CHRISTCHURCH TREATMENT CENTRE

Wessex Water Enterprises Limited

JER9235
Ver3 Rev0
09 April 2024

rpsgroup.com

Document status

Version	Revision	Authored by	Reviewed by	Approved by	Review date
1	0	Joanna Bruce	n/a	n/a	
1	1	Joanna Bruce	Tim Colebrook	n/a	11 January 2022
1	2	Joanna Bruce	Wayne Davies	Wayne Davies	25 February 2022
2	0	Joanna Bruce	Helen Smith		
2	1	Joanna Bruce	Wayne Davies	Wayne Davies	26 April 2022
3	0	Joanna Bruce	Jennifer Stringer	Jennifer Stringer	09 April 2024

Approval for issue

Jennifer Stringer	Technical Director		9 April 2024

Prepared by:

RPS

Joanna Bruce
Graduate Environmental Consultant

6-7 Lovers Walk
Brighton, East Sussex BN1 6AH

T +44 1273 546 800
E joanna.bruce@rpsgroup.com

Prepared for:

Wessex Water Enterprises Limited

NON-TECHNICAL SUMMARY

Introduction

This document forms the application for the environmental permit to operate a waste intake facility at Christchurch water recycling centre (WRC). The facility is located off Stony Lane in Christchurch, Dorset. The applicant and operator of the Treatment Centre installation will be Wessex Water Enterprises Limited.

The proposed activities fall under the Environmental Permitting (England and Wales) Regulations 2016 (EPR) as a waste operation for the following activity:

- D13: Blending or mixing prior to submission to any of the operations numbered D1 to D12

Activity Description

Permitted Activity

This permit is to accept additional specified liquid wastes brought in by tanker and discharged via inlet at the head of the sewage treatment works. The Treatment Centre accepts imports of liquid waste from landfill sites within the local area. The main activity at the Treatment Centre is the acceptance of liquid waste prior to discharge into Christchurch WRC. The WRC is a separately regulated facility and is regulated through the requirements of the discharge consent.

The main waste the site is proposing to receive is leachate which will be delivered to the site via road tanker and these loads will be directly discharged into the inlet. The site is currently only proposing to accept leachate initially, however other EWC codes are provided in this application for future use. The additional waste codes in Table 2.1 will go through the same process as the leachate.

Two tanker loads will be accepted per day; one in the morning and one in the afternoon and each tank will contain approximately 27 m^3 of waste which will equate to approximately 54 Te per day accepted on site.

Further Treatment within WRC (Outside of Permit)

Upon discharge into the works inlet, the waste will be mechanically screened and then treated through the WRC treatment processes. All treatment is to be undertaken at the existing WRC through tertiary aeration. Treated final effluent is discharged to the local water course in accordance with an Environment Agency (EA) discharge consent.

There will be no storage or treatment of waste on site. All treatment and storage will take place within the WRC.

No hazardous materials will be accepted at the facility.

Odour, noise and dust problems are not expected from the Christchurch Treatment Centre. The site was operated for a trial period and did not received any complaints relating to odour, noise or dust within this time.

Permit Application

This permit application is structured as follows. A full description of the operations, management and monitoring measures is provided within this supporting information document. An environmental management system (EMS) is in the process of being developed on site, which will cover the elements required by the Environmental Permit; this includes details of the site operations, maintenance procedures, accident and incident management, non-conformances, and complaints procedures; staff training and records management.

Application forms can be found in Appendix A. Site plans and layouts can be found in Appendix B.

An Environmental Risk Assessment can be found in Appendix C. This has been carried out to assess the potential impacts of odour, noise and vibration, fugitive emissions, visible plumes, and accidents. These impacts have been assessed and range from very low to low.

A description of the condition of the site at the time of this application is provided in the Site Condition Report (SCR) included in Appendix D. This provides a coherent record of the site and its baseline conditions at the time of permitting.

