7268

RED INDUSTRIES LTD

WALLEYS QUARRY LANDFILL SITE

ENVIRONMENTAL PERMIT VARIATION APPLICATION 2018

SUPPORTING STATEMENT

DECEMBER 2018

Prepared for

Red Industries Limited

Prepared by

Egniol Environmental Ltd.
Llys Onnen
Ffordd y Llyn
Parc Menai
Bangor
GWYNEDD
LL57 4DF

Document Review

Version No.	Date of Review	Prepared By	Reviewed By	Approved By
1.0	30/11/2018	Anna Cole	David Wolstencroft	Jon Clewes (Red Industries)
1.1	12/12/2018	Anna Cole	David Wolstencroft	David Wolstencroft

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1. INTRODUCTION

1.1 Application Context

Red Industries Ltd (hereafter referred to as the 'Operator') own and operate Walleys Quarry non-hazardous landfill site. The company was issued an Environmental Permit (ref EPR/DP3734DC) to operate the landfill in November 2016.

Walleys Quarry Landfill Site (hereafter referred to as the 'Site') is located in Silverdale, Newcastle under Lyme, Staffordshire, at National Grid Reference SJ831460. The Site is permitted to accept a variety of non-hazardous wastes, such as MRF residual waste, commercial, industrial and inert waste materials. The Operator is also permitted to accept stable non-reactive hazardous waste in the form of asbestos containing material, however no such hazardous waste is currently accepted at the Site.

By making this permit variation application the Operator proposes to increase the annual waste inputs at this site from 250,000 tonnes to 300,000 tonnes.

The benefit of this proposal is that the Operator will able to accelerate the progressive capping of the Site thereby reducing future leachate generation and improving landfill gas management.

This proposal will not require an increase in the overall landfill void capacity or the site footprint. There will be no change in the waste types which are already permitted for disposal at the Site.

1.2 Document Structure

This document has been prepared to provide supporting information and references to other specific documents as required in Part C2 and Part C3 of the Application Form for varying a bespoke permit. Various issues in this document are presented in the same order as in the Permit Variation Application forms to aid cross-referencing between the two documents.

2. SUPPORTING INFORMATION

2.1 Type of variation (Part C2, 2a and 2b)

This permit variation proposes to increase the landfill waste input from 250,000 to 300,000 tonnes/annum, which equates to an average increase of 137 tonnes per day. This is in excess of the threshold of The Environmental Permitting (England and Wales) Regulations 2016, Scheduled Activity 5.2 A(1)(a)(i) The disposal of waste in a landfill — receiving more than 10 tonnes of waste in any day.

This proposal therefore constitutes a Scheduled Activity 5.2 A(1) requiring a substantial variation application. A pre-application consultation response from the Environment Agency dated 12th November 2018 (ref EA/EPR/DP3734DC/V002), confirmed this interpretation of the Regulations.

2.2 Technical Ability (Part C2, 3b)

The Operator provides technically competent managers with relevant qualifications under the CIWM/WAMITAB scheme for technical competence to manage the landfill operation of the Site.

The certificates of technical competence for the Operator's technically competent managers are presented in Appendix 1.

2.3 Financial Provision (Part C2, 3c)

The Operator agreed a Financial Provision (FP) for the Site with the Environment Agency (EA) in October 2016. In line with EA's guidance relating to FP, the current expenditure plan covers the costs relating to the following obligations under the Site Permit:

- Environmental monitoring and reporting
- Capping and Cap Maintenance
- Leachate Management
- Landfill Gas Management
- Surface Water Management
- Security
- Specified Events and Contingency
- Other Matters.

There will be no changes to the agreed Expenditure Plan (03.10.16) as a result of the proposed increased rate of waste inputs.

2.4 Management System (Part C2, 3d)

The Operator uses an Integrated Management System (IMS), which is externally certified to ISO 9001:14001 and OHSAS 18001. The IMS includes a set of procedures for pre-acceptance assessment, receipt and acceptance of waste materials. Waste acceptance protocols and management systems have remained and will remain unchanged throughout and it is therefore considered that there is no additional potential to cause pollution.

Environmental management procedures are listed in the specific environmental management plans for the Site while an accident response action plan is supplied with the Application.

A schedule of the relevant quality management procedures and management plans is listed in Section 4 (reference 1) of this report.

