APPLICATION FOR AN ENVIRONMENTAL PERMIT - CHRISTCHURCH TREATMENT CENTRE

Wessex Water Enterprises Limited

Site Condition Report & Baseline Assessment – Environmental Permit Application Reference EPR/GP3304MZ

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Contents

Tables

Appendices

Appendix A Envirocheck Report

1 INTRODUCTION

1.1 Background

1.1.1 Wessex Water Enterprises Limited intends to submit an application to the Environment Agency (EA) for an environmental permit to operate a Treatment Centre.

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

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

1.1.3 To support the application for the permit, there is a requirement to provide a Site Condition Report.

1.1.4 RPS has been commissioned by Wessex Water Enterprises Limited to prepare the Site Condition Report to support the proposed application to vary the current environmental permit. As such, this report has been prepared in accordance with the Environment Agency's H5 Horizontal Guidance.

1.1.5 RPS has prepared this report based on information and data available at the time of preparation of the report.

1.2 Key Objectives

1.2.1 The key objectives of this report are to:

- To identify the Site Conditions at the site at the point of varying the permit for the facility (baseline condition) such that they may be used as a point of reference to determine whether the site has been contaminated during the site's permitted operation in line with Environmental Permitting Regulations requirements; and
- To provide conclusions on whether land quality has been impacted from historical activities.

1.3 Description of Permitted Activities

1.3.1 The Treatment Centre accepts imports of liquid waste from landfill sites within the local area. The main activity at the Treatment Centre is the pre-treatment of liquid waste prior to discharge into Christchurch WRC (Water Recycling Centre). The WRC is a separately regulated facility and is regulated through the requirements of the discharge consent.

1.3.2 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 3-1 will go through the same process as the leachate.

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

1.3.4 Upon discharge into the works inlet, the waste will be 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.

1.3.5 There will be no storage of waste on site.

1.3.6 No hazardous materials will be accepted at the Treatment Centre.

1.3.7 Odour, noise and dust problems are not expected from the Christchurch Treatment Centre. The site has been operating as an exempt facility for several years and has not received any complaints relating to odour, noise or dust within this time.

2 APPLICATION SITE CONDITION REPORT

2.1 Application Phase

2.1.1 This SCR, is prepared in accordance with the Environment Agency Horizontal Guidance Note H5, provides references to the various chapters of this report, where available information on the known current condition of the operational area is provided.

2.2 Site Condition Report Summary

1.0 Site Details	
Name of the applicant	Wessex Water
Activity address	Christchurch TC Stony Lane Christchurch Dorset BH23 7LQ
National grid reference	SZ 16584 93656
Site area (ha)	0.1
Document reference and dates for Site Condition Report at permit application and surrender	Christchurch Treatment Centre Application Site Condition Report_April 2022
Document references for site plans (including location and boundaries):	O:\JER9235 - Christchurch WWTW\4. Documents\1. Reports\Appendix B - Site Plans

2.0 Condition of the land at permit issue	
Environmental setting including: • Topography • Geology • Hydrogeology • Hydrology • Environmental Consents, Licences, Authorisations, Permits and Designations	Details of the environmental setting are provided in *Section 4* of this SCR and Baseline Report.
Pollution history including: • Location, nature of incidents or direct discharges that may have affected soil or groundwater • Historical land uses and associated contaminants	Pollution history details are provided in *Section 4 of* this SCR and Baseline Report.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	Any details regarding historical contamination at the site are provided in *Section 4* of this SCR and Baseline Report.
Baseline soil and groundwater reference data	Details regarding baseline soil and groundwater reference data at the site are provided in *Section 4* of this SCR and Baseline Report
Supporting information	Permit Application Supporting Information

3.0 Permitted activities	
Permitted activities	Details regarding permitted activities on the proposed site are provided in *Section 1* of this SCR.
Non-permitted activities undertaken	N/A
Document references for: • plan showing activity layout; and • environmental risk assessment.	O:\JER9235 - Christchurch WWTW\4. Documents\1. Reports\Appendix B - Site Plans O:\JER9235 - Christchurch WWTW\4. Documents\1. Reports\Appendix C - Environmental Risk Assessment\220126_R_JER9235_JB_Christchurch Permit Application ERA_V2R1.docx

3 SUBSTANCES AND RAW MATERIALS

3.1.1 Table 3-1 below summarises the waste codes that are to be accepted at the site.

Table 3-1 Waste Codes Accepted

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

3.1.2 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 3.1 will go through the same process as the leachate.