In summary, the proposed facility has been designed and is operated to ensure that any potential significant impacts to the environment and human health do not arise as a result of its operation.

Contents

Figures

Tables

1 INTRODUCTION

1.1.1 This document forms the application to permit operation of the Christchurch Treatment Centre under the Environmental Permitting Regulations 2016. The applicant will be Wessex Water Enterprises Limited which is the legal entity that will be responsible for operating the installation.

1.2 Background

1.2.1 The facility is currently operated as an exempt facility (T21: waste exemption: recover waste at a waste treatment works).

1.2.2 The main activity at the Treatment Centre is the pre-treatment of liquid waste prior to discharge into Christchurch WRC. As such all liquid waste requires treatment before disposal.

1.2.3 The main waste the site is proposing to receive is leachate which will be brought into the facility by Tanker and will then enter the works via the inlet. It will then be subject to the usual treatment that is carried out at the WRC.

1.2.4 Other waste types as well as the leachate will be included in this application future use on site and will go through the same process.

1.2.5 Based on the above requirements, the proposed activities are captured as a waste operation for the following activities:

- D13: Blending or mixing prior to submission to any of the operations numbered D1 to D12).

1.2.6 A trial was set up in February 2021 under the Environment Agency's permission as an exemption to accept 19 07 03 Leachate on site. The leachate analysis from this trial is included for information in Appendix J. No other wastes have been accepted on site since.

1.2.7 The waste codes proposed in Table 2-1 to be accepted are identical to those accepted at WWEL's other permitted facilities at Poole and Avonmouth.