2.5 Site Plans (Part C2, 5a)

The Operator will not seek to increase the footprint of its landfilling waste activity at the Site, nor wishes to increase the total landfill void capacity. Therefore, there is no need to revise the Site Plan (drawing 6246.GA.D01) for this permit variation application. Other drawings which are relevant to this application, are enclosed with the risk management plans.

2.6 Non-technical Summary (Part C2, 5c)

This stand-alone document is enclosed with this Supporting Statement, as Appendix 2.

2.7 Environmental Risk Assessment (Part C2, 6)

The Landfill Site has been accepting waste since January 2007. The environmental risks of the regulated waste activities are well understood and have been progressively revised in line with the environmental permitting requirements.

The risks associated with the increase to the annual waste input to the Site, were reviewed as part of this application, as summarised below.

Table 2.1 Environmental Risk Assessment

Risk Assessment	Report reference
Hydrogeological Risk Assessment (HRA)	Review of latest HRA is enclosed
Stability Risk Assessment (SRA)	Review of current Slope Stability Assessment is enclosed.
Landfill Gas	Landfill Gas Generation Model and Risk Assessment (2010) was revised. Updated LFG RA report is enclosed.
Leachate	Updated Leachate Management Plan (October 2017) is enclosed.
Noise	Noise Impact Assessment and Management Plan for waste disposal operations at the Site was prepared in 2012. The revised Noise IA and MP (November 2018) is enclosed.
Dust	Updated Dust Management Plan (August 2018) is enclosed
Odour	Updated Odour Management Plan (August 2018) is enclosed.
Accident and Amenity RA	The Risk Assessment was prepared for varied waste activity A1, as part of this variation application. The RA report is enclosed.

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3. ACTIVITIES AND OPERATING TECHNIQUES

3.1 Activities to be varied (Part C3, 1)

Table 3.1 below replicates Table 1a from the application form Part C3 and details of the varied activity A1 listed in schedule 1 of the Site Permit and its Directly Associated Activities (DAAs).

The landfill has the total void capacity for waste disposal of 4,800,000 m^3 . The proposed annual throughput will be 300,000 tonnes of non-hazardous and inert waste.

Those DAAs, which serve the varied activity A1, are:

- extraction and utilisation of landfill gas and leachate;
- discharging of surface water run-off and pumped groundwater to Silverdale Brook.

Table 3.1 Types of Activities

Schedule 1 listed activities					
Installation name	**Schedule 1 references**	**Description of the Activity (Schedule 1 wording & site specific description)**	**Activity capacity**	**Annex IIA or IIB (disposal and recovery codes) and description**	**Non hazardous waste treatment capacity**
Walleys Landfill Site: Activity ref A1	Section 5.2 Part A(1)(a)	The disposal of waste in a landfill. Schedule 1: *"The disposal of waste in a landfill— (i) receiving more than 10 tonnes of waste in any day, or (ii) with a total capacity of more than 25,000 tonnes but excluding disposals in a landfill taking only inert waste."*	4,800,000 m^3	D5 (Engineered Landfill)	N/A

Directly associated activities (DAA)	
Name of DAA	Description of the DAA (including which Schedule 1 activity it serves)
A3	Treatment of leachate arising from the landfill
A4	Pre-treatment and utilisation of landfill gas arising from the landfill
A5	Flaring of landfill gas
A6	Discharges of site drainage from the landfill
For installations that take waste	
Total storage capacity (maximum amount of waste, in tonnes, you store on the site at any one time)	n/a to waste disposal operation
Annual throughput (tonnes each year)	300,000

3.2 Types of Waste Accepted (Part C3, 1)

There will be no change in types of waste received at the Site from those listed in Schedule 2 of the Site Permit (Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste).

3.3 Emissions (Part C3, 2)

There will be no change in emissions to air as a result of the proposed variation of activity A1. Landfill gas will continue to be extracted and utilised in the gas plant. Emissions limits for the point sources listed in Schedule 3 of the Site Permit (gas engines (A1, A2 and A4) and backup gas flare (A3)) will continue to be met.

The existing surface water emission point (SW1) will continue to be used for discharging surface water drainage from the Site. There will be no need to amend emission limits at this emission point as a result of the accelerated waste inputs. There is no discharge to groundwater at the Site and the local groundwater quality will continue to be monitored and reported to the EA, as per requirements of the Site Permit (Schedule 3).

