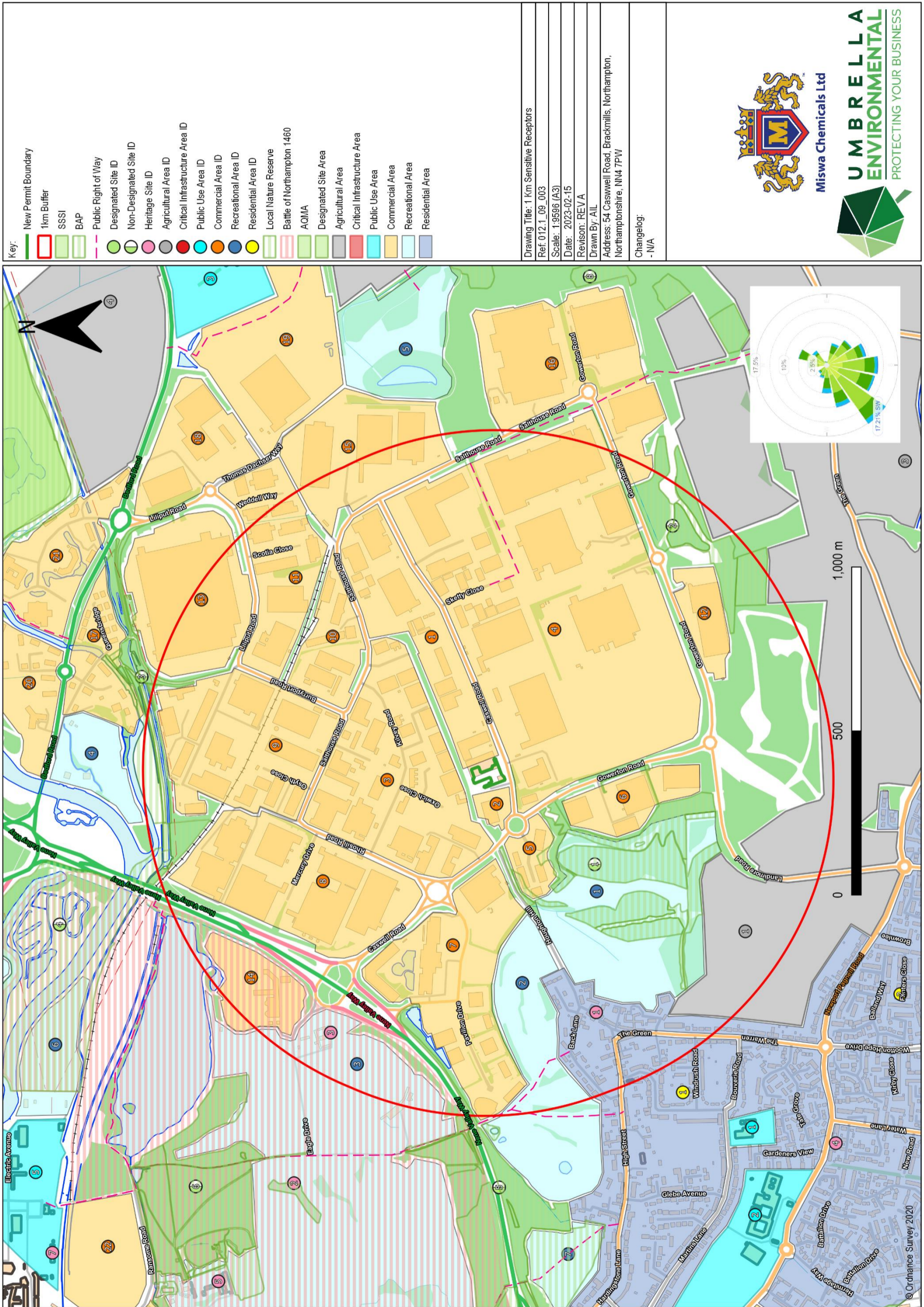
22 DRAWINGS

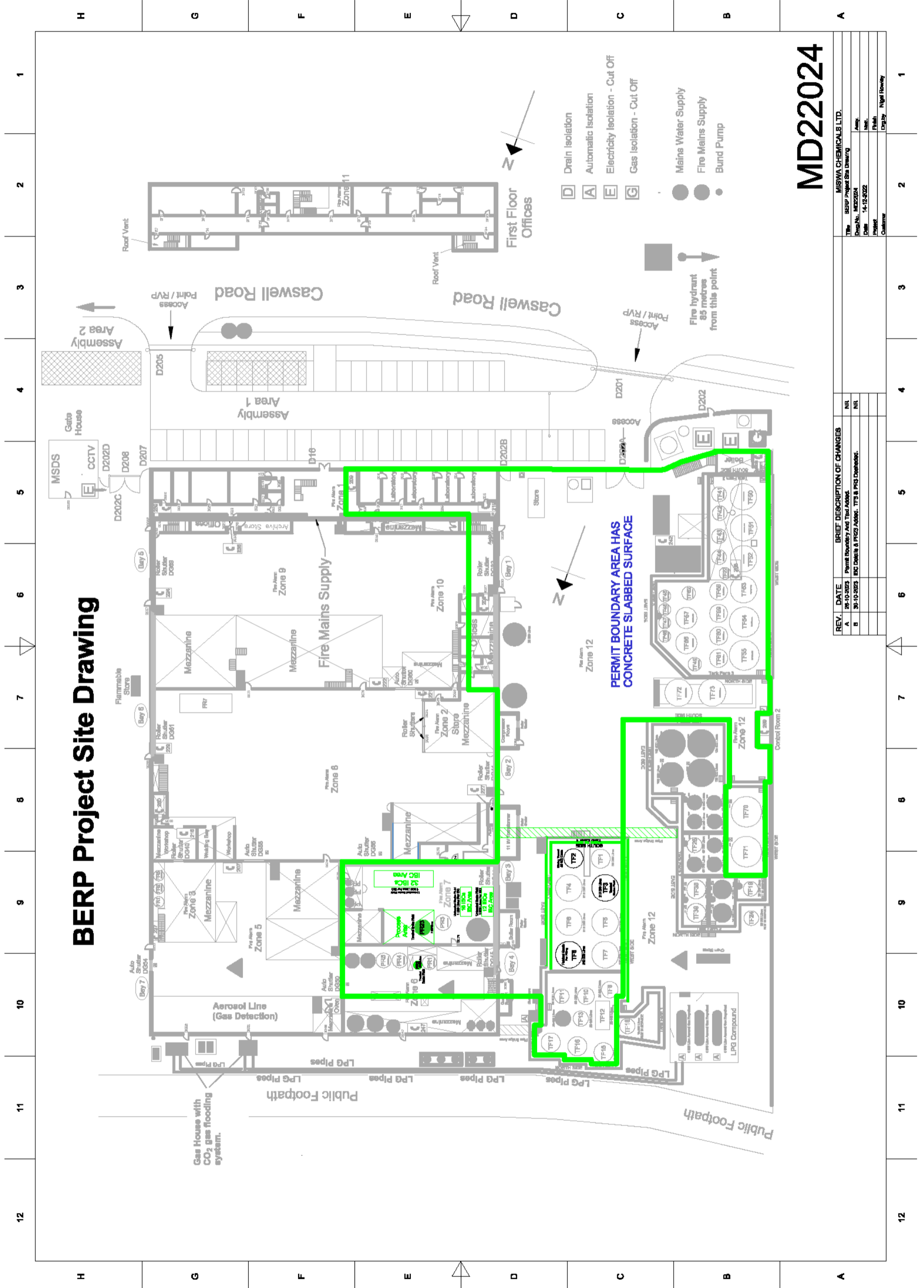


Drawing 1 Permit Boundary 012.1_09_001



Drawing 2 012.1_09_003 1 Km Sensitive Receptors REV A



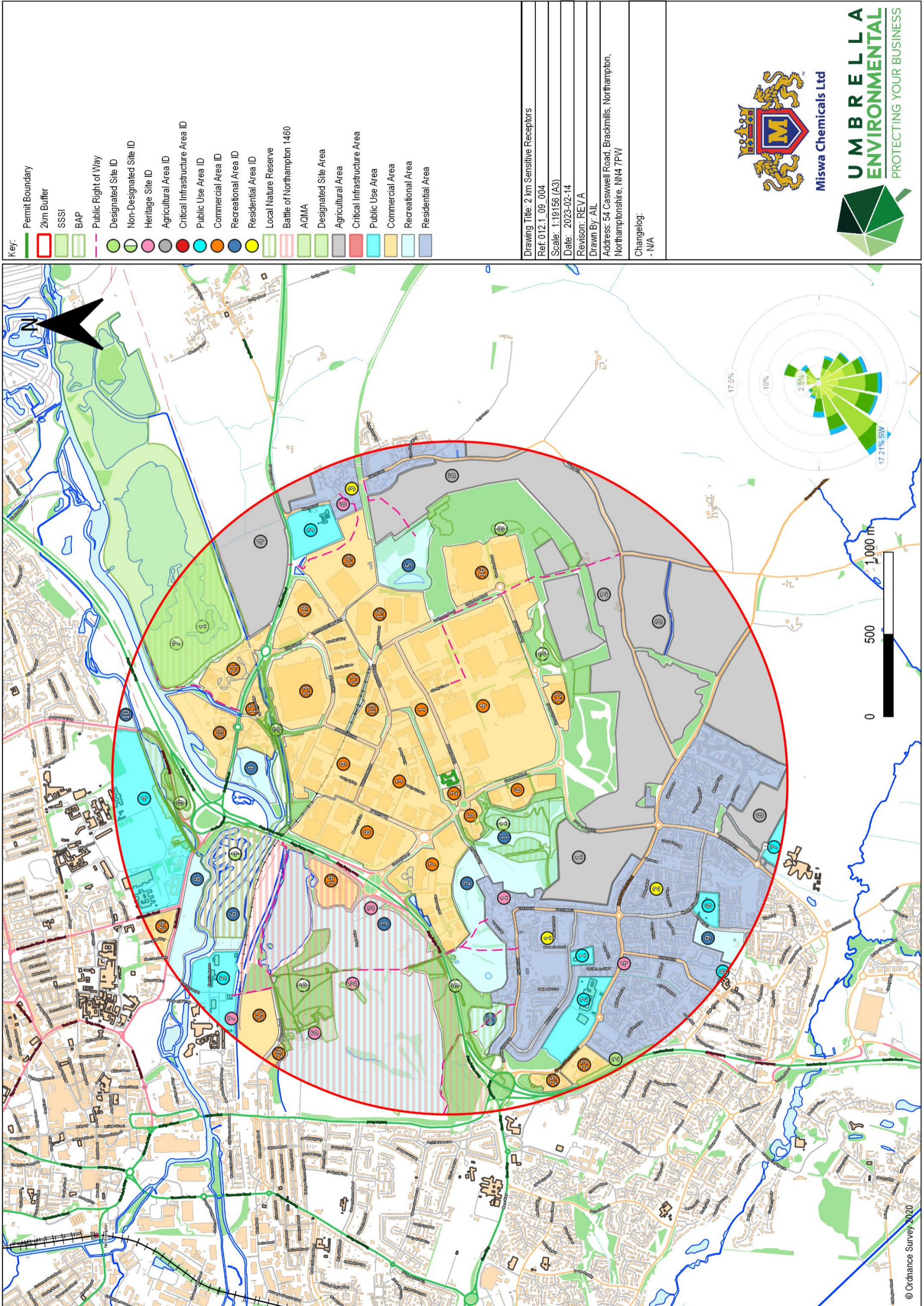


MD22024

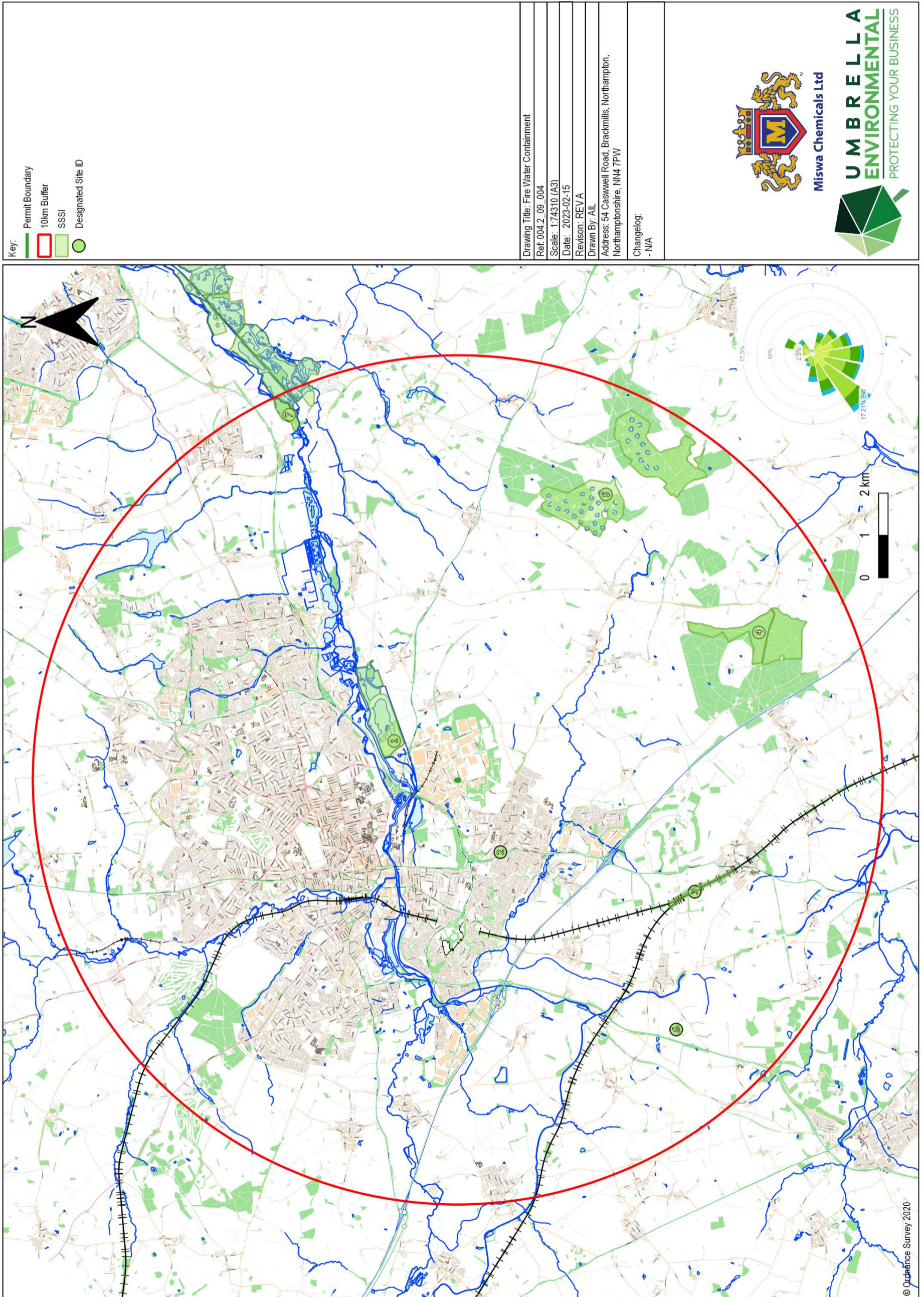
REV.	DATE	BRIEF DESCRIPTION OF CHANGES
A	26-10-2023	Permit Boundary And Trial Areas
B	30-10-2023	BEG Details & P1023 Added: TFS & P103 Deleted:

REV.	DATE	BRIEF DESCRIPTION OF CHANGES
A	26-10-2023	Permit Boundary And Trial Areas
B	30-10-2023	BEG Details & P1023 Added: TFS & P103 Deleted:

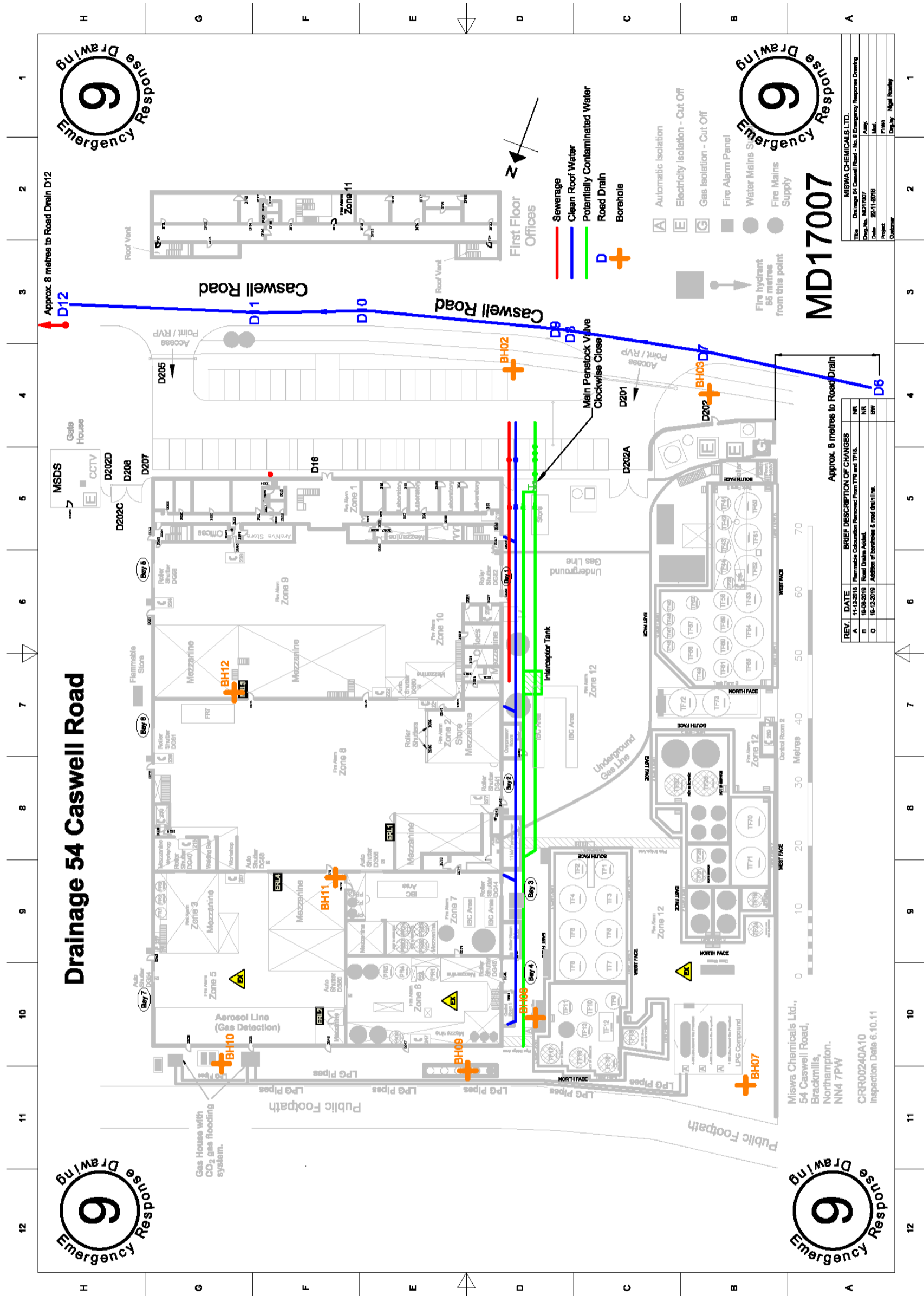
Drawing 4 Sensitive Receptors 2 km Plan 012.1_09_004



Drawing 5 Sensitive Receptors 10 km Plan 012.1_09_005



Drawing 6 Drainage Plan MD17007



MD17007

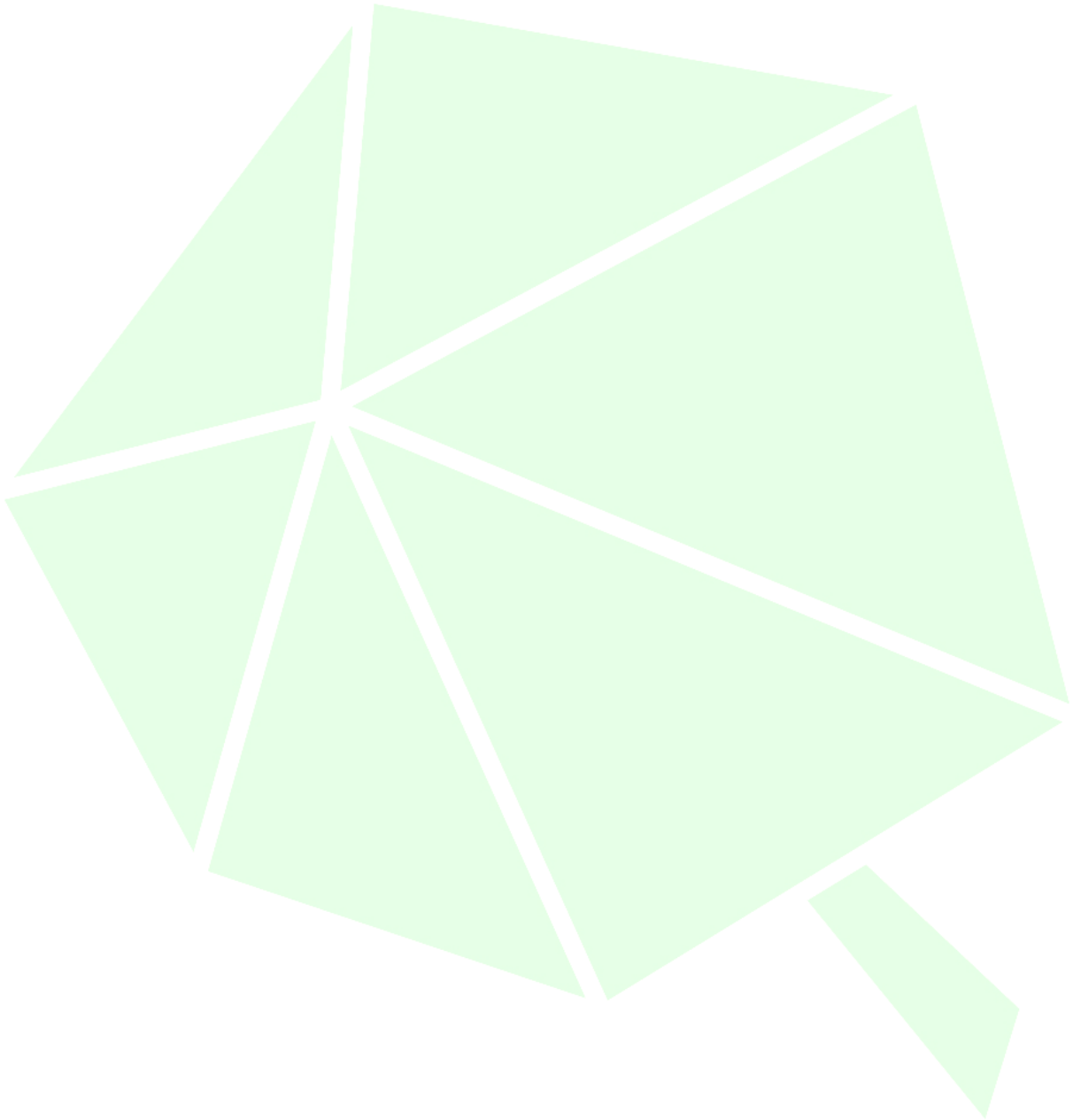
MISWA CHEMICALS LTD.	
Title	Drainage Plan - No. 9 Emergency Response Drawing
Drawn No.	MD17007
Drawn	AW
Check No.	25-11-2019
Checked	AW
Client	Miswa Chemicals

REV.	DATE	BRIEF DESCRIPTION OF CHANGES
A	15-08-2019	Remove Column removed from TP4 and TP15.
B	15-08-2019	Small Drain Added.
C	15-12-2019	Address of Footpaths & road identified.

Miswa Chemicals Ltd.,
54 Caswell Road,
Bracknalls,
Northampton,
NN4 7PW
CRFR0240A10
Inspection Date 6.10.11



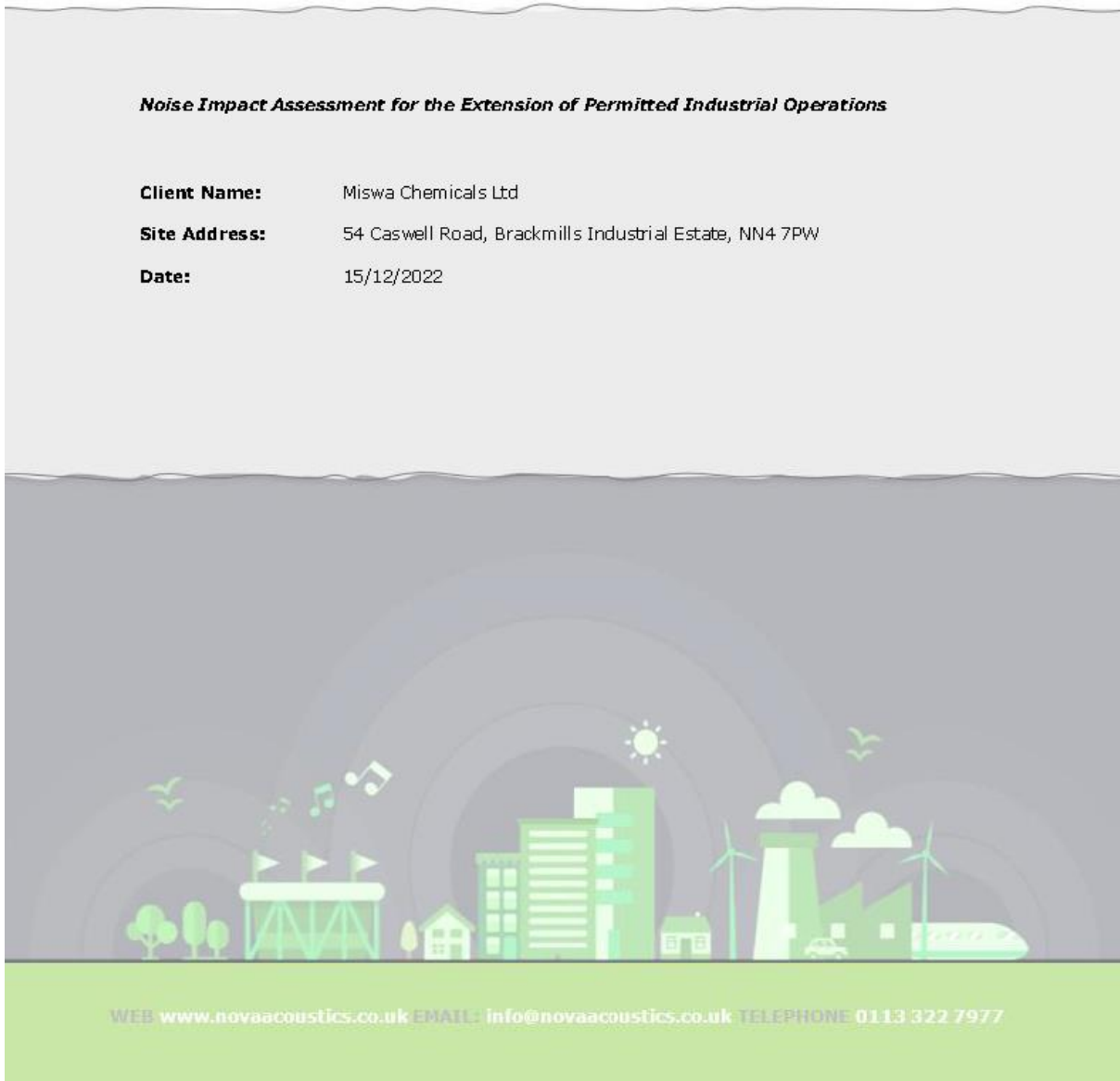
23 APPENDICES





Noise Impact Assessment for the Extension of Permitted Industrial Operations

Client Name: Miswa Chemicals Ltd
Site Address: 54 Caswell Road, Brackmills Industrial Estate, NN4 7PW
Date: 15/12/2022



WEB www.novaacoustics.co.uk EMAIL: info@novaacoustics.co.uk TELEPHONE 0113 322 7977



Authorisation and Version Control

Report Prepared By	Mr. T Watkin, PGDip, AMIOA
Report Approved By	Mr. A T Martin, MSc, MIOA, MCIEH, MIET, MInstSCE
Date	15/12/2022
Project Number	8757UE
Version Reference	001

Disclaimer

The opinions and interpretations presented in this report represent our best technical interpretation of the data made available to us. However, due to uncertainty inherent in the estimation of all parameters, we cannot, and do not guarantee the accuracy or correctness of any interpretation and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. The findings and opinions expressed are relevant to the dates of the site works and should not be relied upon to represent conditions at substantially later dates. If additional information becomes available which may affect our comments, conclusions or recommendations, the author reserves the right to review the information, reassess any new potential concerns and modify our opinions accordingly. Except for the provision of professional services on a fee basis, NOVA Acoustics Ltd does not have a commercial arrangement with any person or company involved in the interests that are the subject of this report. NOVA Acoustics Ltd cannot accept any liability for the correctness, applicability or validity for the information they have provided, or indeed for any consequential costs or losses in this regard. Our efforts have been made on a "best endeavours" basis and no responsibility or liability is warranted or accepted by NOVA Acoustics Ltd.

Copyright © The material presented within this report is confidential. This report has been prepared for the exclusive use of the client and shall not be distributed or made available to any other company or person without the knowledge and written consent of NOVA Acoustics Ltd and the client. All works undertaken by NOVA Acoustics Ltd are carried out in accordance with NOVA Acoustics Ltd's terms and conditions found at www.novaacoustics.co.uk.





CONTENTS

EXECUTIVE SUMMARY 5

1. INTRODUCTION..... 6

 Overview 6

 Scope & Objectives 6

 Legislation & Guidance 6

 Context & Background..... 7

2. ENVIRONMENTAL NOISE SURVEY..... 9

 Surrounding Areas & Subjective Impression 9

 Environmental Noise Survey Results 10

3. BS4142:2014 NOISE IMPACT ASSESSMENT OF PROPOSED OPERATIONS..... 11

 Specific Sound Levels of Plant & Operations 11

 BS4142:2014 Rating Penalty Assessment 17

 BS4142:2014 Assessment 18

4. LIMITATIONS AND UNCERTAINTY..... 19

5. NOISE MANAGEMENT PLAN 21

APPENDIX A – ACOUSTIC TERMINOLOGY..... 25

APPENDIX B – LEGISLATION, POLICY AND GUIDANCE 28

 B.1 – National Planning Policy Framework (2021) 28

 B.2 – Noise Policy Statement for England (2010)..... 28

 B.3 – British Standard BS 4142:2014+A1:2019 - Methods for rating and assessing industrial and commercial sound..... 29

APPENDIX C – ENVIRONMENTAL SURVEY 33

 C.1 – Tabulated Summary Noise Data 33

 C.2 – Surveying Equipment 33

 C.3 – Meteorological Conditions 34

APPENDIX D – SITE PLANS AND DRAWINGS..... 35

APPENDIX E – MANUFACTURERS’ DATASHEETS 36



Tables

Table 1.0 – Sound Power Levels of HGV Movements & FL IBC Unloading 12

Table 2.0 – Measured Internal Noise Levels Noise Generating Rooms 12

Table 3.0 – Sound Reduction of Building Fabric Elements 12

Table 4.0 – Calculated External Noise Levels Building Fabric Elements 13

Table 5.0 – Calculated Sound Power Levels of Tank TF3 Motor & Pump 14

Table 6.0 – Specific Sound Levels at the NSRs 17

Table 7.0 – BS4142:2014 Noise Assessment 18

Table 8.0 – Expanded Uncertainty of Measurement and Modelling 20

Table 9.0 – MP1 Sound Survey Summary Results – Full Period 33

Table 10.0 – Measurement Equipment 33

Table 11.0 – Weather Summary 34

Figures

Figure 1.0 – Permit Boundary Extension 8

Figure 2.0 – Indicative Site Layout 9

Figure 3.0 – Day Time $L_{A90,15min}$ Background Sound Level Analysis 10

Figure 4.0 – Specific Sound Level Map – Day Time (07:00 – 17:00 hours) – Detailed 16

Figure 5.0 – Specific Sound Level Map – Day Time (07:00 – 17:00 hours) – All Areas 16

Figure 6.0 – NMP Monitoring Location 22

Figure 7.0 – MP1 Noise Survey Time History 33



Executive Summary

An environmental noise survey and noise impact assessment have been undertaken at Miswa Chemicals Ltd, 54 Caswell Road, Brackmills Industrial Estate, NN4 7PW to assess the noise emissions from the proposed extension of operations. The measured background sound levels have allowed for a BS4142:2014 noise impact assessment to be carried out. A summary of the assessment results can be seen below.