1.3 The Site

1.3.1 The Christchurch Treatment Centre is located in Christchurch, Dorset.

1.3.2 The site address is:

Christchurch Water Recycling Centre

Stony Lane

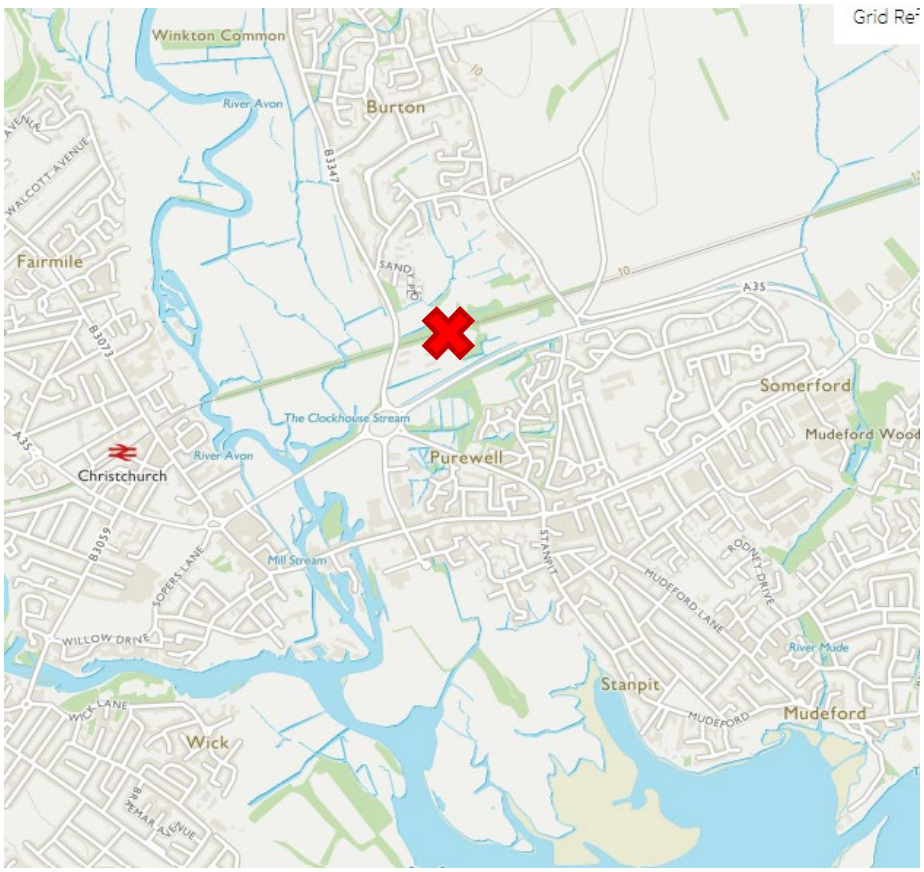
Christchurch

Dorset

BH23 7LQ

1.3.3 The approximate location is highlighted by the red X in the Figure 1.1 below:

Figure 1-1: General geographical location and surrounding area



1.3.4 The centre of the site is National Grid Reference (NGR) SZ 16584 93656.

1.3.5 The site layout and permit boundary plan can be found in Appendix B.

1.3.6 The main land use surrounding the area in which the facility is sited is identified as rural. The current surrounding land uses are:

North – Agricultural Land and Burton approximately 0.5 km away;

East – Agricultural Land and Residential Land use;

South – Agricultural Land and Residential Land use with Purewell approximately 0.5 km away;

West – Agricultural Land and Christchurch town approximately 1 km away.

1.3.7 A Habitats Screening Assessment from the EA has identified the following relevant statutory local ecological sites in Table 1.1 below:

Table 1-1: Statutory Designated Sites

Site Name	Screening Distance (km)	Distance/Direction from the Proposed Site
Special Areas of Conservation		
Dorset Heaths	10	8 km / North West
River Avon		0.8 km / West
The New Forest		10 km / North East
Special Protection Areas		
Solent and Dorset Coast	10	2.6 km / South, South East
Dorset Heathlands		8 km / North West
Avon Valley		12 km / North
New Forest		10 km / North East
Ramsar		
Avon Valley	10	12 km / North
New Forest		10 km / North East
Dorset Heathlands		8 km / North West
Sites of Special Scientific Interest (SSSI)		
Christchurch Harbour	2	1.5 km / South
River Avon System		0.8 km / West
Avon Valley (Bickton to Christchurch)		12 km / North
Town Common		1.2 km / South West
Purewell Meadows		0.3 km / South West
Local Nature Reserve (LNR)		
Iford Meadows	2	2.3 km / West
Hengistbury Head		3.5 km/ South
Purewell Meadows		0.3 km / South West
Stanpit Marsh, Christchurch		1.5 km / South
Local Wildlife Sites (LWS)		
Iford Meadows	2	2.5 km / West
Stanpit		1.3 km / South
Stony Lane Drain		0.2 km / West
Mude Valley Nature Reserve		2 km / North East
Tuckton Bridge		2 km / South West
Jumpers Cemetery		2 km / West

1.3.8 The nearest residential receptor is a residential housing estate housing estate approximately 0.3 km north and southeast.

1.3.9 The nearest surface water features to the site are River Avon (~760 m west) and River Stout (~1.3 km South) and Dorset Coast (~2.6 km south/southeast).

1.3.10 Site layout plans can be found in Appendix B.

1.4 Operator Details

1.4.1 The applicant is Wessex Water Enterprises Limited. Company number 02279151 as listed on Companies House.

1.4.2 The Company Directors as listed on Companies House and their dates of birth are provided in Application form part A in Appendix A.

1.5 Structure of the Application Document

1.5.1 Supporting information in this document is set out as follows:

- Section 2 identifies the environmental management systems in place at the site as well as the expected raw material, waste and energy consumptions.
- Section 3 provides an overview of the operations the detailed operating techniques and the proposed activities that necessitate this permit application.
- Section 4 details the potential point source and fugitive emissions from the operations.
- Section 5 identifies the environmental risks and summarises the environmental impacts associated with the activities.

