

## Compliance Assessment Report: CAR\_NRWBP3795FD260321

**Permit being assessed:** BP3795FD

**Deployment reference:**

**For:** Ferry Road Landfill **held by:** Cardiff Council

**At:** Ferry Road, Grangetown, Cardiff CF11 0JL.

**Type of assessment:** Inspection

**Reason:** Incident **Incident number** 2101889

**On:** 18/02/2021 and 24/02/2021

**Parts of permit assessed:** Landscaping and aftercare

**NRW Lead Officer:** Yeliz Marshall, Senior Regulation Officer accompanied by Ewan Thomas and Ben Rees from Geotechnology Ltd.

**Report sent to:** Matthew Wakelam, Assistant Director Street Scene, on 26/03/2021.

### 1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (use action criteria below)	Assessment result	Permit condition
B2 Infrastructure – Closure and decommissioning	C2 Significant	38
C2 General management – Management system and operating procedures	C2 Significant	36-37-38-39
Choose an item.	Choose an item.	
Choose an item.	Choose an item.	
Choose an item.	Choose an item.	

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
2	62

### 2. What action is required?

Criteria	Action needed	Complete by
B2 Infrastructure – Closure and decommissioning	1) Please operate the leachate collection system to its purpose to stop, completely, leachate entering into the surrounding environment, as a matter of urgency, and update NRW when actioned;	1) As a matter of urgency

Criteria	Action needed	Complete by
	2) Submit monthly groundwater, surface water (where pollution is occurring) and leachate level monitoring test results to NRW in order to assess the impact of the urgent mitigation measures, until the leachate levels meet the design principle of the leachate management system; leachate to be maintained at a level of around 4.0m, just below the level of the surrounding groundwater.	2) End of each month
C2 General management – Management system and operating procedures	<p>1) The operator to provide the provision of information is currently not available in the form of reports. The information provided to us to demonstrate definite closure must be in a report ('closure report' or a 'working plan' to its effect) and must be sufficient to confirm to us:</p> <ul style="list-style-type: none"> <li>a) the area of the site to which closure application relates,</li> <li>b) that the waste mass is stable,</li> <li>c) that the infrastructure and procedures are in place for management and monitoring (for example, landfill gas, leachate, groundwater and stability/ settlement) during the aftercare phase,</li> <li>d) that procedures are in place for reporting any significant environmental effects during the aftercare phase.</li> </ul> <p>2) Submit a plan of the site of a suitable scale that identify the location of any monitoring infrastructure (boreholes, wells, survey locations, etc.)</p> <p>3) The operator will need to demonstrate that the waste mass is stable, that there will be no slippage and that any movement due to settlement will not have an impact on the site's infrastructure (for example, monitoring boreholes, leachate and / or landfill gas abstraction wells). The operator will need to provide a level survey as a baseline and a stability risk assessment. Further surveys during the aftercare period will need to be undertaken to confirm settlement rates.</p> <p>4) Information must be provided to satisfy us that the landfill physically stable to protect the environment and human health. And, this must include information on how the landfill was engineered to ensure long-term stability and profiled and capped to control water ingress and uncontrolled landfill gas egress.</p>	<p>Actions 1-8 01/07/2021</p> <p>Aciton 9 21/07/2021</p>

Criteria	Action needed	Complete by
	<p>5) The operator will need to confirm that any post-closure management and monitoring accords with best practice. In the closure report the operator should detail the monitoring protocol for the site in accordance with Annex III of the Directive. The amount and design of monitoring required at sites must be based on an assessment of the risk the site poses to the local environment. One of the objectives of monitoring is to collect the information likely to be required to support an application to surrender the permit.</p> <p>6) The closure report must include a procedure for inspection and maintenance and the operator's method for recording and reporting such inspections and maintenance during the aftercare period. The operator will need to maintain the infrastructure and inspect and report on the site to ensure that monitoring and abstraction points are not damaged or falling into disrepair. The efficiency of the landfill gas abstraction systems will need to be regularly checked. Suggested rates of checking during the aftercare period may need to be increased for sites which continue to produce significant quantities of gas. Inspections should include the effectiveness of the cap where present. Our guidance on the management and monitoring of landfill gas must be followed.</p> <p>7) Provide procedures for reporting significant environmental effects significant environmental effects for groundwater, leachate and landfill gas in accordance with the directive and best practice. For groundwater quality the compliance limits (trigger levels) should be reported in accordance with Annex III of the Directive will be used as the basis for reporting significant environmental effects. It is suggested that best practice for identifying landfill gas migration (The Management of Landfill Gas) and leachate management be used to trigger action.</p> <p>8) The information which the Operator must submit in support of their proposal to progress to definite closure</p> <p>a) Site Plan: Area of site for which closure is proposed to identify capped areas and monitoring infrastructure.</p> <p>b) Level Survey: Plan of site to identify final landform Identify areas of the site where slopes</p>	

Criteria	Action needed	Complete by
	<p>are excessive and areas of uneven settlement (dips and hollows).</p> <p>c) Monitoring: Current locations identified on site plan, including monitoring infrastructure and survey points.</p> <p>d) Reporting: Inspection, environmental and stability data.</p> <p>9) The operator must apply for a permit variation to allow us to:</p> <p>a) review the closure report,</p> <p>b) vary the permit to remove unnecessary conditions (for example, those relating to waste acceptance),</p> <p>c) incorporate the aftercare plan,</p> <p>d) assign appropriate emission limit values,</p> <p>e) assign appropriate monitoring requirements,</p> <p>f) and undertake the final site inspection,</p> <p>g) confirm that the site can enter the aftercare phase.</p>	

Action criteria codes are listed in the 'Important information' section below.