3.1.3 The above materials have all been assessed and based on the assessment it has been confirmed that they are non-hazardous. There are no other materials stored on site. Therefore, no hazardous substances are used or stored at the facility.

4 CONDITION OF THE LAND AT PERMIT ISSUE

4.1 Environmental Setting

4.1.1 The following sections detail the environmental setting of the proposed Treatment Centre. The sources of desk study information utilised in order to describe the condition of the Treatment Centre are listed below:

- Publicly available datasets from the EA[1],
- Information held by the British Geological Survey relating to geology and hydrogeology[2].

Geology and Hydrogeology

4.1.2 A review of the British Geological Survey Geology of Britain viewer details the geology of the site as follows:

- **Bedrock geology description**: Branksome Sand Formation - Sand. Sedimentary Bedrock formed approximately 41 to 48 million years ago in the Palaeogene Period. Local environment previously dominated by swamps, estuaries and deltas
  - **Setting**: Swamps, estuaries and deltas. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).
- **Superficial deposits description:** River Terrace Deposits - Sand And Gravel. Superficial Deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by rivers (U).
  - **Setting**: rivers (U). These sedimentary deposits are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).

4.1.3 A review of DEFRA's Groundwater Vulnerability Map identifies the groundwater vulnerability classification as Medium.

Surface waters

4.1.4 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).

4.1.5 The EA's Flood Map for Planning[3] indicates that the site is located within flood Zone 3, whereby the annual probability of flooding from fluvial sources is classified as 1 in 100 and from tidal sources 1 in 200.

[1] https://environment.data.gov.uk/public-register/view/index

[2] //mapapps.bgs.ac.uk/geologyofbritain/home.html

[3] https://flood-map-for-planning.service.gov.uk/

4.2 Pollution History

Pollution Incidents

4.2.1 There are no previous pollution incidents identified at the site or within 500 m.

Water Discharges and Abstraction Licences

4.2.2 Information from the EA indicates that there are no permitted discharge consents within 500 m of the site.

4.2.3 Information from the EA indicates that there are no abstraction licences within 500 m of the site.

4.2.4 The nearest permitted discharge consent is approximately 500 m from the site from the WRC to the River Avon.

Landfill Sites

4.2.5 Information from the EA indicates that there are no active or recent landfill sites within 500 m of the site.

Historical Land uses and Potential Contamination

4.2.6 The site has been used as an exempt facility for a number of years. Prior to this, historic maps indicate that the site was located on open fields and undeveloped agricultural land. There is evidence that the site began development into a water treatment works in c.1950. It has remained its present-day layout since 1994.

4.2.7 Sewage works comprise a complex system of pipework, tanks and open channels which do not conform to a standard pattern. Contamination may arise through leakages from pipework and tanks, and from the use of land from temporary storage of screenings, grits and used filter media and for improving effluent quality by filtration or irrigation.

4.2.8 Where sludges were treated on site, the chemicals used may have caused contamination through leaking tanks, drums or the pipework used to transport them.