1.5.2 Other supporting information is provided in Appendices including the completed Environment Agency (EA) Application forms (Part A, B2, B4 and F1 forms).

1.6 Pre-application discussions

1.6.1 A basic pre-application has been undertaken and a conservation screening report received, reference EPR/GP3304MZ/A001.

2 MANAGEMENT OF ACTIVITIES

2.1 Environmental Management System

2.1.1 A site-specific EMS is in place to include aspects associated with the operation of the Treatment Centre. This is available for inspection if required.

2.1.2 The EMS ensures that:

- The risks that the activities pose to the environment are identified;
- The measures that are required to minimise the risks are identified;
- The activities are managed in accordance with the management system;
- Performance against the management system is audited at regular intervals; and
- The environmental permit is complied with.

2.1.3 Procedures are in place for the regular inspection and maintenance of plant, equipment,storage areas and associated infrastructure including site surfacing, drainage systems and containment systems.

2.1.4 Before commencing operations under the permit, the site operators will be trained in safe operation of plant and emergency procedures.

2.1.5 The management system will be reviewed at least once every four years or in response to significant changes to the activities, or in the event of accidents or other non-compliances.

2.1.6 The EMS will ensure the site is suitably designed to consider the potential impacts of climate change.

2.2 Operation and Maintenance

2.2.1 Procedures will be put in place to ensure that those operations which have the potential to give rise to significant environmental effects are controlled. Procedures will not only cover normal operation but will also address abnormal operation.

2.2.2 In particular procedures will be developed in relation to the following:

- Waste reception and handling, including waste pre-acceptance and acceptance procedures;
- Good housekeeping measures;
- Maintenance of key plant and equipment; and
- Storage, handling and removal of wastes (materials) from the site, including non-permitted wastes.

2.2.3 Planned maintenance routines will be established to ensure all key plant components which have the potential to affect the environmental performance of the facility remain in good working order. Maintenance routines will draw on manufacturers' recommendations, unless operational experience during the lifetime of the facility would indicate the need for variance.

2.2.4 Inspections will include but not be limited to site infrastructure, impermeable surfaces and site drainage systems.

2.3 Staff Competence Training

2.3.1 The Operator will ensure that all personnel employed at the facility have the appropriate skills and technical capabilities to understand the operation of the process, and their obligations under the terms and conditions of the Permit.

2.3.2 The operator will provide operator training to ensure the facility is managed and operated by a fully trained workforce. Training will not only address normal operations but will also include those actions required in the event of abnormal operations and emergencies.

2.3.3 A training policy and training plans will be in place for all staff roles at the facility, these include specific training relevant to the environmental permit and operation of the facility to minimise risk to the environment. Training records for all staff are kept demonstrating competency.

2.3.4 Training records will be prepared for all operational staff and training needs will be reviewed on a regular basis as part of the Operator's EMS procedures. Copies of all training records will be available for inspection upon request.

2.4 Technical Ability

2.4.1 Peter Hatcher has obtained his WAMITAB qualification for the treatment of non-hazardous (TMNH) waste and is therefore technically competent for this site. Qualifications and detailed certificates are supplied in Appendix E.

2.5 Accident and Incident Management

2.5.1 As part of the EMS, an accident management plan will be produced to include the following:

- Identification of potential accidents;
- How accidents or breaches of the permit will be recorded, investigated and responded to;
- The date it was reviewed;
- When it will next be reviewed;
- A list of emergency contacts and how to reach them;
- A list of substances stored at the site, and the storage facilities; and
- Forms to record accidents on.

2.5.2 The Operator will undertake frequent inspections of the installation to identify potential risks with the operations that may result in accidents or incidents at the site. A programme of preventative maintenance of relevant plants and infrastructure will be in place to minimise risk of impacts from downtime or faulty equipment.

2.5.3 An assessment of the risks from accidents at the facility has been undertaken and can be found in the environmental risk assessment in Appendix B.

