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## **Castle Environmental 2020 Site Report – Cardiff – PC 4.2.2a**

This report is produced to provide an overview of the sites performance over the previous 12 months. The statutory reporting forms detailing annual performance are appended to this document for ease of reference. Performance is compared against previous years within this report.

The waste side of the business continues to serve a number of local and national customers. The construction side of the site, which utilises washed fines aggregate has continued to supply local customers.

At the end of 2020 the total number of staff employed across both businesses was 24, (10 staff working on the waste facility).

COVID-19 has had an impact on the site, particularly over the April to June period. Identified as a critical sector, waste management companies have been able to continue to operate over the period. Working practices have been revised in order to provide a COVID safe working environment. These have been effective and there have been no transmission events within the workplace. Control measures are expected to remain in place until at least Autumn of 2020.

In Quarter 2 of 2020 the closure of non-essential businesses and the reduced production at other sites resulted in annual waste inputs being approximately 15% less than in 2019 with a total input approximately 20600 Tonnes. Further to that, the construction products business was also impacted by the downturn, with the business being effectively closed for the whole of April. These two factors lead to the company using the government job retention site over the period. The use of this scheme was equivalent to 519 working days. All but one members of staff have now returned to normal employment.

## **Performance**

Reported electricity consumption has decreased slightly (2%) when compared to 2019. This reduction in consumption is less than what would have been expected when considering the reduced operation of the construction business and the reduction in waste inputs throughout the year. However, it should be noted that the construction business is heavily weighted towards mobile plant rather than fixed electrical equipment. In addition, much of the storage areas are co-occupied by the waste business.



Consumption of gas oil is approximately 70% the quantity of the previous year. Gas Oil reporting for the waste business takes the total consumption for the two businesses and applies a factor to estimate the consumption of the waste business. Hence it is considered that the reduction in consumption is

mainly due to the slow down in the construction business, however, reduced waste inputs will also see a reduction in the use of mobile plant.

The total quantity of waste removed from the site in 2020 was 5259 Tonnes which is 63% of the 2019 quantity. This is due to the reduction in waste inputs to the site, in particular some wastes that were managed by the site transfer station.

Water consumption for 2020 is estimated to be around 5646m<sup>3</sup>. This value has been attained using the same assumptions as previous years. It represents a decrease from the previous year (7854m<sup>3</sup>). The decrease is effectively due to the reduced operation of the construction business.

With regard to health and safety performance, there have been no lost time injuries (LTI) throughout the year.

### **Improvements**

The site management systems have been subject to annual internal and external audits with no issues identified. Further to that the group management system has been accredited to ISO45001.

We have seen good availability in the analytical equipment purchased in 2019.

The desludging operations of the various tanks within the treatment process have continued to be effective in maintaining the effectiveness of the process.

Raw material consumption has remained low, utilising wastes in place of raw materials such as hydrated lime. In addition, liquid effluents continue to be used as a replacement for water when making up alkaline slurries.



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## **Continuous Improvements**

COVID-19 caused a pause in the investment scheme proposed to take place in 2020. However, these projects have now been authorised and will commence in 2021. Improvements include the installation of new filterpress to serve the aqueous treatment process. This will allow the existing filterpresses to be decommissioned and removed from the site.

The project will deliver process efficiencies, reduce the water content of waste sent to landfill and deliver benefits in housekeeping and tidiness at the site. It is anticipated that the new equipment will be commissioned in Q2 of 2021.

Further legacy infrastructure will also be removed from the site as part of the project.

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: Sewer1 / 23/01/2021

**Reporting of emissions to sewer for the period from to 01/10/2020 - 31/12/2020**

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Uncertainty <sup>[4]</sup>
S1	Effluent Flow m3/day	No limit set	24-hour flow proportional sample	104.7	BS EN 135006	05/11/2020	
S1	Zinc, as Zn mg/l	No limit set	daily average from composite sample taken over 24 hours	0.7	BS 6068-2.29:1987, ISO 8288-1986	14/12//2020	
S1	Copper, as Cu mg/l	No limit set	daily average from composite sample taken over 24 hours	0.2	BS 6068-2.29:1987 ISO 8288-1986	14/12/2020	
S1	Lead, as Pb mg/l	No limit set	daily average from composite sample taken over 24 hours	0.8	BS 6068-2.29:1987 ISO 8288-1986	14/12/2020	
S1	Chromium, as Cr mg/l	No limit set	daily average from composite sample taken over 24 hours	0.1	BS EN 1233:1997, BS 6068-2.38:1997	14/12/2020	
S1	Nickel, as Ni mg/l	No limit set	daily average from composite sample taken over 24 hours	0.1	BS 6068-2.29:1987 ISO 8288-1986	14/12/2020	

The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed ... Mohammed Akbar ..... Date...01/02/2021.....  
 (Authorised to sign as representative of Operator)

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: WaterUsage1 /27/01/2021

### Reporting of Water Usage for the year 2020

Water Source	Usage (m <sup>3</sup> /year)	Specific Usage (m <sup>3</sup> /unit output)
Mains water	5646	1059.1 m <sup>3</sup> /100,000 hours worked
Site borehole	Zero	Zero
River abstraction	Zero	Zero
TOTAL WATER USAGE	5646	1059.1 m <sup>3</sup> /100,000 hours worked

Operator's comments :

Water consumption is estimated based on batch recipes and process records.

Signed ...D Humphriss..... Date...27 January 2021.....  
(authorised to sign as representative of Operator)

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: Energy1 / /27/01/2021

### Reporting of Energy Usage for the year 2020

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity	591,790 KWh	1420.296 MWh	266.42 MWh /100,000 hours worked
Natural Gas	Zero	Zero	Zero
Gas Oil	9594 Litres	111.580 MWh	20.931MWh /100,000 hours worked
Recovered Fuel Oil	Zero	Zero	Zero
TOTAL	N/A	1531.876 MWh	287.36 MWh /100,000 hours worked

\* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :  
  
As of 2010 the density of Fuel/Gas oil is stated to be 0.832kg/l.  
IEA/OECD states that 1 Tonne Oil Equivalent (TOE) is equal to 11.63 MWh

Signed ...D Humphriss.... Date...27/01/2021....  
(Authorised to sign as representative of Operator)

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: Performance1 /27/01/2021

Reporting of other performance indicators for the period 01/01/2020 to 31/12/2020

Parameter	Units
Water Usage	5646 m <sup>3</sup>
Energy Usage	1531.9MWh
Total Raw Materials Used	27.72 Tonnes
Waste disposal and/or recovery	5259.064 Tonnes

Operator's comments:

Signed ...D Humphriss...      Date...27/01/2021.....  
(Authorised to sign as representative of Operator)