### 3. What will happen next?

**Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecutions and/or suspension or revocation of your permit.**

**You are non-compliant with your permit. We are currently considering taking enforcement action against you for the non-compliance recorded above. We will contact you in due course.**

### 4. Details of our assessment

Ferry Road Closed Landfill site visit undertaken on 18/02/2021 & 24/02/2021 by Yeliz Marshall Senior Regulation Officer accompanied by Ewan Thomas and Ben Rees from Geotechnology Ltd as NRW's Landfill engineering experts. Initial visit was a walkover survey scheduled following reports of leachate entering into Cardiff Bay at a surface water discharge point and the second visit was a data gathering visit. Geotechnology Ltd was appointed by NRW to support their investigation work into the extent and the root cause of the pollution. Matthew Wakelam, Assistant Director Street Scene, from the Cardiff Council, accompanied us on both visits. Matthew Wakelam was co-operative, open and transparent in our site inspections and in his communications with us before and after our visits.

Our response to this incident will be delivered in two steps and as part of that, in the first urgent CAR report issued on 05/03/2021 with the reference number CAR\_NRWBP3795FD050321, we summarised our response for the immediate issue of pollution entering in to the surrounding environment that is heavily protected and used by

many stakeholders (Cardiff Bay, Ely SSSI), in order to avoid delays in undertaking appropriate actions to stop leachate escaping into environment. Subsequently, we are providing this second report, following completion of our root cause analysis to this incident and identified a further breach in addition to the permit breach communicated in the first CAR. We have provided a number of actions to support the operator to bring the site back in to compliance in accordance with their permit, the relevant directive and guidances. We have also moved the content of the initial CAR that was submitted on 05/03/2021 in to this CAR to ensure there is a single document with a single set of actions to make easier for the operator to complete them and avoid potential confusion in the future. This CAR report replaces the CAR issued on 05/03/2021 (CAR\_NRWBP3795FD050321) as a single CAR for our response to this incident.

### **Initial breach identified:**

#### **B2 Infrastructure – Closure and decommissioning:**

It was identified on the first visit that the leachate pumping system was not functional, which caused landfill leachate to accumulate in the landfill over a period of time that resulted in leachate escaping into the surface water system via a pipeline that should have been decommissioned. In addition, during the walkover survey it was observed that the leachate was also escaping via a new pipeline into the River Ely and there was a risk that the leachate could also be escaping into the groundwater system due to the same issue.

Our findings were immediately verbally communicated to Matthew Wakelam and he has agreed verbally and subsequently, via email, to implement actions to stop pollution entering into the surrounding environment by operating the pumping station to its purpose. Cardiff Council informed us, at the inspection, that they were not aware of the purpose of this pumping station before our visit.

In our second visit, we observed that Cardiff Council was able to operate the pumping station manually until the system could be operated automatically.

#### **B2 Infrastructure – Closure and decommissioning Cat 2 Breach scored against Condition 38**

Cat 2 breach was scored due to the following reasons:

- i. The pollution entered into the surrounding environment that is heavily protected and used by many stakeholders (Cardiff Bay, Ely SSSI).
- ii. The potential impact could have been much worse.

#### **Actions:**

1. Please operate the leachate collection system to its purpose to stop, completely, leachate entering into the surrounding environment, as a matter of urgency, and update NRW when actioned;

2. Submit monthly groundwater, surface water (where pollution is occurring) and leachate level monitoring test results to NRW in order to assess the impact of the urgent mitigation measures, until the leachate levels meet the design principle of the leachate management system; leachate to be maintained at a level of around 4.0m, just below the level of the surrounding groundwater.

**Second breach identified:**

**C2 Management System and operating procedures** – Poor knowledge and understanding of the operational management and procedures of the site.

It was identified that the instructions of the following missing documents referenced in the section 7 and 8 of the working plan that relating to operational and monitoring phase of the site has not been kept or used by the operator over the years.

*Reference 1 “Ove Arup & Partners (1995) ‘Ferry Road – Hydrology and groundwater impact’. 95/2964, 1995”. This one includes changes to the proposed testing for the monitoring programme.*

*Reference 2 “Ove Arup & Partners (1995) ‘Ferry Road – Recommendations for capping over landfill, and the control of leachate and gas’. 95/2964, 1995”. Which is the only document that contains details of the gas control measures to be installed at the time, the capping and the control measures after capping.*

*Reference 3 “Ove Arup & Partners (1995) ‘Ferry Road – General scope of works for monitoring of groundwater, leachate and gas’. 95/2908, 1996”.*

It was further identified that the site ceased accepting waste for disposal in 2003 but the operator appears not to have submitted a conditioning plan following the said cessation. Under the landfill directive, the operator is required to provide a Closure Report to the NRW which is overdue from the operator. The appropriate aftercare management standards need to be included in the site's Working Plan for the Closure Report which is currently not the case. Therefore, the actions below with regard closure of the landfill site identify what is expected from the operator to ensure that the site is managed effectively to protect its surrounding environment from pollution.