2.6 Site Security

2.6.1 Several security measures are in place at the site in order to prevent unauthorised access(trespass and vandalism), these are as follows:

- Main site gates are closed and locked between the hours of 4pm – 7:30am.
- During 7:30am – 4pm the main gates are closed but not locked.

2.7 Site Records

2.7.1 The following records will be maintained and kept at the site for inspection as required:

- Waste input and output, including any rejected loads or quarantined materials;
- Servicing and maintenance records;
- Management procedures;
- Inspection records;
- Results of site audits and reviews;
- Complaints and incident records; and
- Training records.

2.7.2 All records will be also stored off-site electronically on an iCloud for a minimum period of 6 years.

2.8 Non-compliance Reporting

2.8.1 EMS procedures will include details of reporting non-compliances to the regulator for the following events:

- Breaches of permit conditions;
- Incidents, accidents, and emergencies;
- Malfunction, breakdown or failure of plant;
- Other operational system failure; and
- Complaints.

2.8.2 The procedure will ensure that non-compliances are investigated and rectified with lessons learnt fed into the review process so that improvements to site systems and procedures are made following a non-compliance.

2.8.3 Schedule 5 non compliances will be reported as required by the permit.

2.9 Energy Consumption and Efficiency

2.9.1 No energy usage is required for this operation. The Treatment Centre activity itself consists of one discharge point that discharges directly into the inlet (the head) of the works. The discharges are pumped off via the tanker. The energy used in this operation comes from the tanker.

2.9.2 The WRC process is sourced from the national grid.

2.10 Climate Change

2.10.1 The site is suitably designed to consider the potential impacts of climate change. This is outlined in Section 5.3 of this document.

2.11 Efficient Use of Raw Materials and Water

2.11.1 No raw materials will be used at the facility as there is no treatment carried out prior to discharge into the works inlet.

2.11.2 The waste types to be accepted will fall under the EWC codes detailed below:

Table 2-1: Permitted Waste Types

EWC Code	Description
02 01 01	Blood washings
02 03 01	Food waste washings
02 05 01	Animal wash water
02 05 02	Dairy Waste
19 09 02	Neutralised Chemical Washings
19 09 02	Storm Water
16 10 02	Cesspit/Chemical toilet/dirty water
19 07 03	Leachate
20 03 04	Septic tank
02 07 04	Brewery Waste
20 03 06	Cesspit
19 09 06	Brine
20 01 08	Grease trap
20 01 25	Grease Trap

2.11.3 Note that 19 07 03 Leachate is the EWC code that will initially be accepted at site. Other EWC codes have been included in this permit application as it is possible that they will be accepted at a future time. Note that these additional wastes are currently accepted at other WWEL sites that operate similar intake facilities followed by similar treatment within water treatment facility.

2.11.4 No waste will be stored at the facility.

2.11.5 The site is currently only proposing to accept leachate initially, however other EWC codes are provided in this application for future use. The additional waste codes in Table 2.1 will go through the same process as the leachate.

2.12 Waste Pre-Acceptance and Waste Acceptance Procedures

2.12.1 A waste pre-acceptance and waste acceptance procedure will be put in place. Waste pre-acceptance checks will be in place at the contract stage to ensure that only liquid waste that is categorised under the permitted waste codes is to be delivered to the site.

2.12.2 A summary of waste acceptance procedures are as follows:

- Upon arrival to the Treatment Centre reception, the customer is to supply a Waste Transfer Note. To carry waste the customer must have a carrier's registration certificate, they are required to provide their unique registration number on the waste transfer note.
- Supervised by the Treatment Centre Technician the customer is to obtain a sample from the back valve of their vehicle or site glass and transfer a portion of this waste to a metals pot. The Treatment Centre Technician is to test the sample for pH, and asses the wastes odour, colour and appearance. This sample is to be kept for 4 weeks.
- Once the Treatment Centre is satisfied that the sample is representative and the waste is compatible with the WRC process, the waste can be accepted for treatment. Refer to Treatment Centre Permitted Boundary and Drainage Plan – Appendix B for location of permitted discharge area.
- The Treatment Centre technician will supervise the discharge of the load.
- If the load does not meet the acceptance criteria the load will be rejected. The customer will have to provide details of an alternative disposal route. A rejection note will be completed detailing the alternative disposal route, a copy of this note is to be sent to the main office in Avonmouth.