Landfill leachate management system will continue to serve the varied activity A1. No changes to the Leachate Management Plan and leachate monitoring schedule and trigger levels, will be required.

The location of these emission points is shown on Drawing 5883.GA.D04, enclosed.

3.4 Technical Standards (Part C3, 3a)

There will be no changes to the existing Technical Standards for undertaking of waste disposal activity A1, with the proposed increased rate of waste inputs. The relevant Technical Standards are listed in the operational management procedures which are part of the Operator's IMS. The management system is externally certified to ISO9001:14001 and OHSAS 18001.

A high level of landfill operational control will continue to be achieved through implementation of risk based environmental management plans, staff training and adherence to the written procedures of the management system.

3.5 General Requirements (Part C3, 3b)

It is a general requirement for all applications to manage potentially significant risks as well as those emissions which are not controlled by emission limits.

Fugitive emissions in relation to public amenity and health such as odour, dust, noise and other amenity related environmental aspects, were reassessed and if necessary, management plans revised, as part of this variation application. An Amenity and Accident Risk Assessment is enclosed in Appendix 3. Also supplied with the application are:

- Odour Management Plan 2018,
- Dust Management Plan 2018;
- Revised Noise Risk Assessment & Management Plan.

3.6 Monitoring of Emissions to Water and Land (Part C3, 4a)

The regulated emissions are limited to surface water and sewer. The Site produces no emissions to land. The monitoring schedule complies with the Site Permit (Schedule 3). The schedule is enclosed. Monitoring locations are shown on the enclosed Drawing 6246.GA.01.

Monitoring works are carried out by the site operator and external environmental monitoring technicians. The works comply with monitoring methods for assessing

quality of leachate, groundwater and surface water as set out in the Site Permit (Schedule 3) and the associated Technical Guidance LFTGN02: Monitoring of landfill leachate, groundwater and surface water.

3.7 Monitoring of Point Source Emissions to Air (Part C3, 4b)

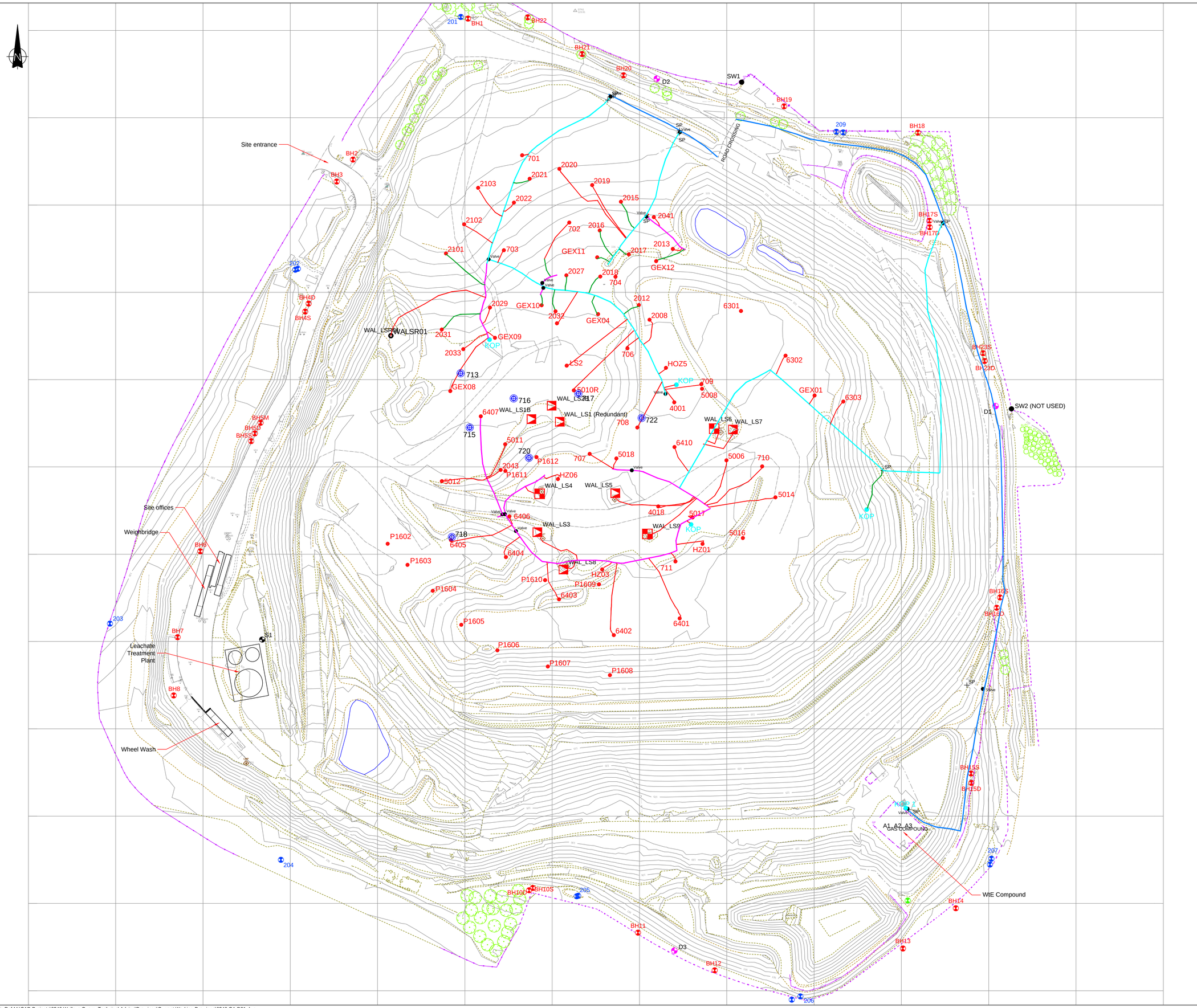
Monitoring of landfill gas at the Site is undertaken by the appointed contractor CLP Envirogas Ltd. The monitoring schedule adopted at the Site is as per the Site Permit (Schedule 3) and the monitoring locations are shown on the enclosed Drawing 6246.GA.01.