BS4142:2014 Noise Assessment of Proposed Operations:

The BS4142:2014 noise impact assessment has indicated that 'Low Impact, dependant on context' is expected at the most affected residential NSR, which equates to 'No Observed Effect Level' ('NOEL') when assessed in accordance with the NPSE and NPPF. Furthermore, the specific sound level from the proposed operations is significantly below the existing ambient sound level which indicates that the proposed operations will not constructively add to the existing ambient sound climate. The rating penalties applied to the specific sound level are deemed 'robust' as the specific sound level is significantly below the prevailing background sound level, and that the residual acoustic environment would have to drop significantly in level for the specific sound level emissions from the proposed operations to be audible. Furthermore, the specific sound level emissions from the proposed operations are similar in nature to that of the residual acoustic climate which already includes a great number of HGV movements and deliveries and similar external fixed plant associated with the tank farm.

Whilst the scope of BS4142:2014+A1:2019 states it is only appropriate for residential NSRs, consideration has been given to the nearby offices. The external rating sound level of 29 dBA is below the BS8233:2014 internal ambient noise level criteria of 35 dBA for an executive office.

It should be recognised that an expanded uncertainty to 95% confidence was calculated at 4 dB and that the results of the assessments are likely to be an overestimate due to the 'worst-case' conditions assumed within the modelling software (in accordance with ISO 9613-2).

The findings of this report will require written approval from the Local Authority prior to work commencing.



1. Introduction

Overview

NOVA Acoustics Ltd has been commissioned to prepare a noise assessment for the proposed extension to permitted industrial operations ('the Proposed Development') at Miswa Chemicals Ltd, 54 Caswell Road, Brackmills Industrial Estate, NN4 7PW ('the Site'). The report details the existing background and ambient sound climate at the nearest Noise Sensitive Receptors, as well as the noise emissions associated with the proposed operations and recommend mitigation measures where necessary.

This noise assessment is necessarily technical in nature; therefore, a glossary of terms is included in Appendix A to assist the reader.

Scope & Objectives

The scope of the noise assessment can be summarised as follows:

- Baseline sound monitoring survey to evaluate the prevailing background sound levels at the nearest Noise Sensitive Receptor ('NSR') to Site;
- Sound monitoring at the site to measure specific noise emissions from any proposed noise generating equipment deemed to be a cause for concern.
- Detailed sound modelling, acoustic calculation and analysis in accordance with: ISO 9613-2 – 'Attenuation of sound propagation outdoors prediction methodology', to predict the sound levels at the NSRs;
- Recommendation of mitigation measures, where necessary, to comply with the requirements of the National Planning Policy Framework (2021), Noise Policy Statement for England (2010), British Standard BS4142:2014+A1:2019 – 'Methods for rating and assessing industrial and commercial sound' and IEMA 'Guidelines on Noise Impact Assessments'. Further information on the legislation can be found in Appendix B.

Legislation & Guidance

Environmental Permitting (England and Wales) Regulations 2016 (as amended)

The regulations require that operators of permitted installations conduct their activities to prevent, or where that is not possible, to reduce to a minimum, pollution arising from their operations. The legislation requires that all pollutants (including noise and vibration) meet the standards required and demonstrate 'Best Available Techniques' ('BAT').

Assessment of the impacts of noise from a proposed installation requires an assessment to predict the significance of the potential impacts.

Additional guidance and reference to national standards for the monitoring and evaluation of noise are accepted as an appropriate metric for assessing the significance of impacts. The relevant guidance is detailed below.

Horizontal Guidance for Noise Part 2 – Noise Assessment and Control (H3)



Agency Guidance note H3 provides advice on assessing the potential impact of noise from permitted installations. The guidance notes that:

"Regulation of noise under IPPC will bring together several legislative regimes with different scope but similar purpose and, in the case of A1 installations, will require a co-ordinated approach between the Regulator and both the Planning functions and the Environmental Health or Environmental Protection Teams of local authorities. At an early stage, lead planning and environmental health/protection officers should be identified to ensure an effective liaison and consultation process."

It is therefore appropriate to reference guidance used by planning authorities in determining planning applications and, where possible, align compliance requirements to avoid confusion or conflict between similarly required regulatory outcomes.

H3 endorses the use of the following specific guidance and standards for the assessment of noise from permitted installations:

- National Planning Policy Framework 2021 (NPPF)
- Planning Practice Guidance (ProPG)
- British Standard 4142:2014+A1:2019 – 'Methods for rating industrial noise affecting mixed residential and industrial areas'
- British Standard 5228:2009+A1:2014 – 'Noise and vibration control on construction and open sites'
- British Standard 7445:2003 – 'Description and measurement of environmental noise'
- World Health Organisation Guidelines for Community Noise: 1999.

It is expected that controls on noise emissions put in place under the environmental permit requirements should be consistent with those required under other regulatory regimes. It is therefore also appropriate to consider planning policy when setting appropriate noise controls.

It is normal for permitted installations to demonstrate compliance by preparing a 'Noise Management Plan' ('NMP'). The NMP addresses physical, operational and management controls exercised by the operator of the installation to comply with 'Best Available Techniques' ('BAT').

Context & Background

Miswa Chemicals Ltd have conducted their current permitted activities for over 10 years, which include the processing of waste chemicals and subsequent manufacture of chemicals. The proposal is for the extension of site operations to include the processing and storage of waste brake fluid. The following is proposed:

- Once a month, a HGV will deliver up to 20 No. IBC tanks containing waste brake fluid between 07:00 to 14:00 hours on Monday to Friday.
- All waste brake fluid processing will occur between 07:00 to 16:30 hours, Monday to Friday.
- Forklifts then transport the waste brake fluid off the HGV to a storage area within a repurposed section of the existing building (zone 6).



- The waste brake fluid is then pumped from the IBC tanks into an adjacent PR23 tank via a new 'Double Diaphragm' ('DD') pump which also powers to bag filters and carbon cartridge filters.
- The contents within the PR23 tank are then pumped through pipework into an existing storage tank farm in zone 7 (PR2).
- The contents are then pumped from the storage tanks within zone 7 into a larger existing and repurposed storage tank (TF3) outside in zone 12.

The primary noise sources are that of:

- HGV movements and loading.
- Forklifts transporting the IBC tanks around site.
- The new double diaphragm pump within the building of zone 6.
- The pump used to transport the waste brake fluid from zone 6 into the storage tanks in zone 7.
- The external pump located at the base of storage tank TF3 used to pump the waste brake fluid into it.

The permit extension is indicated by the dashed green outline in the figure below.

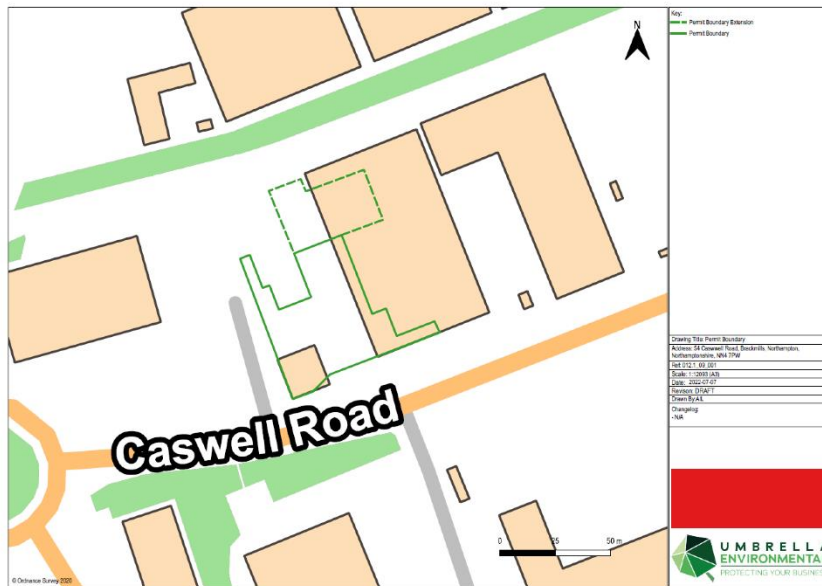


Figure 1.0 – Permit Boundary Extension



2. Environmental Noise Survey

Measurement Methodology

To characterise the sound profile of the area and establish background sound levels at the closest 'Noise Sensitive Receptors' ('NSR's), an environmental sound survey was carried out from 05/12/22 to 06/12/22. For the sound monitoring, a sound level meter was attached to lamppost within the vicinity of the closest NSR (MP1 / NSR 1) with the microphone positioned approximately 4m above the ground, and at least 3.5m from any other large reflective surface. The sound level meters were installed at this height in order to avoid interference by the general public. The monitoring locations are shown in Figure 1.0 below.



Figure 2.0 – Indicative Site Layout

Surrounding Areas & Subjective Impression

The area surrounding the site consists primarily of commercial/industrial premises with the closest residential properties approximately 620m to the west of the site along Llex Close. Due to this dwelling's proximity to the site, it is considered to be the closest residential 'Noise Sensitive Receptor' ('NSR1'). An office block forms the second NSR (NSR2) and is located on Oxwich Close approximately 36m from the northern site boundary.

The acoustic environment at MP1 (NSR1) was deemed to be moderate to high in level during the day operational period, and the noise profile was dominated by road traffic noise emissions from the surrounding road networks, particularly the A46, which facilitate heavy levels of traffic flow, particularly during early morning and afternoon rush hours. Whilst the acoustic environment that immediately surrounds the Proposed Development Site and NSR2 is heavily influenced by industrial and commercial noise emissions including; HGV movements, continuous and audible humming from fixed plant noise and transient events of impact noise, the acoustic environment at MP1 (NSR1) which was shielded by the dwellings themselves did not include such noise emissions.



Environmental Noise Survey Results

Background Sound Levels – Excluding Existing Operations

The figures below outline the measured background sound levels that have been used as the baseline for the subsequent NIA. It should be noted that the background sound level analysis presented in the figures below is indicative of the operational hours (07:00 to 17:00) for the entire measurement period between 05/12/2022 to 06/12/2022.

A summary of results for the entire measurement period can be found in Appendix C.

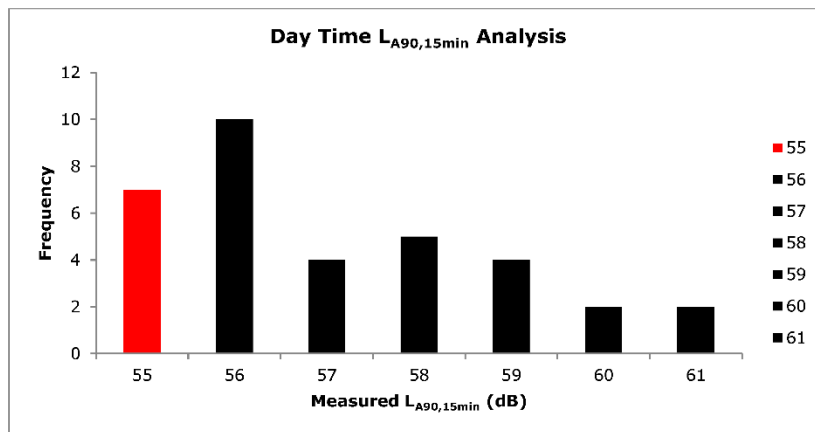


Figure 3.0 – Day Time $L_{A90,15min}$ Background Sound Level Analysis

As can be seen in the figure above, the modal $L_{A90,15min}$ value is 56 dB during the day time operational period, however, the $L_{A90,15min}$ value of 55 dB occurred 7 times and is considered to be the 'lowest typical' background sound level that presents a 'robust' scenario, and has been used as the baseline for the subsequent assessment.



3. BS4142:2014 Noise Impact Assessment of Proposed Operations

The following section of the report analyses the impact of the noise emissions generated by the proposed site operations.

Specific Sound Levels of Plant & Operations

The following section of the report outlines the specific sound levels at the most affected NSRs. All onsite measurements taken during the attended site survey were conducted with the sound level meter microphone approximately 1.5m above the ground. Where possible the noise source of interest was dominant at the measurement positions, and instances where not, residual sound measurements have been conducted to obtain specific sound levels.

HGVS Movements & IBC Tank Unloading:

The following table presents the measured sound levels of the following:

- A single HGV stationary at the site entrance,
- A single HGV entering the site,
- A 'forklift' ('FL') unloading 10 IBC tanks,
- A single HGV manoeuvring and leaving the site.

The table also shows the time corrected sound power levels for each process considering the following:

- A single HGV moving into the site and within the yard during the BS4142 reference day time period of 1-hour.
- A single HGV remains stationary at the site entrance for no more than 3-minutes during the day time 1-hour period.
- A forklift takes 15-minutes to unload 20 IBC tanks during the day time 1-hour period.

Time Corrected Sound Power Levels of HGV Movements & IBC Tank Unloading									
Description	1/1 Octave Frequency Band (Hz, dB)								Overall (dBA)
	63	125	250	500	1k	2k	4k	8k	
HGV Stationary at Gate (Leq - 3m)	71	69	71	75	75	71	69	66	79
Time Corrected Lw of Stationary HGV	76	74	76	80	80	76	74	71	84*
FL Unloading IBC Tanks (Leq - 5m)	66	63	63	65	68	67	59	53	72
Time Corrected Lw of FL Unloading IBC Tanks	82	79	79	81	84	83	75	69	88*
HGV Manoeuvring & Pulling Away (Leq - 5m)	59	60	60	62	65	67	61	53	71

Time Corrected L_w of HGV Manoeuvring & Pulling Away	70	71	71	73	76	78	72	64	89*
Cumulative L_w of IBC Unloading & HGV Manoeuvring & Exiting	82	80	80	82	85	84	77	70	89*

Table 1.0 – Sound Power Levels of HGV Movements & FL IBC Unloading

*Global A-weighted noise level calculated from octave band L_{eq} noise levels considering the A-weighting scale correction.

Internal Noise Breakout of Proposed Buildings:

The following table outlines the measured internal ambient noise levels of zone 6 and zone 7 which are to house the new DD pumps. Measurements were taken at various distances from the noise generating source (DD pumps) within zone 7, however, the measured noise levels are indicative of those in both zones. The noise levels measured at 1m have been used in the subsequent calculations to present a 'worst-case' scenario.

Measured Internal Noise Levels of Zone 6 & Zone 7									
Description	1/1 Octave Frequency Band (Hz, L_{eq} dB)								Overall (dBA)
	63	125	250	500	1k	2k	4k	8k	
DD Pump at 1m in Zone 7	69	61	64	68	71	72	71	68	78

Table 2.0 – Measured Internal Noise Levels Noise Generating Rooms

During the site visit, the following constructions and building elements were noted, and the following assumptions have been made within the calculations:

- The lower section of the façades (approximately 2m in height) is constructed from a minimum of 100mm concrete blockwork, which is assumed to provide sufficient sound reduction and has not been considered in the noise breakout calculations.
- The upper section of façades and the roofing of the building are constructed from Kingspan KS1000RW panels. Manufacturers data sheets can be found in Appendix E.

The table below presents the sound reduction provided by each building fabric element.

Sound Reduction of Building Fabric Elements									
Description	1/1 Octave Frequency Band (Hz, SRI dB)								Overall (R_w)
	63	125	250	500	1k	2k	4k	8k	
KS1000RW Panels	20	18	20	24	20	29	39	47	25

Table 3.0 – Sound Reduction of Building Fabric Elements



The predicted noise breakout from the structures is calculated considering the following criteria:

- The noise emissions breaking out of the buildings have been calculated considering the internal noise levels as shown in Table 2.0 and the sound reduction provided by building fabric elements (SRI) presented in Table 3.0.
- All pedestrian doors will remain closed for the duration of any noisy internal operations.
- In accordance with BS 12354-4, a -6 dB correction to account for the change in reverberant internal to non-reverberant external conditions has been applied.
- To form a robust scenario, no on-time correction has been applied as the noise emissions from the internal operations are considered to be continuous over the BS4142:2014 reference time period of 1-hour during the day.

The table below shows the calculated external noise levels at 1m from the façades, roof, and louvres of the buildings.

Calculated External Noise Levels at 1m from Building Fabric Elements									
Description	1/1 Octave Frequency Band (Hz, L _{eq} dB)								Overall (dBA)*
	63	125	250	500	1k	2k	4k	8k	
Zone 6 & 7 – Façades & Roof	43	37	38	38	45	37	26	15	46

Table 4.0 – Calculated External Noise Levels Building Fabric Elements

*Global A-weighted noise level calculated from octave band L_{eq} noise levels considering the A-weighting scale correction.