2.12.3 The Operator will undertake frequent inspections of the installation to identify potential problems with the process equipment that may adversely affect performance.

2.13 Avoidance, Recovery and Disposal of Wastes

2.13.1 There are no specific wastes produced from the process, but the operator will manage waste where possible.

3 SITE OPERATIONS

3.1 Site Activities

3.1.1 The main activity to be undertaken at the site will be the acceptance of liquid waste. Whilst the intention is to initially accept leachate other liquid waste types will be included in this application and will go through the same process. A site layout plan can be found in Appendix B.

3.1.2 The leachate will be sourced from local landfill sites. Waste coming into the site will be inspected and any non-conforming or unsuitable waste it will be rejected.

3.1.3 The total quantity of liquid waste to be accepted will be approximately 54 tonnes a day. The liquid waste permitted to be accepted are detailed in Section 2.10.

3.1.4 All incoming and outgoing waste will be measured by volume based on tank load.

3.1.5 The incoming material will be delivered in tankers. On arrival at the site, deliveries will be checked to ensure they conform to the permitted waste codes and the deliveries are as expected from the supplier. No waste will be accepted without being sampled on site and analysed by a Treatment Centre personnel. Sampling of the tanker will take place on the discharge bay, as these areas have suitable drainage should spillage occur. Further details on the road tanker sampling technique can be found in Appendix F.

3.1.6 Paperwork records of all deliveries will be checked to ensure that the correct details of the supplier, waste description, volume/tonnage and EWC code are included. Any non-conforming loads will be rejected and returned to the customer if possible. Waste may also be rejected if it doesn't match the description of the waste included on the paperwork.

3.1.7 Following acceptance, waste will be directly discharged via the inlet. Waste is discharged via a 4 inch flexi hose into the inlet of Christchurch WRC. The discharges are pumped off via tanker.

3.1.8 Further Treatment within WRC (Outside of Permit): The waste is then incorporated with incoming sewage which undergoes screening and grit settlement followed by tertiary aeration. From the inlet the effluent passes down two channels through the inlet screens. This is treated through the WRC treatment process which is a separately regulated activity.

3.1.9 Any incidents of non-conforming will be reported immediately to the waste producer and Environment Agency.

3.1.10 No waste will be stored on site.

3.2 Process Controls

3.2.1 All staff will be appropriately trained in the operations of the works.

3.2.2 A procedure is in place for all staff detailing the safe operations of the site and actions to take should alerts of any issues arise.

4 EMISSIONS TO AIR AND MONITORING

4.1 Point Source Emissions to Air

4.1.1 There will be no point source emissions to air from the activities at the facility.

4.2 Point Source Emissions to Water (Other than Sewers)

4.2.1 There will be no point source emissions to water from the activities.

4.3 Point Source Emissions to Sewers, Effluent Treatment Plants or Other Transfers Off Site

4.3.1 The only emission to sewer will be the emission at the inlet to the works located at grid reference SZ 16679 93698. The area the tankers park to couple up to discharge to the Head of Works is located at grid reference SZ 16563 93648.

4.4 Point Source Emissions to Land

4.4.1 There will be no point source emissions to land.

4.5 Fugitive Emissions

4.5.1 Potential fugitive emissions from the facility include:

- Leaks or spills as a result of accidents or incidents; and
- Run-off from diesel tanks.