**Cat 2 against Conditions 36-37-38-39 of the Permit for C2 Management System and operating procedures.**

Cat 2 breach was scored due to the following reasons:

The operator:

- i) does not have the necessary knowledge and information to operate and monitor the site in accordance with the permit; and
- ii) has not been operating and monitoring the site in accordance with the permit.

**ACTIONS:**

- 1) The operator to provide the provision of information is currently not available in the form of reports. The information provided to us to demonstrate definite closure must be in a report ('closure report' or a 'working plan' to its effect) and must be sufficient to confirm to us:
  - a) the area of the site to which closure application relates,
  - b) that the waste mass is stable,
  - c) that the infrastructure and procedures are in place for management and monitoring (for example, landfill gas, leachate, groundwater and stability/ settlement) during the aftercare phase,
  - d) that procedures are in place for reporting any significant environmental effects during the aftercare phase.
- 2) Submit a plan of the site of a suitable scale that identify the location of any monitoring infrastructure (boreholes, wells, survey locations, etc.)
- 3) The operator will need to demonstrate that the waste mass is stable, that there will be no slippage and that any movement due to settlement will not have an impact on the site's infrastructure (for example, monitoring boreholes, leachate and / or landfill gas abstraction wells). The operator will need to provide a level survey as a baseline and a stability risk assessment. Further surveys during the aftercare period will need to be undertaken to confirm settlement rates.
- 4) Information must be provided to satisfy us that the landfill is physically stable to protect the environment and human health. And, this must include information on how the landfill was engineered to ensure long-term stability and profiled and capped to control water ingress and uncontrolled landfill gas egress.
- 5) The operator will need to confirm that any post-closure management and monitoring accords with best practice. In the closure report the operator should detail the monitoring protocol for the site in accordance with Annex III of the Directive. The amount and design of monitoring required at sites must be based on an assessment of the risk the site poses to the local environment. One of the objectives of monitoring is to collect the information likely to be required to support an application to surrender the permit.
- 6) The closure report must include a procedure for inspection and maintenance and the operator's method for recording and reporting such inspections and maintenance during the aftercare period. The operator will need to maintain the infrastructure and inspect and report on the site to ensure that monitoring and abstraction points are not damaged or falling into disrepair. The efficiency of the landfill gas abstraction systems will need to be regularly checked. Suggested rates of checking during the aftercare period may need to be increased for sites which continue to produce significant quantities of gas. Inspections should include the effectiveness of the cap where present. Our guidance on the management and monitoring of landfill gas must be followed.
- 7) Provide procedures for reporting significant environmental effects significant environmental effects for groundwater, leachate and landfill gas in accordance with the directive and best practice. For groundwater quality the compliance limits (trigger levels) should be reported in accordance with Annex III of the Directive will be used as the basis for reporting significant environmental effects. It is suggested that best practice for



identifying landfill gas migration (The Management of Landfill Gas) and leachate management be used to trigger action.

- 8) The information which the Operator must submit in support of their proposal to progress to definite closure
  - a) Site Plan: Area of site for which closure is proposed to identify capped areas and monitoring infrastructure.
  - b) Level Survey: Plan of site to identify final landform Identify areas of the site where slopes are excessive and areas of uneven settlement (dips and hollows).
  - c) Monitoring: Current locations identified on site plan, including monitoring infrastructure and survey points.
  - d) Reporting: Inspection, environmental and stability data.
- 9) The operator must apply for a permit variation to allow us to:
  - a) review the closure report,
  - b) vary the permit to remove unnecessary conditions (for example, those relating to waste acceptance),
  - c) incorporate the aftercare plan,
  - d) assign appropriate emission limit values,
  - e) assign appropriate monitoring requirements,
  - f) and undertake the final site inspection,
  - g) confirm that the site can enter the aftercare phase.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.



## Important information

### Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

### Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

### How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

**If your assessment result in Section 1 is suspended, what does this mean?**

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

**Full list of Industry and Waste action criteria (used in section 1 and 2):**

**A: Permitted activities**

- A1 Specified by permit

**B: Infrastructure**

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

**C: General management**

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

**D: Incident management**

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

**E: Emissions**

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

**F: Amenity**

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

**G: Monitoring and records, maintenance and reporting**

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

**H: Resources efficiency**

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

**Enforcement response**

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

**Data protection notice**

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

**Disclosure of information – this report will be available to view on-line**

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

**What do I do if I disagree with the report or have a complaint?**

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk) for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at [ask@ombudsman.wales](mailto:ask@ombudsman.wales)

**Welsh Language Standards**

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.