External Fixed Plant – Tank TF3 Stirring Motor & Filling Pump:

Situated within the existing tank farm is tank TF3 which is to be repurposed for the storage of the processed brake fluid. Located at the base of TF3 is a stirring motor and filling pump (located next to one another), which can be operational for up to 1-hour during the day time operational period. Measurements at various distances from the stirring motor and filling pump of tank TF2 were conducted as a simulation of the process that tank TF3 will do. Both the motor and pump were identical to that of TF3. The following table outlines the calculated sound power levels of the motor and pump for tank TF3.

Calculated Sound Power Levels of Tank TF3 Motor & Pump									
Description	1/1 Octave Frequency Band (Hz, dB)								Overall (dBA)
	63	125	250	500	1k	2k	4k	8k	
Pumping Fluid into Tank TF3 (L _{eq} – 1m)	66	66	64	67	59	55	51	46	66
Pumping Fluid into Tank TF3 (L _{eq} – 3m)	66	68	63	59	53	46	42	37	60
L _w of Pumping Fluid in Tank TF3	81	83	78	74	68	61	57	52	75*

Table 5.0 – Calculated Sound Power Levels of Tank TF3 Motor & Pump

*Global A-weighted noise level calculated from octave band L_{eq} noise levels considering the A-weighting scale correction.



Noise Modelling

The specific sound levels at the NSRs have been calculated using SoundPlan 8.2, which undertakes its calculations in accordance with the guidance provided in ISO 9613-2.

The following assumptions have been made within the calculation software:

- To accurately model the land surrounding the development the topographical data has been taken from the EA's 'National LIDAR Programme' on the DEFRA Data Services Platform.
- For the purpose of the assessment, the ground between the source and receiver is considered to be a mixture of acoustically 'soft' and 'hard' surfaces.
- Where source data was provided with octave band data it was used to facilitate noise modelling in accordance with ISO 9613-2. Where only A-Weighted noise levels were provided, the overall A-Weighted levels were used, with the calculations utilising the attenuation terms at 500Hz. ISO 9613 assumes a 'downwind' model.
- The sound map grid height has been set to 1.5m, however, the noise levels used in the assessment will be taken from the most exposed point on each NSR façade.
- All buildings and any intervening objects have been modelled according to measurements taken on-site, those provided by the LIDAR data and technical drawings provided by Miswa Chemicals Ltd.
- The Proposed Development has been modelled according to on-site inspections.
- One scenario has been modelled:
 - Day time operations between 07:00 and 16:30 hours when a single HGV deliveries 20 IBC tanks and the fluid is processed simultaneously. This presents a robust scenario as the two processes would rarely occur simultaneously.
- No on-time corrections have been applied to any operation that is equal to or exceeds 75% of the reference time periods.
- Point source emitters with the sound power levels presented in Section 4.0 have been used to represent the HGV stationary at the site entrance and both the stirring motors and filling pump of tank TF3.
- An area source emitter with the cumulative sound power levels presented in Table 3.0 and modelled at 1m above the ground (approximate engine height), has been used to represent the HGV manoeuvring and the forklift loading the IBC tanks.
- Any building fabric elements are assumed to behave as area noise sources which is calculated within the SoundPlan software considering the formula: $L_W = L_{P1m} + 10 * \text{Log}(S)$, where S is the surface area of the building element.



The sound maps showing the specific sound level emissions from the proposed permit variation can be seen in the figures below.

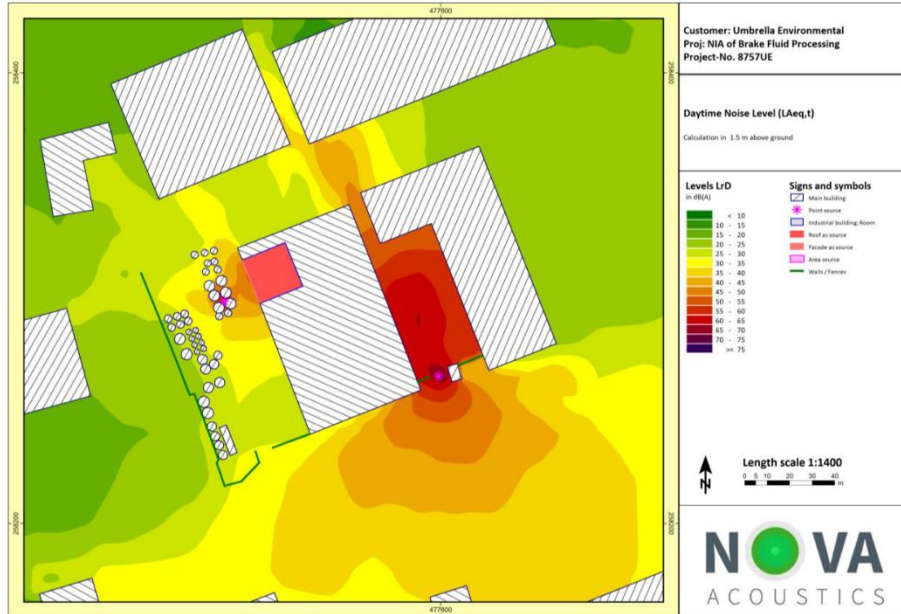


Figure 4.0 – Specific Sound Level Map – Day Time (07:00 – 17:00 hours) – Detailed

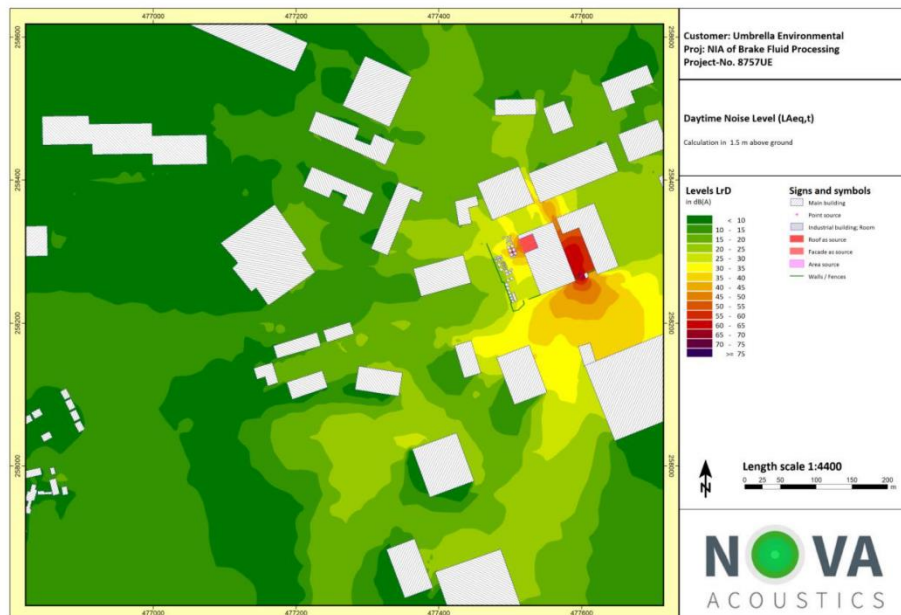


Figure 5.0 – Specific Sound Level Map – Day Time (07:00 – 17:00 hours) – All Areas



A summary of the specific sound levels at the most affected NSRs, based on the sound maps shown in Figures 4.0 and 5.0 can be seen in the table below.

NSR	Day Time Specific Sound Level (dBA)
1 - FF & GF Façades	14
1 - Garden	16
2 - Offices	26

Table 6.0 – Specific Sound Levels at the NSRs

BS4142:2014 Rating Penalty Assessment

No rating level has been applied. Given the very low specific noise level there will be no tonal, intermittent, or impulsive character to the sound at the NSR. It is highly likely the specific sound will be inaudible against the ambient sound level at the NSR.



BS4142:2014 Assessment

The following table outlines the BS4142:2014 assessment for the most affected NSR.

BS4142:2014 Assessment – Day Time (07:00 – 23:00 hours)			
NSR	Results	Value (dBA)	Notes
1	Rating Sound Level	16	
	Background Sound Level	55	As shown in Figure 3.0.
	Excess of Rating Level Over Background Sound Level	-39	The assessment indicates 'Low Impact, Dependant on Context' in accordance with BS4142:2014.

Table 7.0 – BS4142:2014 Noise Assessment

Discussion

The assessment above indicates that at the most affected residential NSR, the rating sound level is predicted to be 39 dB below the prevailing background sound level during the daytime operational period. This is a strong indication of 'Low Impact, dependant on context' in accordance with BS4142:2014 and 'No Observed Effect Level' ('NOEL') when assessed in accordance with the NPPF and NPSE. Furthermore, the specific sound level from the proposed operations is significantly below the existing ambient sound level at the NSR which indicates that the proposed operations will not constructively add to the existing ambient sound climate.

Whilst the scope of BS4142:2014+A1:2019 states it is only appropriate for residential NSRs, consideration has been given the nearby offices. The external rating sound level of 26 dBA is below the BS8233:2014 internal ambient noise level criteria of 35 dBA for an executive office.



4. Limitations and Uncertainty

The impact assessment has been prepared in accordance with source data measured during the site visit. The measurement distances were measured accurately, and the worst-case highest sound levels measured where directivity was at its greatest have been used. The measurements were undertaken at distances where noise emissions from operations were dominant where planar source behaviour was present and also where they were propagating in point source fashion. This allowed for the accurate calculation of sound power levels in accordance with BS5228:2009. The calculations using SoundPlan 8.2 conform to ISO 9613 that has an uncertainty reported as ±3.0 dB. ISO9613 assumes a downwind model output that will tend overestimate actual noise propagation from source to receptor locations. The calculated levels are therefore based on worst-case scenarios.

The ‘uncertainty budget’ has been derived using the methodology outlined in ‘Uncertainties in Noise Measurement’ procedure by Kerry and Craven (Craven, N.J., Kerry, G. 2007. ‘*Uncertainties in Noise Measurement*’. University of Salford). This document requires an uncertainty budget to be calculated based on the following approach:

- Define the half value (for example, 3 for ±3.0 dB) of each source of uncertainty,
- Apply a correction for the standard uncertainty for a rectangular distribution ($x / \sqrt{3}$) for each source of uncertainty,
- Add together the values found in 2 for all uncertainties,
- Take the square foot to find the combined uncertainty,
- Multiply by 2 to calculate the expanded uncertainty to 95% confidence.

It advises that measuring under downwind conditions usually produces worst-case conditions at a distance of several hundred meters, therefore the ±3.0 dB uncertainty advised in ISO 9613-2 has been used due to the receptors being within 300m of the sources under assessment.

The following table outlines the total expanded uncertainty:

Measurement Uncertainty			
Description	Accuracy	Variance	Comments
Instrumentation Accuracy	±0.1 dB	$0.1/\sqrt{3} = 0.1 \text{ dB}$	Minimised by use of calibrated traceable instrument.
Use of Wind Shield	±0.2 dB	$0.2/\sqrt{3} = 0.1 \text{ dB}$	Prevents local wind effects, all meters collecting data used wind shields.
Measurement Distance from Source	±0.5m (worst-case 50cm error of 5m)	$20*\text{Log}(4.5/5) = -0.9$ $20*\text{Log}(5.5/5) = +0.8$ Difference = 1.7 dB $1.7/\sqrt{3} = 1.0 \text{ dB}$	
Background Sound Level	±1.5 dB	$1.5/\sqrt{3} = 0.9 \text{ dB}$	Background sound level uncertainty may exist.



Measurement Uncertainty	Total Variance = 2.1 dB	Total Uncertainty: $\sqrt{2.1} = \mathbf{1.4\ dB}$	
Modelling Uncertainty			
Description	Accuracy	Variance	Comments
Measurement of Sources to Receptors	±3m (closest receptor 78m)	$20 \cdot \text{Log}(75/78) = -0.3$ $20 \cdot \text{Log}(81/78) = +0.3$ Difference = 0.6 dB $0.6/\sqrt{3} = \mathbf{0.3\ dB}$	Minimised by use of model based on accuracy of maps.
Ground Absorption	Ground absorption effects are not calculated as barrier effects are prominent.		
Air Absorption	Temp range considered to be -5°C to +20°C	Results for 9°C = 0.003639 dB/m Results for -5°C = 0.006381 dB/m Results for 20°C = 0.004978 dB/m Variance = 0.002704 dB/m Over 78m this is 0.2 dB $0.2/\sqrt{3} = \mathbf{0.1\ dB}$	Assumed 101.3 kPa, variable temp (worst absorption temp for air), 70% relative humidity, no precipitation.
Modelling Uncertainty	±3.0 dB	$3/\sqrt{3} = \mathbf{1.7\ dB}$	Stated model uncertainty due to Para. 9 of ISO 9613, Table 5.
Modelling Uncertainty	Total Variance = 2.1 dB	Total Uncertainty: $\sqrt{2.1} = \mathbf{1.4\ dB}$	
Combined Uncertainty	Total Variance = 4.2 dB	Total Uncertainty = $\sqrt{4.2} = 2.0\ \text{dB}$ Expanded to 95% confidence = $2.0 \cdot 2 = \mathbf{4.0\ dB}$	

Table 8.0 – Expanded Uncertainty of Measurement and Modelling

The table above shows an expanded uncertainty of up to 4.0 dB. Given the worst-case conditions the noise modelling software accounts for, it is likely that the results presented in this report are an overestimate of the actual level of impact.



5. Noise Management Plan

This noise management plan outlines the methods by which the site operator will systematically assess and minimise the potential impacts of noise generated by the site. The noise management plan is a working document with the specific aim to ensure that:

- Noise impact is considered as part of routine inspections.
- Noise is primarily controlled at source by good operational practices, including physical and management control measures.
- All appropriate measures are taken to prevent or, where that is not reasonably practical, to reduce noise emissions from the site.

The noise management plan addresses the impact of noise and the control measures employed to mitigate the risk. These are supported through monitoring procedures to identify elevated levels and review complaints should they arise. The complaints management procedure is also addressed, which includes the management responsibilities.

Hours of Operation

- Noise from on-site operations will occur between 07:00 to 17:00 hours.

Equipment Maintenance

All failed/broken plant and equipment will be replaced with equivalents that produce equal or lower levels of noise. This will be verified with manufacturers technical datasheets or on-site noise measurements.

All plant and machinery will be regularly and properly maintained in accordance with the preventative maintenance schedule of which the appropriate staff will be trained in.

Operator Monitoring Plan

Monitoring of noise emissions from the site will be undertaken both subjectively and objectively.

Continuous Subjective Noise Monitoring

- All operational staff will, as part of their induction, be made aware of their roles and responsibility. It is the responsibility of all staff to be aware of noise on site and to report any potential noise issues to the sites Operations Manager at the earliest opportunity.
- All staff will have refresher training on noise issues, prevention and management at six-monthly intervals.
- If members of staff report any instances of elevated noise, this should be investigated immediately. In the event that increased noise levels are verified, the source of the noise should be taken out of commission and must be fixed/corrected prior to the equipment being put back into commission.
- A visual inspection of all equipment should be made before use to ensure that there are no obvious faults or malfunctions that could lead to elevated noise levels. It will be ensured that all noise mitigation measures (silencers, etc.) are installed as per manufacturer's guidance.



Objective Noise Monitoring

- A class 2 sound level meter will be purchased to measure sound levels on site. This will take place during typical operations when the site is in use and associated plant vehicles are operating as normal.

Monthly Measurements

Noise levels will be measured at monthly intervals at the site perimeter in the location shown below.

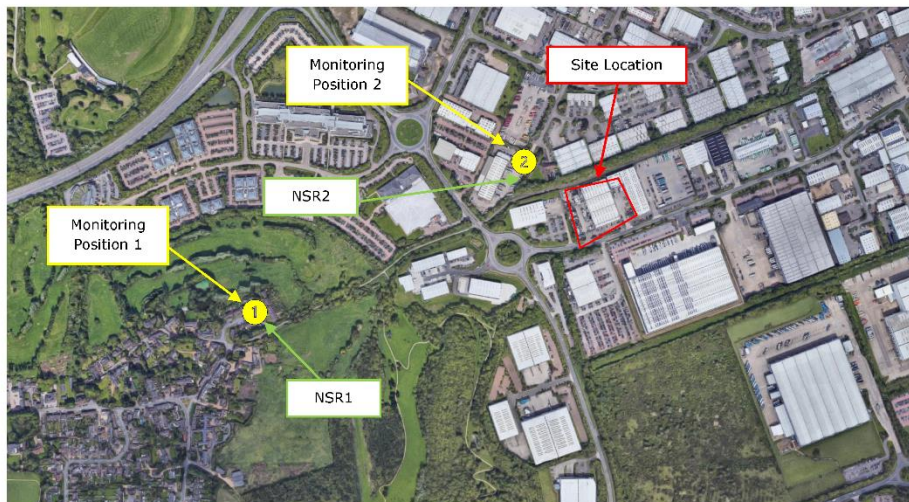


Figure 6.0 – NMP Monitoring Location

- $L_{Aeq,1hour}$ (A-weighted noise levels averaged over a 1-hour assessment period) and L_{Amax} noise levels will be recorded. Measurements taken on site will be compared with previous measurements. If $L_{Aeq,1hour}$ noise levels increase by more than 3 dB from the previous month then the cause of the increase shall be investigated.
- When the source of the elevated noise levels is discovered, remedial work shall be undertaken to reduce noise emissions to 'normal' levels. If complex remedial work is required, the offending equipment will be taken out of commission until repair work is completed. This will be logged in an IMS (Issue Management System).