4.2.9 Given the age of the sewage works, the building may have contained asbestos and polychlorinated biphenyls (PCBs).

4.2.10 Therefore, potential historic contaminants may include asbestos, PCBs, fuel oils.

4.2.11 The potential source-pathway-receptor linkages and associated risks upon operation of the proposed facility, are summarised in the Conceptual Site Model (CSM) in Table 4-1 below

Table 4-1: Conceptual Site Model

Source	Pathways	Receptors	Risk
On site (current) Exempt waste treatment operation – made ground	Leaching into made ground	Human health (site users) Groundwater (principal aquifer)	Very Low
On site (historical) Abestos PCBs Fuel oil	Vapour inhalation Soil leaching / aqueous migration	Human health (site users) Groundwater (principal aquifer)	Very Low
Off site (current) Sewage works	Leakages from pipework Soil leaching / aqueous migration	Human health (site users) Groundwater (principal aquifer)	Very Low
Off site (historical) Railway: Polycyclic aromatic hydrocarbons (PAHs) PCBs Fuel oils	Vapour inhalation Soil leaching / aqueous migration	Human health (site users) Groundwater (principal aquifer)	Very Low

4.3 Evidence of Historic Contamination

4.3.1 There are no previous site investigation reports for this site.

5 OPERATION SITE CONDITION REPORT

5.1 Operational Phase

5.1.1 This SCR, prepared in accordance with the EA "H5 Site Condition Report" guidance (Ref. 3), contains information on the condition of the site during the operational phase of the facility.

5.1.2 This will be updated at the time of site operation.

5.2 Site Condition Report Summary

4.0 Changes to the activity	
Have there been any changes to the activity boundary? If yes, provide a plan showing the changes to the activity boundary.	If yes, provide a plan showing the changes to the activity boundary.
Have there been any changes to the permitted activities? If yes, provide a description of the changes to the permitted activities	If yes, provide a description of the changes to the permitted activities
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities? If yes, list them	If yes, list them
Checklist of supporting information	1. Plan showing any changes to the boundary (where relevant) 2. Description of the changes to the permitted activities (where relevant) 3. List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	4. Inspection records and summary of findings of inspections for all pollution prevention measures 5. Records of maintenance, repair and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	6. Records of pollution incidents that may have impacted on land 7. Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	8. Description of soil gas and/or water monitoring undertaken 9. Monitoring results (including graphs)

6 SURRENDER SITE CONDITION REPORT

6.1.1 At permit surrender, the following sections of the SCR template (EPR H5) will be completed and submitted to the EA as part of the permit surrender application. Information that has been gathered over the lifetime of the Permit will be used to identify whether the land is in a satisfactory condition. If necessary, surrender reference data will be collected and remediation will be undertaken if required.

6.1.2 This will be updated at the time of permit surrender.

8.0 Decommissioning and removal of pollution risk	
Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.	
Checklist of supporting information	10. Site closure plan 11. List of potential sources of pollution risk 12. Investigation and remediation reports (where relevant)

9.0 Reference data and remediation (where relevant)	
Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated. If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.	
Checklist of supporting information	13. Land and/or groundwater data collected at application (if collected) 14. Land and/or groundwater data collected at surrender (where needed) 15. Assessment of satisfactory state 16. Remediation and verification reports (where undertaken)

10.0 Statement of site condition
Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that: 17. the permitted activities have stopped 18. decommissioning is complete, and the pollution risk has been removed 19. the land is in a satisfactory condition

7 CONCLUSIONS

7.1.1 RPS has undertaken an assessment of the site condition at the proposed site for Treatment Centre in Christchurch, Dorset in support of an application for an environmental permit. The primary purpose of this report is to provide information to the Environment Agency in relation to the operations and to provide them with a framework against which potential future contamination issues will be assessed.

7.1.2 The published geology of the site indicates the bedrock geology under the site to be Branksome Sand Formation. The superficial deposits comprise the River Terrace Deposits.

7.1.3 There are no hazardous materials on site.

7.1.4 There have been no ground investigations undertaken to inform the site condition report.

REFERENCES

1 - https://environment.data.gov.uk/public-register/view/index

2 - //mapapps.bgs.ac.uk/geologyofbritain/home.html

3 - https://flood-map-for-planning.service.gov.uk/

Appendices

Appendix A

Envirocheck Report