CLP has written procedures for monitoring of landfill gas; these accord with the site Landfill Gas Management Plan and the relevant Environment Agency's Technical Guidance Documents (M2, LFTGN03, LFTGN 05 and LFTGN 08).

The current monitoring requirements set out in the Site Permit will continue to apply.

4 REFERENCES

1. Quality Management Procedures, Red Industries. Walleys Quarry Landfill Site:
    - OPS/REDRM/001. Waste Tipping Procedure (01.08.18)
    - MC009 Pre-acceptance of waste (09.08.18)
    - MC010 Acceptance of waste (09.08.18)
    - FRM192 Level 1 Basic Characterisation Requirements for Walleys Landfill (26.09.17)
    - FRM193 Fines Declaration Form (02.05.18)
    - FRM194 Qualifying Fines - Sales check list prior to acceptance of qualifying fines (06.03.17)
    - FRM195 Landfill Checklist (14.04.17)
    - OPS006a Site Inspection (14.04.17)
    - SYS008 Non-conformances and Corrective Actions (31.05.17)
    - Emergency Procedures (EP1 – Adverse Weather conditions, EP2 – Subsurface landfill fire, EP3 – Fire in Operational area, EP4 – Major accident, EP5 – Emergency Personnel, EP6- Spillage, EP7- Fire in Weighbridge Office, EP8 – Drowning, EP9 – Breakdown).
2. Review of Hydrogeological Risk Assessment. December 2018 (Egniol Report 7268)
3. Review of Stability Risk Assessment. December 2018 (Egniol Report 7268)
4. Revised Landfill Gas Management Plan. December 2018 (Egniol Report 7268)
5. Odour Management Plan, Walleys Landfill Site. August 2018 (Egniol Report 7052)
6. Leachate Management Plan, Walleys Landfill Site. October 2017 (Egniol Report 5883)
7. Dust Management Plan, Walleys Landfill Site. August 2018 (Egniol Report 5569)
8. Amenity and Accident Risk Assessment. November 2018 (Egniol Report 7268)
9. Revised Noise Management Plan. December 2018 (Vibrock Reports: R12.7460-1-GS) Noise RA and R18.10249-1-A).



Notes

1. Survey information provided by Egniol Environmental Limited.
2. All levels in metres Above Ordnance Datum Newlyn.
3. Do not scale from this drawing.
4. Any anomalies on this drawing should be brought to the attention of Egniol Environmental Ltd.
5. Key

- Exisitng gas monitoring borehole.
- Existing groundwater monitoring borehole.
- SW — Surface water monitoring point.
- Dust monitoring point.
- Groundwater compliance point.
- Emission point to sewer.
- Existing gas well.
- Existing leachate well.
- Existing leachate monitoring point.
- Existing gas monitoring point.
- Existing knock-out pot.
- Existing 63mm pipework.
- Existing 90mm pipework.
- Existing 160mm pipework.
- Existing 250mm pipework.