4.5.2 Fugitive emissions are assessed in the Environmental Risk Assessment in Appendix C. This details the potential emissions and management controls in place. The risk from fugitive emissions is considered to be very low.

4.6 Odour

4.6.1 The site has been operational as an exempt facility for several years and during this time has not received any complaints relating to odour or encountered any odour related issues.

4.6.2 The liquid waste that is accepted is not odorous and as such, there is limited risk of odour as a result of the proposed activities. Waste acceptance procedures include checks for any odorous waste prior to discharge and should any odorous waste be found, it will be rejected and returned to the supplier.

4.6.3 Please refer to the Odour Management Plan in Appendix I.

4.7 Noise and Vibration

4.7.1 The site has been operating as an exempt treatment centre for a number of years and during this time has not received any complaints relating to noise or encountered any noise related issues from the site.

4.7.2 The only noise will be from the tanker pumping off. No noise assessment has been completed.

4.8 Monitoring and Reporting of Emissions

4.8.1 Monitoring where required will be carried out in accordance with the environmental permit.

4.8.2 All sampling and analysis will be undertaken in line with Environment Agencies guidance for monitoring the wastewaters discharged to WRC.

5 ENVIRONMENTAL IMPACTS

5.1 Environmental Risk Assessment

5.1.1 An ERA has been carried out in support of this application. It includes an assessment of the risk to the environment and human health from the proposed activities on the site.

5.1.2 The ERA has been produced in accordance with the Environment Agency's (EA's) Risk Assessments for your environmental permit guidance[1] which covers a range of environmental risks. The ERA can be found in Appendix C.

5.1.3 The ERA has concluded that the risks of impacts to the environment from fugitive emissions, odour, noise, dust and accidents range from Very Low to Medium.

5.2 Climate Change Risk Assessment

5.2.1 A climate change risk screening has been completed in Application Form B2, Section 6b. The score is 10.

5.2.2 As the total screening score is above 5, a Climate Change Risk Assessment has been completed and is included in Appendix H.

5.3 Climate Change Risk

5.3.1 The facility is compliant with non-hazardous and inert waste: appropriate measures[2] and is suitably designed to consider the potential impacts of climate change as follows:

- Flooding: the facility is designed with assets above ground. The discharge intake pipework connection is approximately 2 ft from ground level. The intake pipework is capped off when deliveries are not taking place. In the event that the site is on flood alert the flex hose will be removed and a blank end put on metal pipework. These measures minimise the impact should a flood occur. If flooding occurs, the waste deliveries to this site would be diverted to an alternative facility.
- Temperature rise: A temperature rise of up to 5°C is not expected to have any significant impact on site. The construction materials for the offloading activity and delivery vehicle hard standing are expected to withstand and remain functional in the event of increasing temerpatures of this order of magnitude.
- Drought: The offloading activity is unlikely to be impacted by drought. In the event that a drought affected the downstream treatment then deliveries would be diverted to an alternative facility until normal operation can resume.
- Extreme weather: the intake piping is secured down and capped off which will provide resistance to extreme weather. . Weather trends will be monitored on a regular basis and site infrastructure reviewed accordingly. In the event that it is deemed unsafe or environmentally too high risk to continue to accept waste deliveries via the permitted intake point, then arrangements to temporarily divert deliveries of waste to another facility would be put in place.

[1] Risk assessments for your environmental permit - GOV.UK (www.gov.uk)

[2] Non-hazardous and inert waste: appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

References

1 - Risk assessments for your environmental permit - GOV.UK (www.gov.uk)

APPENDICES

Appendix A

Application Forms

Appendix B

Site Plans

Appendix C

Environmental Risk Assessment

Appendix D

Site Condition Report

Appendix E

WAMITAB Qualifications

Appendix F

Road Tanker Sampling Techniques

Appendix G

Additional Information

Appendix H

Climate Change Risk Assessment

Appendix I

Odour Management Plan

Appendix J

Trial Waste Analysis