Plant Operator Noise Control Measures Summary

- Reversing alarms will be white noise.
- Vehicles will adhere to the 10-mph speed limit on site.
- Engines will be switched off when not in use. Vehicles will not be left idling.
- No shaking of vehicle bodies will take place whilst raised.
- Vehicle horns to be used as a Health and Safety measure only.
- Vehicle movements will be spread evenly throughout the day where practicable.



- All mitigation measures specified within this report will be implemented prior to the first operation of the proposed permit variation and retained thereafter.

Management Control Measures

- Users of on-site plant and equipment complete a daily defect log at the beginning of the working day if they observe that their vehicle is not working to its optimum. An on-site mechanic actions the defect log on the same working day and machines are not used until this action has been completed.
- Tool-box talks are provided by site management on a regular basis to site operatives. These talks include all aspects of the management plans for this site.
- Plant maintenance schedules using the manufacturer's recommendations where vehicles are serviced after 500 hours of operation.
- Pre-use checks are completed prior to using plant and equipment daily.
- Defects are reported and actions are taken to rectify the problem or remove the offending item from service until such time as the issue is resolved.
- All plant and equipment are visually inspected by the operator at the end of the working day.
- Throughout the day operators are vigilant in checking vulnerable areas like exhausts and engine bays.
- Specialist contractors are used to perform maintenance outside the scope and expertise of the site management and operatives.
- All documentation relating to plant and equipment maintenance is retained in the site office for inspection.

Noise Complaint Investigation

An issue management system (IMS) will be implemented and completed by the site manager, this will include a site diary, plus forms and records of complaints. Further to this, a complaints procedure will be implemented; this procedure will allow for all complaints, feedback and requests made by third parties regarding the site's operational activities, health and safety performance or quality of service/product.

A phone number for the head office can be obtained online in order to allow for any member of the public to lodge a complaint without entering the operational site. The operations manager will be specifically assigned to deal with complaints.

All complaints received from third parties including statutory authorities, statutory consultees, members of the general public and representatives of the company will be forwarded to the operations manager to action as below within 2 hours (where feasible). The complaint will be logged in the incident database within 72 hours.

The operations manager will ensure that:

- The complaint is investigated to identify the cause, if necessary, this may involve direct communication with the complainant.



- The noise source will be measured using a class 2 sound level meter and compared with monthly objective monitoring records.
- In the event of elevated noise being detected, the presence of 'abnormal' onsite activity is assessed and if necessary, action is taken immediately to prevent a reoccurrence of the same problem. These actions must be documented.
- The complainant will be contacted and given information on the investigations conducted and actions taken as appropriate.
- All complaints are reported to regional directors and discussed at site meetings.
- Details of other complaints are sent to the other company personnel as appropriate.

If the investigation indicates that the complaint has not been justified this will be clearly recorded on the incident report. All complaints will be logged.

Reporting Measures

In the event of elevated levels of noise being identified, the event will be reported into an issue management system (IMS) by a member of operational staff. Upon notification of an environmental incident, the site manager will complete an incident reporting form. The completed form is then distributed throughout the company for review at operational, management and health and safety meetings.

All performance failures will be categorised for input into the IMS as follows:

- Minor event: quick fix possible, locally resolved.
- Medium event: brief disruption to service, management intervention required.
- Major event: significant disruption to service.

Each non-conformance category must have a given deadline for rectification. The deadline for each category is:

- Minor Event: within 24 hours
- Medium Event: within 6 hours
- Major Event: within 1 hour

The IMS will record any actions taken to rectify the issue, ensure that any necessary actions or review are recorded onto the IMS and ensure that the person reporting the incident is notified. The site manager will investigate the performance failure within a reasonable time frame (ideally 2 hours). Once the issue has been resolved, the corrective action will be entered onto the system and the issue will be closed.



Appendix A – Acoustic Terminology

Sound Pressure	Sound, or sound pressure, is a fluctuation in air pressure over the static ambient pressure.
Sound Pressure Level (Sound Level)	The sound level is the sound pressure relative to a standard reference pressure of 20µPa (20x10 ⁻⁶ Pascals) on a decibel scale.
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log10 (s1 / s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20µPa.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
L _{eq,T}	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
L _{max,T}	A noise level index defined as the maximum noise level during the period T. L _{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L _{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L _{90,T}	A noise level index. The noise level exceeded for 90% of the time over the period T. L ₉₀ can be considered to be the "average minimum" noise level and is often used to describe the background noise.
L _{10,T}	A noise level index. The noise level exceeded for 10% of the time over the period T. L ₁₀ can be considered to be the "average maximum" noise level. Generally used to describe road traffic noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Facade	At a distance of 1m in front of a large sound reflecting object such as a building façade.
Fast Time Weighting	An averaging time used in sound level meters. Defined in BS 5969.



In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided. The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at 1m away
110 to 130dB(A)	Jet aircraft on take off
140dB(A)	Threshold of Pain

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

In accordance with logarithmic addition, combining two sources with equal noise levels would result in an increase of 3 dB(A) in the noise level from a single source. A change of 3 dB(A) is generally regarded as the smallest change in broadband continuous noise which the human ear can detect (although in certain controlled circumstances a change of 1 dB(A) is just perceptible). Therefore, a 2 dB(A) increase would not normally be perceptible. A 10 dB(A) increase in noise represents a subjective doubling of loudness.

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs.

For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest. In the UK, traffic noise is measured as the L_{A10} , the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the



time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq} .

This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound. To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3 dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows represent changes of 1 dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS4142:2014 specifies background noise measurement periods of 1 hour during the day and 15 minutes during the night. The noise levels are commonly symbolised as $L_{A90,1hour}$ dB and $L_{A90,15mins}$ dB. The noise measurement should be recorded using a 'FAST' time response equivalent to 0.125ms



Appendix B – Legislation, Policy and Guidance

This report is to be primarily based on the following legislation, policy and guidance.

B.1 – National Planning Policy Framework (2021)

Government policy on noise is set out in the National Planning Policy Framework (NPPF), published in 2021. This replaced all earlier guidance on noise and places an emphasis on sustainability. In section 15, Conserving and enhancing the natural and local environment, paragraph 174e, it states:

Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;

Paragraph 185 states:

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:

- a) 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;*
- b) Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- c) Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

B.2 – Noise Policy Statement for England (2010)

Paragraph 185 of the NPPF also refers to advice on adverse effects of noise given in the Noise Policy Statement for England (NPSE). This document sets out a policy vision to:

Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

To achieve this vision the Statement identifies the following three aims:

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

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



In achieving these aims the document introduces significance criteria as follows:

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur. It is stated that "significant adverse effects on health and quality of life should be avoided while also considering the guiding principles of sustainable development".

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected. It is stated that the second aim above lies somewhere between LOAEL and SOAEL and requires that: "all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also considering the guiding principles of sustainable development. This does not mean that such adverse effects cannot occur."

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise. This can be related to the third aim above, which seeks: "where possible, positively to improve health and quality of life through the pro-active management of noise while also considering the guiding principles of sustainable development, recognising that there will be opportunities for such measures to be taken and that they will deliver potential benefits to society. The protection of quiet places and quiet times as well as the enhancement of the acoustic environment will assist with delivering this aim."

The NPSE recognises that it is not possible to have a single objective noise-based measure that is mandatory and applicable to all sources of noise in all situations and provides no guidance as to how these criteria should be interpreted. It is clear, however, that there is no requirement to achieve noise levels where there are no observable adverse impacts but that reasonable and practicable steps to reduce adverse noise impacts should be taken in the context of sustainable development and ensure a balance between noise sensitive and the need for noise generating developments.

Any scheme of noise mitigation outlined in this report will, therefore, aim to abide by the above principles of the NPPF and NPSE whilst recognizing the constraints of the site.

B.3 – British Standard BS 4142:2014+A1:2019 - Methods for rating and assessing industrial and commercial sound

Overview

BS4142:2014 sets out a method to assess the likely effect of sound from factories, industrial premises or fixed installations and sources of an industrial nature in commercial premises, on people who might be inside or outside a dwelling or premises used for residential purposes in the vicinity.

The procedure contained in BS4142:2014 for assessing the effect of sound on residential receptors is to compare the measured or predicted sound level from the source in question, the $L_{Aeq,T}$ 'specific sound level', immediately outside the dwelling with the $L_{A90,T}$ background sound level.



Where the sound contains a tonality, impulsivity, intermittency and other sound characteristics, then a correction depending on the grade of the aforementioned characteristics of the sound is added to the specific sound level to obtain the $L_{A,Tf}$ 'rating sound level'. A correction to include the consideration of a level of uncertainty in sound measurements, data and calculations can also be applied when necessary.

Rating Penalty

Section 9 of BS4142:2014 describes how the rating sound level should be derived from the specific sound level, by deriving a rating penalty.

BS4142:2014 states:

"Certain acoustic features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level. Where such features are present at the assessment location, add a character correction to the specific sound level to obtain the rating level. This can be approached in three ways:

- a) subjective method;*
- b) objective method for tonality;*
- c) reference method."*

Due to the nature of the development the subjective method has been adopted to derive the rating sound level from the specific sound level. This is discussed in Section 9.2 of BS4142:2014, which states:

"Where appropriate, establish a rating penalty for sound based on a subjective assessment of its characteristics. This would also be appropriate where a new source cannot be measured because it is only proposed at that time, but the characteristics of similar sources can subjectively be assessed. Correct the specific sound level if a tone, impulse or other characteristics occurs, or is expected to be present, for new or modified sound sources."

BS4142:2014 defines four characteristics that should be considered when deriving a rating penalty, namely; tonality; impulsivity; intermittency; and other sound characteristics, which are defined as:

a) Tonality

A rating penalty of +2 dB is applicable for a tone which is "just perceptible", +4 dB where a tone is "clearly perceptible", and +6 dB where a tone is "highly perceptible".

b) Impulsivity

A rating penalty of +3 dB is applicable for impulsivity which is "just perceptible", +6 dB where it is "clearly perceptible", and +9 dB where it is "highly perceptible".

c) Other Sound Characteristics

BS4142:2014 states that where "the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinct against the residual acoustic environment, a penalty of +3 dB can be applied."



d) Intermittency

BS4142:2014 states that when the "specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time ... if the intermittency is readily distinctive against the residual acoustic environment, a penalty of +3 dB can be applied."

Background Sound Level

The background sound level is the underlying level of sound over a period, T , and is indicative of the relative quietness at a given location. It does not reflect the occurrence of transient and/or higher sound level events and is generally governed by continuous or semi-continuous sounds.

To ensure the background sound level values used within the assessment are reliable and suitably represent both the particular circumstance and periods of interest, efforts have been made to quantify a 'typical' background sound level for a given period. The purpose has not been to simply select the lowest measured value. Diurnal patterns have also been considered as they can have a major influence on background sound levels, for example, the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night time period for sleep purposes.

Since the intention is to determine a background sound level in the absence of the specific sound that is under consideration, it is necessary to understand that the background sound level can in some circumstances legitimately include industrial and/or commercial sounds that are present as separate to the specific sound.

Assessment of Impact

BS4142:2014 states: "The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs". An estimation of the impact of the specific sound can be obtained by the difference of the rating sound level and the background sound level and considering the following:

- "Typically, the greater this difference, the greater the magnitude of the impact."
- "A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context."
- "A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context."
- "The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a negligible impact, depending on the context."

Interpreting the guidance given in BS4142:2014, with consideration of the guidance given in the NPSE and NPPG Noise, an estimation of the impact of the rating sound is summarised in the following text:



- A rating sound level that is +10 dB above the background sound level is likely to be an indication of a Significant Observed Adverse Effect Level;
- A rating sound level that is +5 dB above the background sound level is likely to be an indication of a Lowest Observed Adverse Effect Level;
- The lower the rating sound level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating sound level does not exceed the background sound level, this is an indication of the specific sound source having a negligible impact and would therefore be classified as a No Observed Adverse Effect Level.

During the daytime, the assessment is carried out over a reference time period of 1-hour. The periods associated with day or night, for the purposes of the Standard, are 07.00 to 23.00 and 23.00 to 07.00, respectively.



Appendix C – Environmental Survey

C.1 – Tabulated Summary Noise Data

Measurement Position MP1 – Full Period				
Measurement Time Period ('t')	L _{Aeq,t} (dB)	L _{Amax,t} (dB)	L _{A90,t} (dB)	L _{A10,t} (dB)
Day 1: 05/12/22 – 12:00 – 23:00	56.0	87.0	54.0	58.0
Night 1: 05/12/22 – 23:00 – 07:00	52.0	75.0	48.0	57.0
Day 2: 06/12/22 – 07:00 – 10:30	60.0	81.0	59.0	61.0
MP1 – L _{A90} Analysis – Full Period				
Measurement Period ('t')	L _{A90,t} (dB)	SMR L _{A90,t} (dB)	Min. L _{A90,t} (dB)	Max. L _{A90,t} (dB)
Day 1: 05/12/22 – 12:00 – 23:00	54.0	56.0	49.0	57.0
Night 1: 05/12/22 – 23:00 – 07:00	48.0	43.0	43.0	58.0
Day 2: 06/12/22 – 07:00 – 10:30	59.0	58.0	57.0	61.0

Table 9.0 – MP1 Sound Survey Summary Results – Full Period

Figure 7.0 – MP1 Noise Survey Time History

C.2 – Surveying Equipment

Piece of Equipment	Serial No.	Calibration Deviation
CESVA SC420 Class 1 Sound Level Meter	T244478	≤0.1
CESVA CB006 Class 1 Calibrator	901625	
CESVA SC420 Class 1 Sound Level Meter	T250681	≤0.1
CESVA CB006 Class 1 Calibrator	902442	

Table 10.0 – Measurement Equipment

All equipment used during the survey was field calibrated at the start and end of the measurement period with a negligible deviation of ≤0.1 dB. All sound level meters are calibrated every 24 months and all calibrators are calibrated every 12 months, by a third-party calibration laboratory. All microphones were fitted with a protective windshield for the entire measurements period. Calibration certificates can be provided upon request.

C.3 – Meteorological Conditions

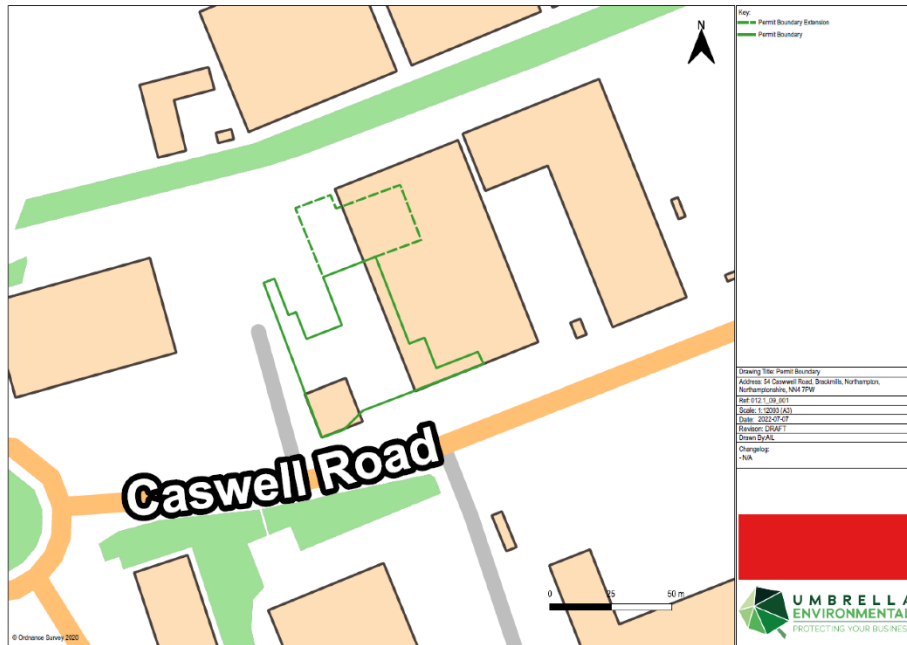
As the environmental noise survey was carried out over a long un-manned period no localised records of weather conditions were taken. However, all measurements have been compared with met office weather data of the area, specifically the closest weather station, and the data from the weather station is outlined in the table below. When reviewing the time history of the noise measurements, any scenarios that were considered potentially to be affected by the local weather conditions have been omitted. The analysis of the noise data includes statistical and percentile analysis and review of minimum and maximum values, which aids in the preclusion of any periods of undesirable weather conditions. The weather conditions were deemed suitable for the measurement of environmental noise in accordance with BS7445 Description and Measurement of Environmental Noise. The table below presents the average temperature, wind speed and rainfall range for each 24-hour period during the entire measurement.