Rev	Modification	By	Chk	App	Date

RED Industries

Walleys Quarry Landfill Site

Update Survey 2018

Drawn by	Checked by	Approved by
GOJR	PT	DW
Date	**Scale @ A1**	**Revision**
23.02.2018	1:1000	-

Status: Information

Drawing Number: 6246.GA.D01

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CAD File Ref:M:\CAD Projects\6246 Walleys Quarry Technical Advice\Drawings\Current Working Drawings\6246.GA.D01.dwg

Notes

1. OS data provided by Ordnance Survey.
2. Do not scale from this drawing.
3. Any anomalies on this drawing should be brought to the attention of Egniol Environmental Ltd.
4. Key.

Site Boundary.

Surface water monitoring point.

Rev	Modifications	By	Chk	App	Date

Red Industries Ltd.

Walleys Quarry Landfill Site

Monitoring & Extraction Point Plan Part 3: Surface Water Monitoring Points

Drawn by	Checked by	Approved by
GOJR	AC	AC
Date	**Scale @ A3**	**Revision**
27.01.2017	1:5000	-

Status: Final

Drawing Number: 5883.GA.D04

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APPENDICES

Appendix 1 COTC Certificates

Appendix 2 Non-Technical Summary

Appendix 3 Amenity and Accident Risk Assessment

Appendix 1 COTC Certificates

wamitab

Certificate No. CCC17302

Continuing Competence Certificate

This certificate confirms that

Dean Nicholas Broadhurst

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 21/03/2018

LH	Landfill - Hazardous Waste
TSH	Transfer - Hazardous Waste
TMH	Treatment - Hazardous Waste

Expiry Date: 21/03/2020

Awarded: 21/03/2018

Authorised

WAMITAB Chief Executive Officer

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

Appendix 2 Non-Technical Summary

7268

RED INDUSTRIES LTD

WALLEYS QUARRY LANDFILL SITE

ENVIRONMENTAL PERMIT VARIATION APPLICATION 2018

SUPPORTING STATEMENT

APPENDIX 2: NON-TECHNICAL SUMMARY

DECEMBER 2018

Prepared for

Red Industries Limited

Prepared by

Egniol Environmental Ltd.
Llys Onnen
Ffordd y Llyn
Parc Menai
Bangor
GWYNEDD
LL57 4DF

1. INTRODUCTION

This Environmental Permit Variation application seeks, in accordance with the Environmental Permitting Landfill Regulations 2016, a permission to increase the annual waste inputs at Walleys Quarry Landfill Site from 250,000 tonnes to 300,000 tonnes. The landfill site is situated near Newcastle-under-Lyme in Staffordshire, at National Grid Reference SJ831 460.

Red Industries RM Ltd own and operate the landfill site. The company provides non-hazardous and hazardous waste management services including collection, processing, recycling, recovery and disposal and operates across the Midlands Region.

The current Environmental Permit allows the company to accept at Walleys Quarry Landfill a variety of non-hazardous wastes, including the residual waste from processing in a Materials Recycling Facility, commercial, industrial and inert waste materials. The site is also permitted to accept stable non-reactive hazardous waste in the form of asbestos containing material. No such hazardous waste was accepted at the site since the take-over of the operational responsibilities by RED Industries, in November 2016.

The company is dealing with increasing demand from industrial and commercial waste producers to dispose of the waste materials which cannot be recycled or otherwise recovered, as required by the current Waste Regulations.

2. OPERATIONAL BENEFITS OF THE PROPOSED VARIATION

By increasing the annual waste inputs to the Site the company will be able to accelerate the progressive capping of the landfill thereby reducing leachate generation, improving landfill gas management and minimising potential effects of amenity related issues such as odour, noise and dust.

The proposed increase to the waste inputs will not require any additional landfill void capacity or increase the site footprint. The site will be completed and restored to the original restoration levels which were agreed with the Local Planning Authority. There will also be no changes in the waste types which are already permitted for disposal at the Site.

3. SITE OPERATION

The landfill site manager is responsible for all ongoing waste operations at Walleys landfill site. The manager has an appropriate level of technical competence (WAMITAB certificate of technical competence for management, transfer and treatment of hazardous wastes). Red Industries have an Integrated Management System which covers Technical Standards (by written procedures) for waste acceptance and inspection, utilisation of gas, treatment of leachate, control of emissions, environmental monitoring, staff training, non-compliance procedures, equipment management, health and safety etc. The Management System is externally certified to ISO9001, ISO14001 and OHSAS 18001.

4. ENVIRONMENTAL IMPACT ASSESSMENT

The company consulted the Environment Agency (EA) on this variation application and have produced a number of supporting documents. In particular, the environmental issues which are relevant to the proposed increase in waste input rate were reassessed and management plans revised if necessary.

In communications with the EA, when checking via e-mail that the EA had not misunderstood the basis of the application, the following clarification was received from Francis Nwafar at the EA;

"Although your proposal is to increase the annual throughput and not the volume, we need to be satisfied that the proposed increase in waste input will not compromise the design of the landfill and the 'assumptions' that underline the design."

It is on this basis that all documents have been reviewed, checking that the proposed increase in waste input rate does not impact on previous assumptions, and where it does updates to the documents have been made.

It should also be noted that the related vehicle movements for the year (2018) and for the proposed increase of permitted inputs to 300,000 tonnes/annum are in line with the planning conditions.

5. SUMMARY

It is Red Industries' considered opinion that the proposed increased in waste input rates at Walleys Landfill site pose no additional environmental risk and will be managed in line with the current approved operational procedures and environmental management plans.

Appendix 3 Amenity and Accident Risk Assessment

Amenity A

7268

RED INDUSTRIES LTD

WALLEYS LANDFILL SITE

AMENITY AND ACCIDENT RISK ASSESSMENT

NOVEMBER 2018

Prepared for

Red Industries Limited

Prepared by

Egniol Environmental Ltd.
Llys Onnen
Ffordd y Llyn
Parc Menai
Bangor
GWYNEDD
LL57 4DF

Document Review

Version No.	Date of Review	Prepared By	Reviewed By	Approved By
1.0	27/11/2018	Anna Cole	David Wolstencroft	
1.1				

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1. INTRODUCTION

1.1 By making this permit variation application Red Industries (The Site Operator) proposes to increase the annual waste inputs at their Walleys Quarry Landfill (the Site), from 250,000 tonnes per annum to 300,000 tonnes per annum. This proposal will not require a need to increase the overall landfill void capacity or the site footprint. There will be also no changes to the waste types which are already permitted for landfilling at Walleys landfill site. The Site Operator is dealing with increasingly industrial and commercial waste streams which cannot be recycled or otherwise recovered as required by the current Waste Regulations. As a result, the site receives non-hazardous wastes which have low biodegradable content and increasingly inert waste materials.

1.2 This report provides a revised Amenity Risk Assessment and Accident Management Plan for the permitted activity A1 (Landfill for non-hazardous waste and landfill restoration), while taking into account the proposed increase in waste tonnages. The report reviews the potential risks and describes the management procedures and measures required to minimise those risks. The report should be read in conjunction with the Working Plan and specific environmental management plans which are in place at this Site. A schedule of the current management plans is listed in Section 4. References.

1.3 The report was requested by the Environment Agency in support of this permit variation application; it has been prepared in line with the Environment Agency's H1 guidance, Annex A – Amenity and Accident Risk from Installations and Waste Activities (v2.1 December 2011).

2 RISK ASSESSMENT

2.1 Table 2.1 below presents the summary of the risk assessments, identifies the potential risks associated with the permitted activity and the potential receptors and possible pathways by which the receptor may be impacted. The risk assessment shows how the risks are minimised, either by preventing the risk at source or by providing measures to break the pathway and prevent pollution migrating towards sensitive receptors.

2.2 All identified hazards that could cause harm are subject to strict preventative or control measures at the site to ensure that all risks are minimised. These will continue to be implemented via the Site Operator's Environmental Management System that is adopted at this site.