Weather Conditions – Martins Lane (Approx. 1.3km SWW of Site)				
Time Period	Air Temp (°C)	Rainfall (mm/h)	Prevailing Wind Direction	Wind Speed (m/s)
05/12/22 – 00:00 – 23:59	2.4 – 5.7	0.0 – 0.8	ENE	0.0 – 3.1
06/12/22 – 00:00 – 23:59	0.6 – 3.9	0.0	W	0.0 – 3.9

Table 11.0 – Weather Summary



Appendix D – Site Plans and Drawings





Appendix E – Manufacturers’ Datasheets

10/18 Kingspan Insulated Panels QuadCore™ RW Trapezoidal Roof Panel

QuadCore™ RW Trapezoidal Roof Panel

Insulation Core

KS1000 RW insulated roof panels are manufactured with an HCFC, CFC and HFC free QuadCore insulation core.

Fire

Reaction to Fire

- Classified B-s1,d0 according to the European Reaction to Fire classification system (Euroclasses) BS EN 13501-1:2007+A1:2009 when tested on the internal liner. Please contact Technical Services for information relating to the external face
- B_{ROOF} (I4) to BS EN 13501-5:2016

Insurer Approvals

- LPS 1181 Part 1: Issue 1, series of fire growth tests for LPCB approval and is certified to LPS 1181 Grade EXT-B
- FM 4471 Class 1 panel roofs*
- FM 4880 Class 1 fire rating of building panels or interior finish materials, unlimited height
- FM 4882 Class 1 interior wall panels in smoke sensitive occupancies (pharmaceutical manufacturing & storage areas, and food preparation & storage areas or similar occupancies)
* 1.5m maximum span only. Please contact [Technical Services](#) for more information.



Environmental

Kingspan Insulated Panels produced in the UK are certified to BES 6001 (Framework Standard for the Responsible Sourcing of Construction Products) 'Very Good'. Kingspan Insulated Panels directly contribute to BREEAM/LEED credits.

Air Leakage

An air leakage rate of 3m³/hr/m² at 50Pa or less can be achieved when using Kingspan insulated roof and wall panels.

Acoustic

Sound Reduction Index (SRI)

Hz*	63	125	250	500	1K	2K	4K	8K
SRI (dB)	20	18	20	24	20	29	39	47

* Frequency

The KS1000 RW insulated roof panel has a single figure weighted sound reduction Rw = 25dB.

Biological

Kingspan panels are normally immune to attack from mould, fungi, mildew and vermin. No urea formaldehyde is used in the construction, and the panels are not considered deleterious

Materials

Substrate

- Kingspan XL Forté, Kingspan Spectrum, Kingspan AQUAsafe, Kingspan AQUAsafe55 and Kingspan CLEANsafe: Metallic protected steel to BS EN 10346:2015, thickness 0.5mm.
- CLEANsafe 15: Metallic protected steel to BS EN10346:2015, thickness 0.4mm
- Stainless Steel: Austenitic Grade 316 stainless steel to BS EN 10088: Part 2: 2014, thickness 0.4mm.
- Aluminium: Please contact Kingspan envirocare Technical Services.

Coatings - External Weather Sheet

- Kingspan XL Forté: Consists of a multi-layer organic coating, embossed with a traditional leather-grain finish.
- Kingspan Spectrum: Consists of a coated semi-gloss finish with slight granular effect.

Coatings - Internal Liner Sheet

- Kingspan CLEANsafe 15: The coating has been developed for use as the internal lining of insulated panels. Standard colour is "bright white" with an easily cleaned surface.
- Kingspan AQUAsafe: The coating has been developed for use as the internal lining of insulated panels to suit high humidity internal environments.
- Kingspan AQUAsafe 55: The coating has been developed for use as the internal lining of insulated panels to swimming pool internal environments.
- Kingspan CLEANsafe 120: The coating has been developed for use as the internal lining of insulated panels where a high level of cleanliness and hygiene is required, and the panels are to be cleaned down on a regular basis.
- Stainless Steel: The stainless steel liner has been developed for use as the internal lining of insulated panels in buildings with a very aggressive/corrosive internal environment.

SPILL RESPONSE

If a spillage occurs anywhere on site, it is extremely important that measures are taken as quickly as possible to contain and assess the spill. All staff must be familiar with the basic first steps to take when noticing a spill.

There are 23 spill bins across the site (as per MD19002) as well as 7 Emergency Response Lockers. The lockers are checked bi-weekly by the responsible person, which is documented on Form-HSF68a.

The SDS must always be consulted prior to handling any spilled material to ascertain both the risks presented by the material as well as the correct protective equipment required.

Any material that cannot be re-used is to be classified as waste and hazardous. This waste must be disposed of using a licenced waste disposal contractor.

Should any release to the environment occur, the responsible person must inform the Environment Agency.

An Accident/Incident report must always be completed, no matter the spill size, and investigated. The utilised spill containment equipment and PPE must be fully accounted for and re-stocked.

Spills can be broken down into 3 categories:

Tier 1

A small, non-continuous spill such as a drum overfill or container damage of a non-hazardous material may be contained by any member of staff familiar with the location of spill bins/equipment. Once contained, a supervisor or senior member of staff must be called to assess the spill and advise on the correct disposal method and to record the incident.

- Only if safe to do so, stop the cause of the leak. This may involve closing a valve, IBC or turning a drum with the leak point upwards.
- Contain the spill with the nearest suitable spill bin materials.
- Cordon off the area to prevent pedestrian access.
- Contact a supervisor or senior member of staff.

Tier 2

A large or continuous spill, which must only be tackled by trained members of the Spill Response Team. This is also the case for small to medium sized spills of flammable or hazardous materials.

- Only if safe to do so, stop the cause of the leak.
- Evacuate the immediate area and dial "0" or the first available person able to tannoy. Advise the person answering of the location of the spill and ask to have the Spill Response Team sent to the area.
- A tannoy must immediately be made.
- The Spill Response Team must put on the protective clothing located in the Emergency Response Lockers before attending the scene.
- The SDS must be consulted and the spill contained.

Tier 3

A catastrophic incident, such as the loss of containment from bulk tank storage, or a large continuous spill of flammable or hazardous materials. A large volume of liquid that has been released and cannot safely be stopped. Priority must be given to preventing harm to persons.

- Activate the fire alarm by activating the nearest call point.
- Only if safe to do so, ensure that the penstock valve is isolated to prevent outside watercourse contamination.
- Evacuate the site immediately and advise the Incident Controller of the situation.

General Health & Safety Precautions

Some of the main risks to the health & safety of personnel involved in spillages are detailed below. During any spill, the first consideration must be safety to personnel, followed by safety to environment and to plant equipment respectively.

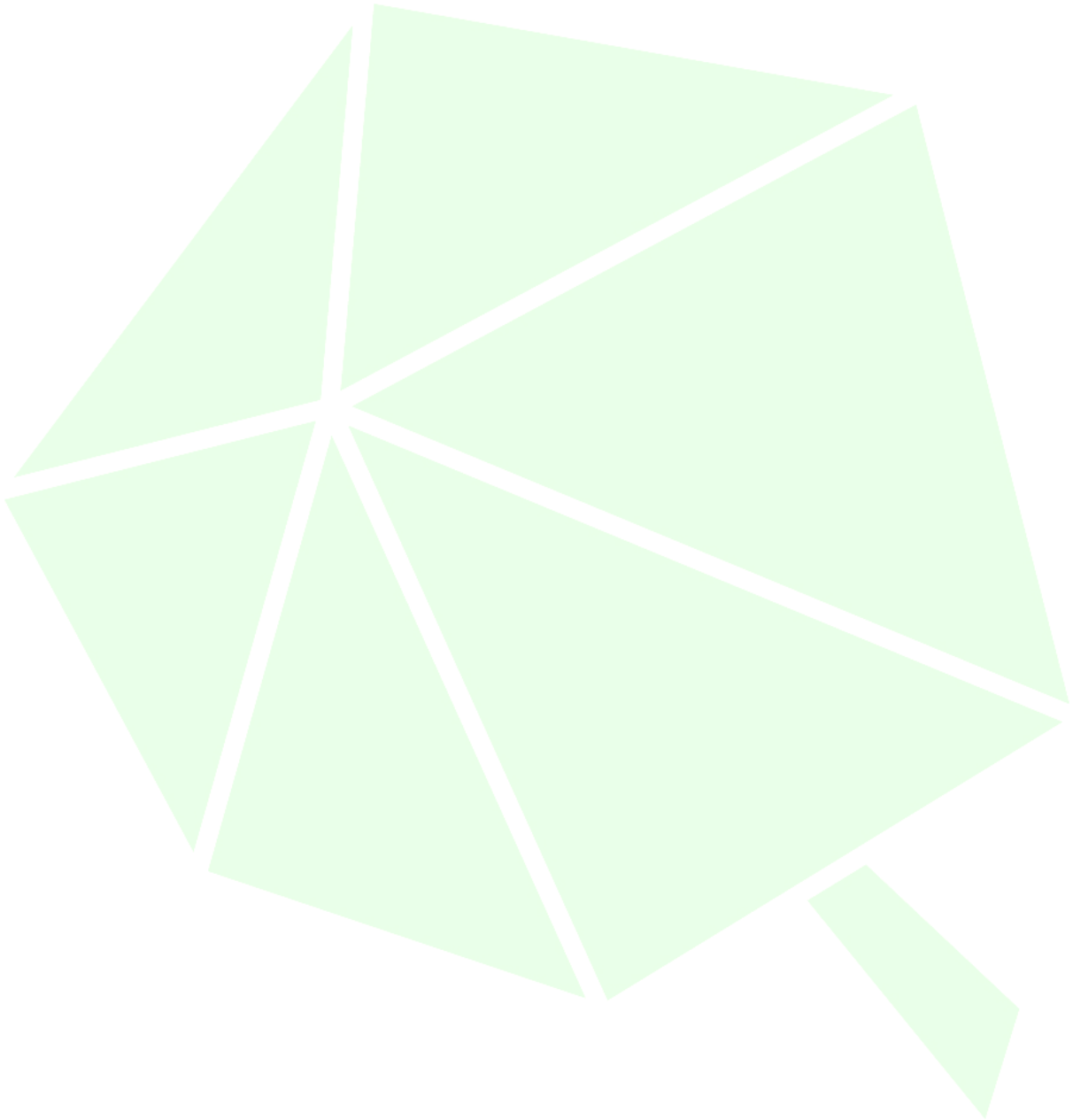
The possible consequences of a spill are, but not limited to:

- Fire.
- Explosion.
- Serious injury from toxic and/or hazardous materials.
- Long lasting damage to the environment.

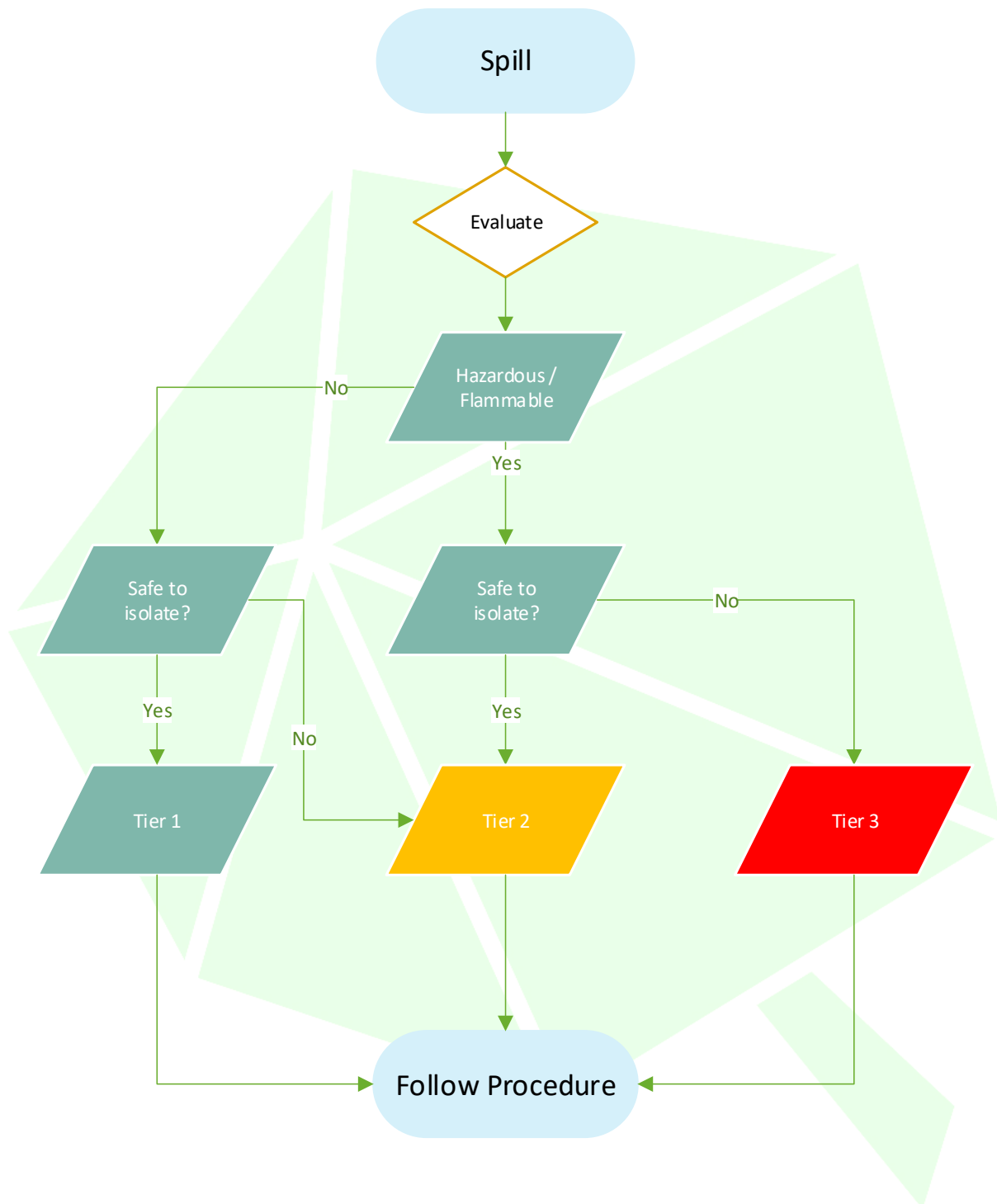
All personnel must wear PPE when involved in any clean up.

- **DO** ask for assistance as soon as possible.
- **DO** approach any spillage from an upwind direction.
- **DO** wear protective clothing at all times (PPE).
- **DO** use barrier cream on any exposed skin surfaces.
- **DO** maintain high standards of personal hygiene (wash hands etc...) after a spill event.
- **DO** seek medical advice if you are experiencing any ill effects.
- **DO NOT** attempt to tackle any scenario/material you are unfamiliar with.