Table 2.1 Environmental Risk Management

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
Dust from waste materials, waste haulage on site, haul roads, operational surfaces and stockpiles.	Workforce, Local Residents and Businesses	Airborne	Written procedures are in place for waste acceptance, tipping and compaction and for dealing with non-conformances. Waste is received in covered or enclosed vehicles. All waste deliveries are deposited directly into the landfill working area which is covered with soil and/or other suitable cover materials at the end of the day. Dusty loads are sprayed with water to minimise dust re-suspension. The vehicles unloading of inherently dusty wastes and ground materials are instructed to reduce drop heights as far as practicable. Site roads and working areas are swept clean when necessary to avoid a build-up of dust. The on-site water bowser is used to minimise dust generation from operational areas and haul roads, during dry weather. Ongoing monitoring programme for	Unlikely with the control measures in place.	Fugitive emissions of dust could migrate off site, causing annoyance when settling on surfaces. Fine particles can cause respiratory irritation and chronic health risks. Medium.	Minor-Moderate. Dust Management Plan is in place.

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
			deposited dust at the site boundary. Visual inspection of dust conditions throughout the working day by the site manager.			
Odour from waste materials, landfill gas and leachate	Workforce, Local Residents and Businesses	Airborne	The Site is operated in accordance with an agreed Odour Management Plan. The Plan covers waste acceptance procedures, landfill odour controls and monitoring, odour complaint procedure and dealing with non-conformances. Landfill gas generated at the Site is managed by extraction and utilisation in the gas plant. Weekly gas field balancing and regular service and maintenance of the system and the gas plant by CLP. Leachate is extracted and treated in the on-site treatment plant before being discharged to sewer. Odour suppression system is in place and used daily. Daily odour observations on site and Weekly Olfactory Test Surveys around the site boundary.	Limited to fugitive emissions of odour from uncapped landfill areas. Possible.	Nuisance, loss of amenity Medium.	Moderate. Odour Management Plan is in place.
Noise from reversing	Local Residents	Through air	Adherence to noise related planning conditions, operational hours, and	Frequent – noise is an inherent	Nuisance, loss of amenity.	Minor – Moderate.

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
vehicle alarms, machinery noise	and Businesses		waste acceptance procedures. Containerised engines and gas plant fitted with built-in noise attenuation measures. Planned preventative maintenance programme in place for all site machinery, plant and infrastructure, including procedures for engine and flare maintenance. Any complaints received are lodged and followed up to identify the cause and appropriate mitigation measure(s).	issue of this waste activity. Provided all recommendations highlighted in noise risk assessment are carried out, Unlikely to cause noise nuisance at receptors.	Medium.	
Vibration	Local Residents and Businesses	Through the ground	No sources of vibration identified.	N/A	N/A	N/A
Emissions to water	Surface water (Silverdale Brook), Groundwater	Surface water drainage system and infiltration through soil	The Site has a designed water management system comprising a 2-stage sedimentation and aeration lagoons for surface water drainage and pumped out groundwater from the beneath the site. After pre-treatment both the on-site collected surface water and the pumped-out groundwater are discharged to the Silverdale Brook. Discharge point to surface water is	Unlikely with the control measures in place.	Contamination of surface water or groundwater. Could affect fish and other freshwater fauna and quality of the abstracted/potable groundwater. Medium	Minor - Moderate.

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
			regulated by the Permit. The quality of discharge from SW1 is monitored weekly. Groundwater quality is monitored in the perimeter groundwater boreholes and at the abstraction point GW1, as part of the site permit compliance. Trigger levels for surface water quality are set in the Site Permit.			
Pests (Rats, flies and scavenging birds)	Workforce, Local Residents and Businesses	Airborne, surface.	Implementation of waste acceptance procedures to control pest infestation, incl. compaction of waste, application of daily cover, progressive capping of working areas. Low organic/food content of waste. Weekly Inspection of the landfill for signs of vermin and pest and use of pesticide as necessary. Control of scavenging birds by bird distress calls and birds of prey.	Unlikely with the control measures in place.	Nuisance and potential health effects. Medium	Minor-Moderate
Litter	Local residents and businesses	Airborne, surface	Waste is received in covered or enclosed vehicles. All waste deliveries are deposited directly into the landfill working area where waste is compacted and daily cover is applied at	Unlikely with the control measures in place.	Complaints may occur if waste is blown away from the site towards receptors. Litter can attract pests	Minor

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
			the end of the day. Any windblown litter will be identified and removed as part of the weekly site inspections. The site is fenced off and has a vegetation screen along the site boundary.		such as rats and flies. Low	
Mud and Debris from delivery vehicles and the landfill	Local residents and businesses	Surface. Mud/debris being dragged onto public highway	The principal access road at the site is tarmacked. Internal haul roads are constructed using hardcore. All roads are inspected daily and maintained to prevent a built up of mud and debris. All roads and tracks are swept as necessary. A vehicle wash facility operates for waste vehicles leaving the site.	Very unlikely	Nuisance Low-Medium	Minor
Leak or spillage from vessels containing liquid material	Surface water, groundwater	Fugitive emissions to surface water, infiltration though soil	Not directly associated with the Activity. The site operates Emergency Procedure – Spillage (EP6) which covers fuel or chemical spills. Provisions for Minor Spill (around dispensing point) is by using oil absorbent granular materials to soak up spillage; dispose of contaminated material to a licensed facility and ensuring waste transfer note or	N/A	N/A	N/A

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
			hazardous waste note is completed and retained. Medium Spill (containment of pollution on site): by blocking off drains with mats and following the procedures for Minor spill. The EA is informed. Major Spill (pollution escaping the site): by informing emergency services; and the EA; blocking off drains with mats to stop continued off-site pollution and where possible blocking final discharge to any water course with absorbent material (mats and booms); digging catchment pit if spillage volume is large; ensuring contaminated material is disposed of at licensed facility; ensuring waste transfer note or hazardous waste note is completed and retained. A response to any major spill will be coordinated with clean-up specialists if pollution progresses to watercourses. On site all fluids and chemicals are stored within appropriate containers and bunded as necessary. They are regularly inspected in order to check for weaknesses or leaks. If a spillage occurs, site staff will clean it up as quickly as possible and identify/fix the			

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
			source of a leak. Landfill leachate is managed by extraction and treatment before discharging to sewer. A Leachate Management Plan is in place. Planned Preventative Maintenance programme to be put in place for all critical equipment and infrastructure. Any lubricant storage within tanks or vessels takes place within double skinned containers or be bunded. The bunds are sufficient to contain the quantity of any potential spillage from the particular operation. Spillage pads and/booms will be provided. The site manager is responsible for implementation of the Spillage Procedure and ensuring all relevant staff are trained on implementing the procedure.			
Fire on surface or below surface of the landfill. **Risk of fire**	Workforce, local residents	Airborne	The site operates in accordance with Procedure for Sub-Surface Landfill Fire (EP2), Procedure for Fire in Operational Area (EP3) and Hot Spot Containment Plan. Fires of the surface of the landfill will be doused using surface water, mains	Very unlikely - Fire Action Plan provides guidance on procedure during a fire. Proper use of	Respiratory irritation, nuisance to local population. Medium	Minor

What do you do that can harm and what could be harmed			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Risk management measures**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
caused by mobile plant operating on landfill working area.			water of leachate and if necessary, smothered using inert waste materials. Fires beneath the surface of the landfill are made unlikely by operation of the gas management system and monitoring of CO levels in landfill gas (75ppm limit). If 100ppm is recorded an isolation zone of 30m radius around the gas well must be completed to allow the area to go positive. Once the CO reduces to below 75ppm the isolation zone can be reduced. If suspected, the area will be investigated and if a source of fire detected the area excavated /isolated and backfilled with clay rich material. The local gas extraction system will be shut down. Planned Preventative Maintenance programme in place for all critical equipment and infrastructure to minimise the risk of fire caused by equipment failure.	machinery should reduce the risk of fires occurring.		

3. CONCLUSION

3.1 From the amenity and accident risk assessment it appears that, provided the identified risk mitigation measures are retained, the risk of nuisance or pollution being caused by fugitive emissions or accidents at Walleys Landfill Site will remain Minor.

3.2 A high level of landfill operational control will continue to be achieved through implementation of risk based environmental management plans, staff training and adherence to the written management system. Operational management procedures are part of the Site Operator's Integrated Management System (IMS). The IMS is externally certified to ISO9001, ISO4001 and OHSAS 18001.

3.4 In the event of an accident, strict procedures will be followed in order to prevent excessive damage to the site, minimise potential effects upon to human health and protect the local environment.

4 REFERENCES

1. Environment Agency (2010): How to comply with your environmental permit. Additional guidance for: Horizontal Guidance Note H1 - Annex (a).

2. Working Plan, Walleys Quarry Landfill Site. (Lafarge Aggregates 2002)

3. Odour Management Plan, Walleys Landfill Site. August 2018 (Egniol Report 7052)

4. Dust Management Plan, Walleys Landfill Site. August 2018 (Egniol Report 5569)