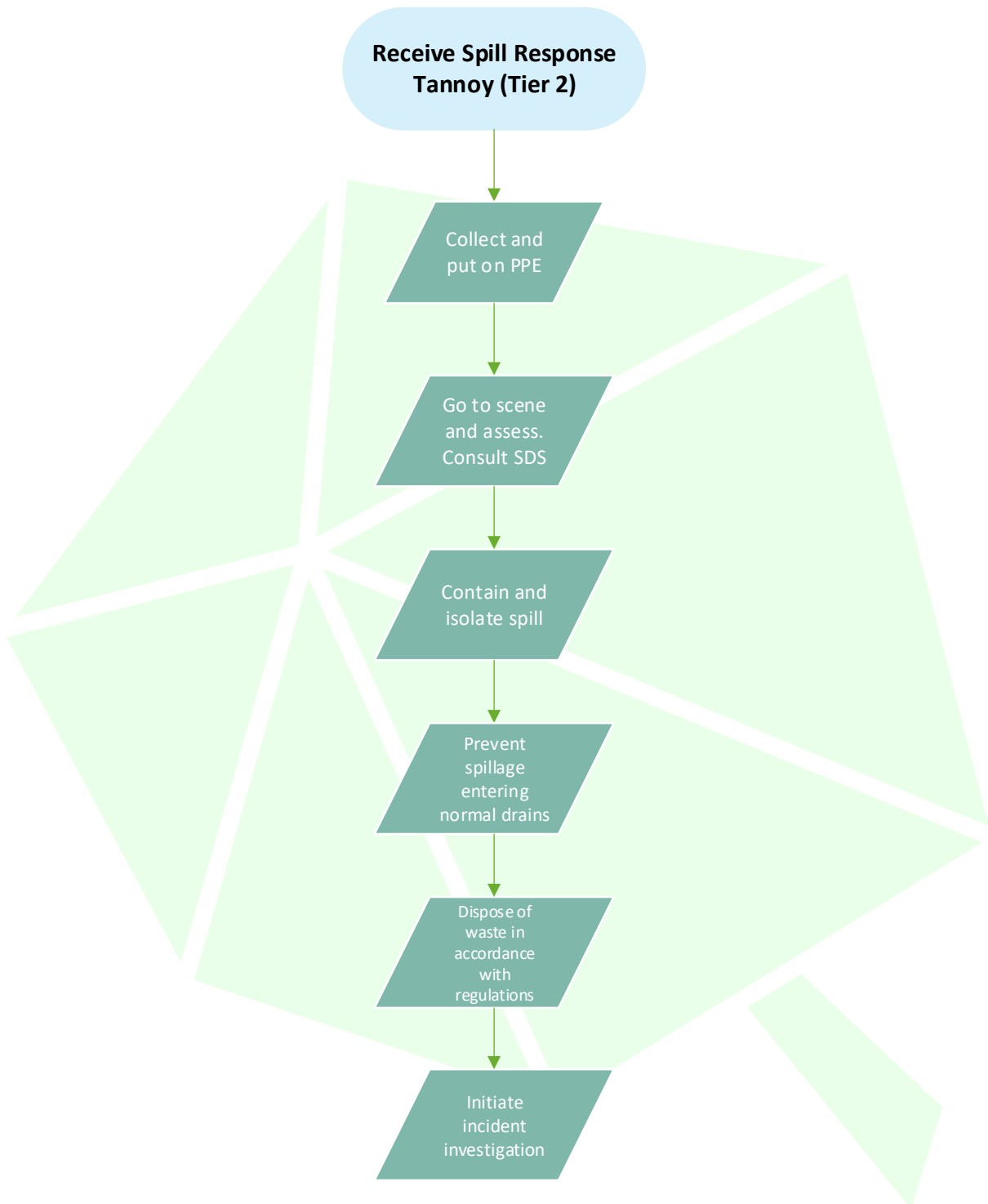
- **DO NOT** smoke, even after the event, until fully decontaminated.
- **DO NOT** carry any potential ignition sources.
- **DO NOT** operate any electrical equipment until cleared to do so.
- **DO NOT** eat or drink until fully decontaminated.
- **DO NOT** put any waste material to normal drains.



General Spill Process Flow



Spill response Team



I, the trainee, below sign to confirm my understanding of the document and its contents.

Trainee Sign:

Trainee Print:

I, the trainer, confirm that any tasks included in the above have been adjudged to have been performed as required by the trainee, demonstrating understanding.

Trainer Sign:

Trainer Print:

Date:

Appendix 3 012.1_05_009 CCRA

Risk is the probability of an individual being exposed to an work place hazard and the impact of such exposure. The Primary risk is assessed with no mitigation in place such as managerial procedures and Personal Protective Equipment (PPE).

Probability

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.

Consequence

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.

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

For all hazards identified either procedures or PPE have been developed. Residual risk will remain and are detailed in the tables below.

	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
<p>Summer daily maximum temperature</p> <p>This may be around 7°C higher compared to average summer temperatures now.</p>	<p>Impact 1</p> <p>Potential increase in temperature may result in expansion and stress of plant, pipework and fittings.</p>	L	M	M	<ul style="list-style-type: none"> Regular inspection and preventative maintenance of site and plant or equipment Process monitoring (visual) 	L
	<p>Impact 2</p> <p>There could be an increase in dust emissions from the site.</p>	L	L	L	<ul style="list-style-type: none"> Waste always in containers (IBC)/SILO In process Waste is liquid in form and not known to be dusty 	L
	<p>Impact 3</p> <p>There could be an increase in odour from the site.</p>	L	L	L	<ul style="list-style-type: none"> Waste is not odorous Waste always in containers (IBC)/SILO In process Visual inspections and regular maintenance. 	L
	<p>Impact 4</p> <p>There could be an increase in fugitive or diffuse emissions from the site.</p>	L	L	L	<ul style="list-style-type: none"> All waste is containerised in IBC's and Silos Waste arrives contained 	L

	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
					<ul style="list-style-type: none"> Waste is in liquid form Waste not known to be odorous. 	
	<p>Impact 5</p> <p>There could be an increase in water consumed for cooling purposes.</p> <p>The mitigation for this could be to consider:</p> <ul style="list-style-type: none"> how water can be cleaned and recirculated for reuse on site alternative cooling systems 	L	L	L	<ul style="list-style-type: none"> Water not used as apart of the process. Water comes from mains to site. 	L
	<p>Impact 6</p> <p>There could be a possible increase in energy consumption due to added pumping of cooling water around site.</p>	L	L	L	<ul style="list-style-type: none"> Cooling is not apart of the process Energy is harvested from solar panels situated on the warehouse roof and generate energy. 	L

	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
<p>Winter daily maximum temperature</p> <p>This could be 4°C more than the current average with the potential for more extreme temperatures, both warmer and colder than present.</p>	<p>Impact 1</p> <p>In extreme cold weather, risk of:</p> <ul style="list-style-type: none"> • failure of trace heating systems • freezing of cooling water, resulting in blockages – particularly on long pipelines and storage in exposed areas <p>This could also lead to process failures.</p>	L	L	L	<ul style="list-style-type: none"> • Regular inspection and preventative maintenance of site and plant or equipment • Process monitoring (visual) • Waste storage and processing is internal. Reducing impact of temperature extremes 	L
	<p>Impact 2</p> <p>There could be an increased risk of pipework ruptures.</p>	L	M	M	<ul style="list-style-type: none"> • Regular inspection and preventative maintenance of site and plant or equipment • Process monitoring (visual) • Waste storage and processing is internal. Reducing impact of temperature extremes 	L

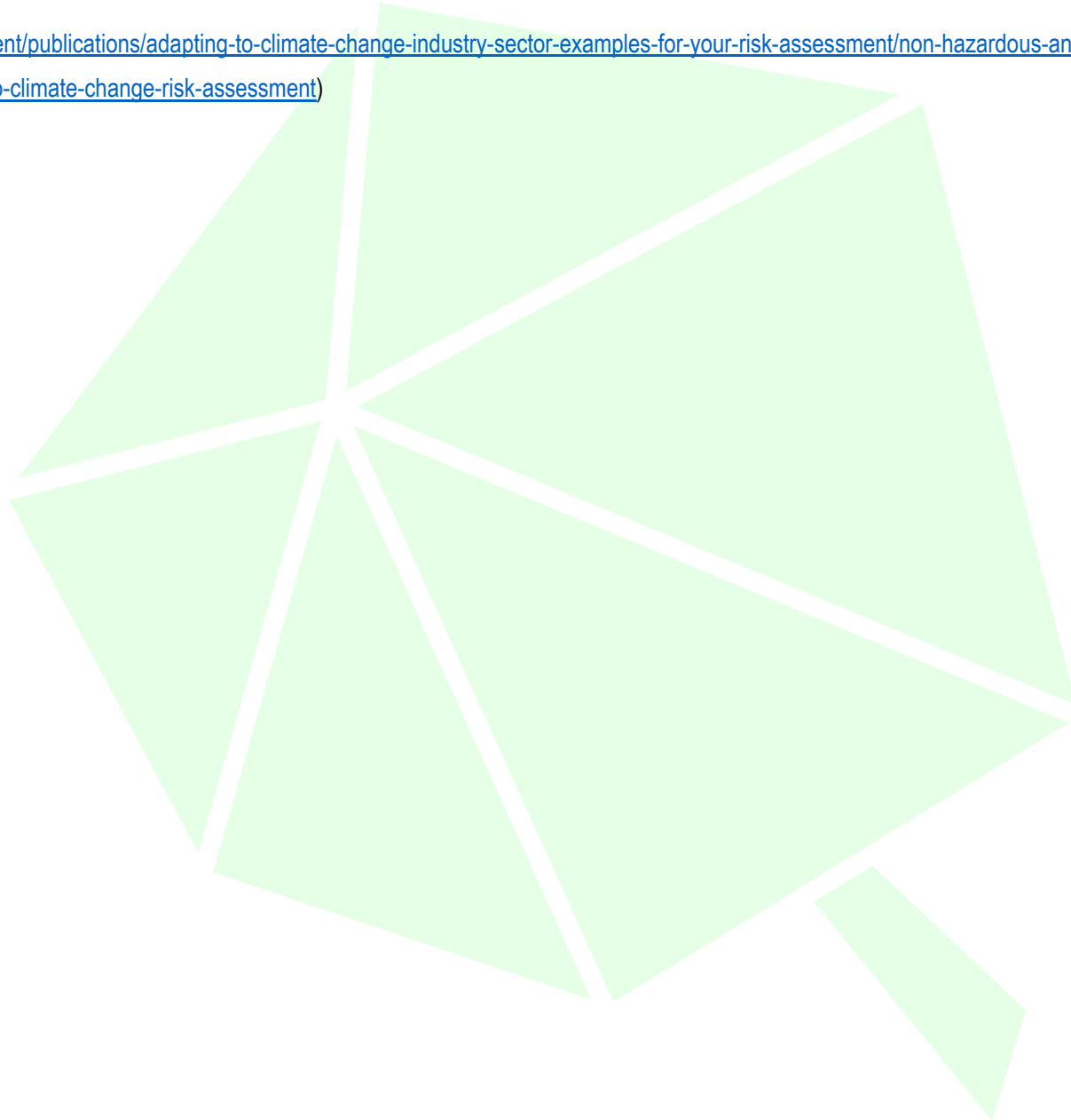
	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
					<ul style="list-style-type: none"> Leak detection program in place 	
	<p>Impact 3</p> <p>Failure of pH control due to caustic systems solidifying (such as effluent treatment).</p>	L	L	L	<ul style="list-style-type: none"> Caustic systems not used. 	L
	<p>Impact 4</p> <p>Frozen onsite roadways may restrict access for staff and emergency vehicles.</p>	M	M	M	<ul style="list-style-type: none"> regularly inspect and maintain roadways during winter and remove any standing water make sure grit is available to treat road surfaces 	L
	<p>Impact 5</p> <p>There could be damage to site infrastructure from snow-loading over extended periods.</p>	M	M	M	<ul style="list-style-type: none"> Review structure designs to ensure they can withstand increased loading by snow. 	L

	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
	The mitigation for this could be to review the design of structures to withstand increased loadings.					
Daily extreme rainfall Daily rainfall intensity could increase by up to 20% on today's values.	Impact 1 Flooding could lead to increased site surface water and flash flooding.	L	M	M	<ul style="list-style-type: none"> • Surface water flooding 1 in 30 year event. • Ground water flooding in negligible. • No river or coastal flooding. • Drainage systems are inspected and maintained 	L
	Impact 2 The site may experience reduced access or egress due to site flooding.	L	M	M	<ul style="list-style-type: none"> • Access is via one main gate however risk of flooding is LOW. • Well maintained drainage system 	L
Average winter rainfall	Impact 1 This could lead to overland flow or groundwater flooding.	L	M	M	<ul style="list-style-type: none"> • Ground water flooding in negligible. 	L

	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
Average winter rainfall may increase by over 40% on today's averages.					<ul style="list-style-type: none"> Well maintained drainage system 	
	<p>Impact 2</p> <p>Increased risk of flooding and associated impacts, as previously identified.</p>	L	M	M	<ul style="list-style-type: none"> Surface water flooding 1 in 30 year event. Ground water flooding in negligible. No river or coastal flooding. Drainage systems are inspected and maintained 	L
<p>Sea level rise</p> <p>Sea level rise which could be as much as 0.6m higher compared to today's level.</p>	<p>Impact 1</p>	L	M	M	<ul style="list-style-type: none"> No river or coastal flooding. 	L
<p>Drier summers</p> <p>Summers could see potentially up to 40% less rain than now.</p>	<p>Impact 1</p> <p>Potential increased use or reliance on mains water for dust suppression and cleaning.</p>	L	M	M	<ul style="list-style-type: none"> Mains water capacity is adequate, taking into account reduced availability of rainwater for activities such as cleaning 	L

	Impacts	Risk Level (Likelihood X Consequence= Risk)			Mitigation Consideration	Retained Risk
					<ul style="list-style-type: none"> Waste accepted to site is not dusty (liquid) Measures are in place to review and minimise water use and to maximise collection and use of rainfall 	
	<p>Impact 2</p> <p>There is potential for increase in dust emissions from site.</p>	L	M	M	<ul style="list-style-type: none"> Waste accepted to site is not dusty (liquid) Vehicles are not arriving from muddy/dusty sites. 	L
<p>River flow</p> <p>The flow in the watercourses could be 50% more than now at its peak and 80% less than now at its lowest.</p>	<p>Impact 1</p> <p>Reduced dilution available in receiving watercourse for discharge of effluent, resulting in increased pollution.</p>	L	M	M	<ul style="list-style-type: none"> No discharge to receiving water courses 	L

<https://www.gov.uk/government/publications/adapting-to-climate-change-industry-sector-examples-for-your-risk-assessment/non-hazardous-and-inert-waste-treatment-examples-for-your-adapting-to-climate-change-risk-assessment>



Appendix 4 Reclaimed brake fluid QC

Brake Fluid Reclamation – Working Instruction: XYZ

Laboratory

Reclaimed Brake Fluid Quality ControlCONTEXT

Once the Brake Fluid has been reclaimed via the four step filtration process, it is important to ensure that the process has removed everything intended in order to certify the reclaimed brake fluid exceeds our internal specifications to be blended into virgin material.

The sample will have been extracted from “sample tap #4” of a volume of 1 litre.

PROCEDURE

A Batch mixer will deliver the 1 litre sample to the laboratory a long with the IBC identifier. The QC laboratory technician should then proceed to complete the table below.

Test	Method No.	Specification	Result	Initial
Appearance	TM-QC025	Clear Golden liquid with no visible or suspended matter.		
SG	TM-QC010	~ 1.080 (20°C)		
pH	TM-QC004	7.0 - 9.0		
Water Content	TM-QC006	< 0.5% w/w		
ERBP	TM-QC002	>205°C		

WERBP	TM-QC003	>140°C		
-------	----------	--------	--	--

If the reclaimed brake fluid achieved results that exceeded the brake fluid industry standard specifications, then the batch mixer can be notified that the IBC has passed and therefore can proceed with the process.

It is important that the QC technician then records all of the results along with the IBC identifier on an allocated spread sheet for reclaimed brake fluid, in the QC folder.

I have read and understood the above working instruction:

.....

Appendix 5 Reclaiming Waste Brake Fluid - Batch Mixers

Brake Fluid Reclamation – Working Instruction: XYZ

BATCH MIXER

Reclaiming Waste Brake fluidCONTEXT

When the Yard Co-Ordinator has followed out the “Waste Brake Fluid IBC delivery and storage” working instructions, all of the IBC’s stored in the designated waste IBC storage zone will have past the pre-acceptance procedure and are ready to be reclaimed.

All of the IBC’s will still have their IBC identifier stuck on to them which will be important when taking a sample to the QC laboratory technician.

“IBC 0” is the IBC that is stationary, Waste Brake Fluid will be decanted into this IBC.

PROCEDURE

1. Using the “waste batch sheet” fill out the necessary information:
 - Name of Batch Mixer
 - Time of start
 - The Date
 - The waste IBC identifier
2. The waste Brake fluid IBC will have two clear layers, the layer we desire is the bottom layer. The top layer contains a range of contaminants such as motor oil and diesel. The two fluids are miscible which is why there is a clear level of separation.

3. Use a forklift truck to place the Waste Brake fluid IBC on to IBC 0. When ready slowly open the tap on the bottom of the IBC. The waste Brake Fluid will begin to flow into IBC 0. It is important that a slow sensible flow rate is achieved so that the top layer is not reached too quickly.
4. When the top layer is approximately 20 cm away from the bottom of the IBC, close the tap. This is to ensure that no unwanted contaminants enter the plant that could potentially be damaging.
5. The valve connecting IBC 0 and the plant can now be emptied and the double diaphragm pump can begin to operate. This will push the spent brake fluid through a multi-filtration process.
6. The re-claimed brake fluid will then be stored in PR23 until required.
7. Once all of the IBC's from the delivery have been reclaimed, all IBC should be decanted into one single IBC.
8. This IBC will be left until two clear layers have reformed. Then the reclamation process can occur on this final IBC. This is to ensure maximum reclamation from a waste delivery.

I have read and understood the above working instruction:

.....

Appendix 6 Waste Brake Fluid IBC Delivery and Storage

Brake Fluid Reclamation – Working Instruction: XYZ

TANKER

Waste Brake Fluid IBC Delivery and StorageCONTEXTNumber and positioning of vehicles on site

Vehicles entering the site must enter in reverse or forward, unloading position dependent, guided in by the Yard Co-Ordinator, so they can leave the site as quickly as possible in the event of an emergency. No Gas-powered Fork trucks are allowed within the barricaded area during off-loading.

Delivery Unloading

- All lorries should be stationary and the correct paper work should be checked before any unloading begins.
- The appropriate PPE must be worn at all times.
- The lorry should NEVER be left unattended during the unloading process.
- Both the driver and Miswa Yard Co-Ordinator must be in attendance at all times.
- During the unloading, the delivery area should be cordoned off by way of a physical barrier to restrict staff and vehicles from entering.
- Any spills must be dealt with as per the MISWA spill procedure, taking the appropriate precautions as guided by the MSDS.

PROCEDURE

1. Please be aware that smoking and use of mobile phones are not permitted on this site.
2. Both driver and Miswa Yard Co-Ordinator must be in attendance at all times.
3. All drivers/operators must hand the documentation to the Yard Co-Ordinator for verification.
4. The Yard Co-Ordinator will instruct the driver where to position his vehicle.
5. On receipt of the delivery documentation the Yard Co-Ordinator shall hand the driver the internal delivery procedure which they will read and sign it. The Yard Co-Ordinator will read and sign the driver's paperwork and retain a copy.
6. The Yard Co-Ordinator will wear a suitably charged gas monitor at all times during the delivery.
7. The Yard Co-Ordinator will secure the site by closing the entrance gates, not locking.
8. The Yard Co-Ordinator will place physical barriers across entrances to the operational area to prevent unauthorized staff members and vehicles accessing the unloading point.
9. The driver must be shown to the location of the Safety Shower in case of accidental contact
10. Each individual Waste brake fluid IBC shall be identified with a unique internal code which shall be noted down on the list report.
11. A one litre sample will be extracted from each IBC, it is important that the sample is labelled with the same unique identifier as the IBC that it was extracted from.
12. Each 1 litre sample will be taken over to the laboratory, along with the list report. Here the QC lab technician will follow the Waste Acceptance QC working instruction.
13. If any of the samples are to fail the QC process then this will be noted on to the list report and a non-conformance will be raised listing the results leading as to why that particular IBC failed.
14. The now completed list report can be handed over to the Yard Co-Ordinator so that he/she will be able to identify which IBC's have passed the pre-acceptance tests and which have failed.
15. The failed IBC's will remain on the HGV and will return to the waste provider. The waste provider will receive a report including the results as to why the IBCs in question have been rejected.

16. The IBC's that have passed the waste acceptance procedure can now be unloaded, by use of fork lift truck. These will be placed into the designated waste storage area, highlighted in the permit boundary extension.

Emergency procedure

If the driver encounters any difficulties or is unsure of contents, he should stop the delivery, make his vehicle safe and consult with the Miswa representative attending the delivery. If the driver is aware at any time that the Miswa representative is not in attendance then he should stop the delivery, ensure area is safe and report to Goods In. In the event of a serious emergency i.e., fire, leakage, spillage etc. the driver should stop the delivery and make his vehicle safe or remove the vehicle from the site, if possible, without endangering himself or other personnel. On all occasions, he must notify the Miswa representative who will sound the evacuation alarm. The driver should remove his vehicle to a safe distance from the premises and report back to the person in charge.

Brake Fluid Reclamation – Working Instruction: XYZ

Enva

- Laboratory

Pre – Waste Dispatch Quality Control ProcedureCONTEXT

Miswa Chemicals Ltd will enforce a waste acceptance procedure, rejecting any IBC's that fail the testing completed on-site. In order to ensure the number of rejected IBC's is at a minimum, "Enva" will conduct a number of basic tests before dispatching the waste to Miswa Chemicals.

The procedure will work in a 3 stage process where the technician will have to ask questions at each stage. If the answer to these questions at any point is "YES" they must notify their colleagues to refrain from sending the IBC to Miswa Chemicals. If the answer is "NO" then they can proceed to the next stage.

PROCEDURE

Primary

- Remove the cap off the top of the IBC. Is there an overwhelming petrol/diesel smell coming from the IBC?
- If so, is this smell still present when just stood near the IBC?

- o If the answer to these questions was YES – then refrain from sending the IBC to Miswa Chemicals.

Secondary

- o Visually observe the contents of the IBC. Is there a large amount of sediment? Are there any solids of size (~5 cm) with in the IBC?
- o Extract ~ 500 mL from the bottom of the IBC. Using the Miswa Chemicals visual colour specification, compare the sample to the specification.
- o If the sample is considerably darker and murky - then refrain from sending the IBC to Miswa Chemicals.

Tertiary

- o Using the *Karl Fischer* apparatus, retrieve a water content percentage from the sample collected in the *Secondary* stage.
- o If the Waste Brake Fluid has a water content less than 5% - dispatch IBC to Miswa Chemicals.

I have read and understood the above working instructions

.....

Miswa Chemicals Training Matrix associated with the B.E.R.P
Plant

<p>KEY</p> <p> – Training N/A</p> <p> – Requires Training</p> <p> – Training completed and signed off</p>	<p>WORKING INSTRUCTIONS</p>					
<p>ROLE</p>	<p>Reclaimed brake fluid Quality control</p>	<p>Inspection and maintenance of the B.E.R.P plant</p>	<p>Waste brake fluid IBC delivery and storage</p>	<p>Using the B.E.R.P plant to reclaim waste Brake fluid</p>	<p>Spill response procedure</p>	<p>Fire evacuation procedure</p>
<p>YARDSMEN</p>						

BATCH MIXER	Red	Green	Green	Green	Green	Green
SENIOR CHEMIST	Green	Green	Green	Green	Green	Green
QC TECHNICIAN	Green	Red	Red	Red	Green	Green

Appendix 9 P-HS002 Site Safety Gas monitoring (copy)

Process No.	OP-HS002
Controlled	Yes
Issue	5.0
Date	15/06/2017
Page No.	1 of 2

HEALTH & SAFETY

SITE SAFETY GAS MONITORING

When are these Site Safety checks to be carried out?

Twice per day, once in the morning and again in the afternoon.

The CROWCON Gas Monitor should be positioned low to the ground (held by the strap on the Monitor) as most flammable gases stay low to the ground.

Specific areas to be checked:

Particular attention should be paid to areas where Flammable / Highly Flammable materials are stored, manufactured and packaged.

Tank Farms 1,2 and 3 - 3 (three) x tests in each area (one at either end of each Tank Farm, and one in the middle). At each test the monitor should be held for 15 – 30 seconds inside each Tank Farm bunded wall.

Gas Farm – All 3 x Gas tanks to have the Gas Monitor positioned close to the drain valve at the base of the tank to check for leaks. All the Forklift (FLT) bottles held in storage should also be checked in case of faulty valves, or valves not closed properly.

Warehouse 10 (Flammable store) – test down each product alley if accessible and safe to do so. Upstairs in Warehouse 10 also to be tested.

The 'Air Quality Daily Check' should be filled in at completion of each Site Safety check.

Process No.	OP-HS002
Controlled	Yes
Issue	5.0
Date	15/06/2017
Page No.	2 of 2

HEALTH & SAFETY

I, the trainee, below sign to confirm my understanding of the document and its contents.

Trainee Sign:

Trainee Print:


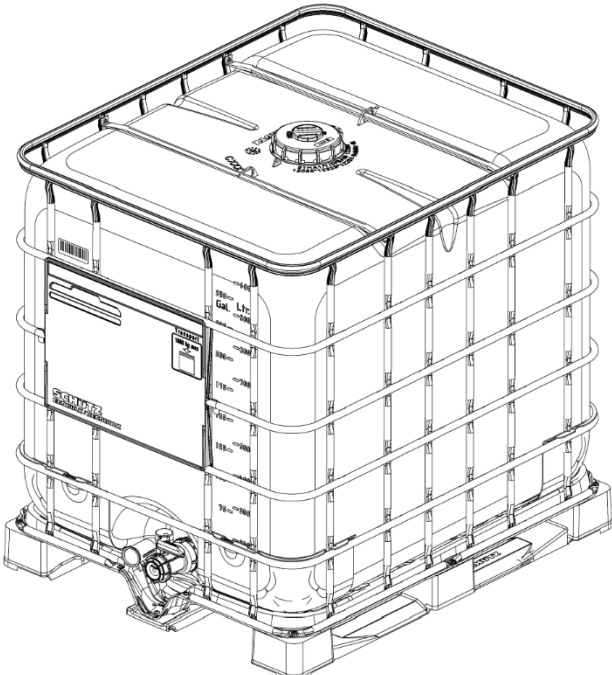
I, the trainer, confirm that any tasks included in the above have been adjudged to have perform as required by the trainee, demonstrating understanding.


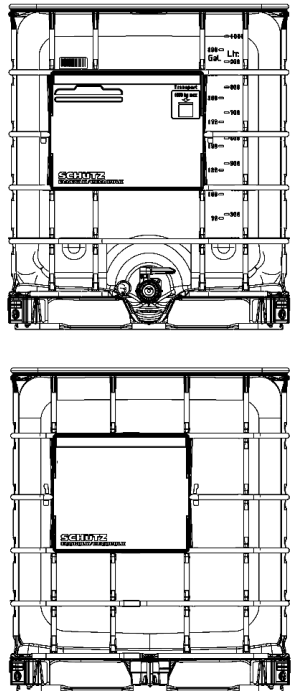

Trainer Sign:


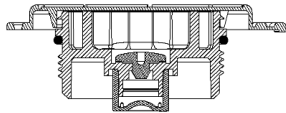
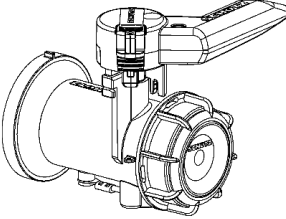
Trainer Print:


Date:

Appendix 10 IBCs Specification

Packaging - Specification ECOBULK			
Transportcontainer ECOBULK 1000 ltr. MX1000 UN 1,6 Nat/150R TP 2"Vent Bfly 50 00 Met 3PCA/Plast skid 2-Pit LG:LG/TI		Schütz GmbH & Co. KGaA Schützstrasse 12 D-56242 SELTERS / WESTERWALD	
Article-No.	4036260	Date	Aug 16, 2019
		Page 1 / 4	
			
This picture is for illustration purpose only and does not necessarily correspond to the specified product.			
Weights and measures			
Nominal Capacity	1.000 l	275 gal US	
Brimful Capacity	1.060 l	280 gal US	
Length	1.200 mm	47,24 in	
Width	1.000 mm	39,37 in	
Height with pallet	1.160 mm	45,67 in	
Total weight approx.	57,5 kg	126,8 lbs US	
Pallet			
Pallet type	Plastic-skidpallet		
Opening height	min. 90mm, 4-way entry		
Outer container			

Packaging - Specification ECOBULK			
Transportcontainer ECOBULK 1000 ltr. MX1000 UN 1,6 Nat/150R TP 2"Vent Bfly 50 00 Met 3PCA/Plast skid 2-Pit LG:LG/TI		Schütz GmbH & Co. KGaA Schützstrasse 12 D-56242 SELTERS / WESTERWALD	
Article-No.	4036260	Date	Aug 16, 2019
		Page 2 / 4	
Grid	Steel, galvanized		
Bottom plate	Steel, galvanized		
Label plate	large - 6 field, with Schütz-Ticket		
additional label plate	back side - standard		
			
Inner container			
Rectangular blow molded tank of high density polyethylene			
Container	PE-HD, natural		
Filling opening			
Screw cap	DN150 / 6", PE-HD, red		
O-ring gasket	TPE		
Sealing-cap	red		
			

Packaging - Specification ECOBULK																				
Transportcontainer ECOBULK 1000 ltr. MX1000 UN 1,6 Nat/150R TP 2"Vent Bfly 50 00 Met 3PCA/Plast skid 2-Pit LG:LG/TI		Schütz GmbH & Co. KGaA Schützstrasse 12 D-56242 SELTERS / WESTERWALD																		
Article-No.	4036260	Date Aug 16, 2019 Page 3 / 4																		
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Plug</p> </div> <div style="text-align: center;"> <p>G2"plug w/vent (Silicone)</p> </div> </div> <p>Discharge opening</p> <table border="0"> <tr> <td>Outlet valve</td> <td>integr.butterfly-valve DN50/2"</td> </tr> <tr> <td>Case</td> <td>PE-HD</td> </tr> <tr> <td>Connection thread</td> <td>metric</td> </tr> <tr> <td>Flap gasket / Ball gasket</td> <td>PP</td> </tr> <tr> <td>Handle color</td> <td>blue, Handle protection</td> </tr> <tr> <td>Screw cap</td> <td>PE-HD</td> </tr> <tr> <td>Screw cap gasket</td> <td>PE, foamed</td> </tr> <tr> <td>Screw cap color</td> <td>black</td> </tr> <tr> <td>Outlet nozzle</td> <td>PE-HD</td> </tr> </table> <div style="text-align: center; margin-top: 20px;">  </div> <p>Features</p> <p>UN-Marking UN_31HA1/Y/mm yy/D/BAM14976-Schütz#/4056/1722/1060I/57kg/100kPa</p> <p>Heavy metals Concentration level of heavy metals (Pb, Cd, Cr VI and Hg) in packaging does not exceed 100 ppm</p> <p>Delivery Ready for filling. The customer or filler is responsible for testing the material compability of the filling material with the packaging</p> <p><small>User information: By implementing and continually improving extensive preventive programmes, SCHÜTZ strives towards minimising the potential contamination risk for filling material in line with the current state of the art and in accordance with recognised und applicable quality and system standards. In industrial manufacturing, however, the possibility of particles arising cannot be fundamentally and entirely eliminated. Specifically for plastic and steel packaging, unavoidable friction during opening and closing as well as static charging of the packaging contribute to the development of particles and/or the possibility of particles being attracted. Such particles can then also invariably penetrate the packaging interior. With the goal of minimising the risk of particle formation and transmission into packaging, users are recommended – particularly during further processing – to keep packaging closed wherever possible and to keep the number of opening and closing procedures as low as possible. In the case of sensitive filling materials or filling material applications (e.g. for food/pharmaceutical products, paint or electro-chemicals), it is also recommended that the filling material is filtered on removal or prior to further processing.</small></p>			Outlet valve	integr.butterfly-valve DN50/2"	Case	PE-HD	Connection thread	metric	Flap gasket / Ball gasket	PP	Handle color	blue, Handle protection	Screw cap	PE-HD	Screw cap gasket	PE, foamed	Screw cap color	black	Outlet nozzle	PE-HD
Outlet valve	integr.butterfly-valve DN50/2"																			
Case	PE-HD																			
Connection thread	metric																			
Flap gasket / Ball gasket	PP																			
Handle color	blue, Handle protection																			
Screw cap	PE-HD																			
Screw cap gasket	PE, foamed																			
Screw cap color	black																			
Outlet nozzle	PE-HD																			

Packaging - Specification ECOBULK			
Transportcontainer ECOBULK 1000 ltr. MX1000 UN 1,6 Nat/150R TP 2"Vent Bfly 50 00 Met 3PCA/Plast skid 2-Pit LG:LG/TI		Schütz GmbH & Co. KGaA Schützstrasse 12 D-56242 SELTERS / WESTERWALD	
Article-No.	4036260	Date	Aug 16, 2019
		Page 4 / 4	
<p>SCHÜTZ reserves the right to change the construction, technology, design and material of the product or individual components without notice. The dimensions and weights given here are approximate and can vary according to the configuration of the individual components. For other product details and operating information concerning the correct handling of our packaging, please consult our Handling Guide.</p>			



UMBRELLA ENVIRONMENTAL

PROTECTING YOUR BUSINESS

9 Goldington Road Bedford MK40 3JY

www.umbrella-environmental.co.uk

andrew@umbrellaenvironmental.co.uk

Mob: 07498 671713