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Forward Waste Management Limited
East Moors Waste Transfer Station,
East Moors Road, Cardiff

Bespoke Environmental Permit Application
Site Condition Report
SLR Ref: 407.05789.00001 /SCR

December 2015



forward

Reducing waste in every way

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1.0 INTRODUCTION

Forward Waste Management Limited has instructed SLR Consulting Limited to prepare an environmental permit application for their East Moors Waste Transfer Facility in Cardiff, under the Environmental Permitting (England and Wales) 2010 Regulations and subsequent amendments.

This Site Condition Report (SCR) provides the baseline site conditions for the proposed permitted areas associated with the waste transfer station operations proposed to be undertaken by Forward Waste Management Limited.

A summary of the proposals are described in the Non-Technical Summary in Section 3 of this application.

1.1 Report Structure

This SCR has been prepared in accordance with Natural Resources Wales / Environment Agency's H5 Guidance Note on SCR¹. The objective of the SCR is to record and describe the condition of the land at the site at the time of the permit application. The SCR will provide a point of reference and baseline environmental data so that when the permit is surrendered it can be demonstrated that there has been no deterioration in the condition of the land as a result of the proposed operations, and ensure that the condition of the land is in a 'satisfactory state' on surrender of the permit.

Sections 1 to 3 of the EA's SCR template have been completed in the preparation of this document, which comprises the following:

- site details;
- condition of the land at permit issue;
 - geology;
 - hydrogeology;
 - hydrology;
- pollution history;
- evidence of historic contamination; and
- permitted activities.

Section 4 to 7 of the SCR template will be maintained during the life of the permit and Sections 8 to 10 will be completed and submitted in support of the application to surrender the permit.

¹ EA Guidance; Site Condition Report – guidance and templates, Version 3, May 2013.

2.0 SITE CONDITION REPORT H5 TEMPLATE

SITE DETAILS	
Name of the applicant	Forward Waste Management Limited
Activity address	Forward House East Moors Road Cardiff CF24 5EE
National grid reference	ST 19610 75714

Document reference and dates for Site Condition Report at permit application and surrender	407.005789.00001/SCR, December 2015 – in support of an environmental permit application.
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Document references for site plans (including location and boundaries)	Drawing 01 Drawing 02 Drawing 03	Site Location Plan Site Layout Sources, Pathways and Receptors
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Note:

In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form then you should submit the additional plan or plans with this site condition report.

CONDITION OF THE LAND AT PERMIT ISSUE	
<p>Environmental setting including:</p> <ul style="list-style-type: none"> • geology • hydrogeology • surface waters 	<p><u>Site Setting</u></p> <p>The permitted site is located in a light industrial estate area, approximately 1km south east of Cardiff City Centre. The surrounding land is used for a variety of commercial premises (e.g. bottled gas store, 60m south west, tyre fitters to the east, metal fabrication business to the north), generally of a small scale. No significant industrial activities take place in the immediate site area, but a steel mill is present 150m west of the site.</p> <p><u>Geology</u></p> <p>The geology of the permitted site (based on British Geological Survey borehole records (4 No.) drilled in 1970) can be summarised as:</p> <ul style="list-style-type: none"> • Surface Level – approx. 11mAOD. • Made Ground – variable depths of made ground (4m typically) comprising black clinker or sand with gravel and brick fragments (materials probably placed for levelling purposes when the site was first developed (see below for details)). It should be noted that the Groundsure report indicates the permitted site and wider site area are constructed over artificial ground. • Firm to stiff sandy, silty Clay (Tidal Flat Deposits) with a thickness of circa 3m. • Sandy Gravel (Glaciofluvial deposits) – circa 6m thick. • Mudstone (Mercia Mudstone Group) – present at circa 13m depth. <p><u>Hydrology and Hydrogeology</u></p> <p>The nearest water body is Bute East Dock</p>

	<p>located 260m west/south west of the permitted site. This dock is a remnant of the Cardiff Docks area. Further docks are present 900-1,100m south of the site. Cardiff Bay is located 1,400m south west and the Severn Estuary/Bristol Chanel is located 1,400m south east at its closest point. The Severn Estuary is subject to a number of ecological designations (SPA, RAMSAR, SAC).</p> <p>Information provided within the Groundsure report (based on previous Environment Agency mapping) classifies the superficial deposits as a Secondary (Undifferentiated) aquifer and bedrock in the site area as a Secondary B aquifer. These are defined as:</p> <p>Secondary Undifferentiated - <i>has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.</i></p> <p>Secondary B - <i>predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.</i></p> <p>Former EA mapping classified the application site as not within a Groundwater Source Protection Zone (SPZ).</p> <p>No groundwater abstractions are recorded for the site or immediate surrounding area (within 1km). Surface water is reportedly abstracted from Bute East Dock (by Celsa Manufacturing (UK) limited) for evaporative cooling purposes.</p> <p>No significant groundwater gradients are considered likely given the flat topography of the site area and the variable permeability of the underlying deposits.</p> <p>Borehole logs suggest that groundwater levels are typically present in the made ground (typically 3-4m depth) perched</p>
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	<p>above the clay. The underlying sandy gravel deposits are likely to contain a confined aquifer which may be subject to a degree of tidal influence, but this could be limited due to the distance to the sea.</p> <p>Former EA mapping (reported in the Groundsure report) indicates that the permitted site is located outside of any of the designated flood risk zones.</p>
<p>Pollution history including:</p> <ul style="list-style-type: none"> • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures 	<p><u>Pollution History</u></p> <p>The EA website includes details of pollution incidents on and off site;</p> <p>On site: There have been no on site pollution incidents on record.</p> <p>Off site: Within 1km of the site there have been a number of recorded pollution incidents – the closest (within 250m) were; 33m south west (inert materials and waste in September 2001) and 229m south ('atmospheric pollutants and effects' in January 2002). None of the recorded incidents are thought likely to have impacted the subject site.</p> <p><u>Historical Land-uses</u></p> <p>On site:</p> <ul style="list-style-type: none"> • The site is shown as initially developed (1850 – 1920) with railway (tramway) lines. • The site is then shown (1942 - 1970) as developed with buildings and forming part of the 'Jonwindow Factory (metal window frames)'. This development includes a paint spraying workshop in the south western area of the site. • By 1983 the current building is marked on the site and is labelled simply as a 'works' with a travelling crane along the southern boundary suggesting it may have been used as an engineering or metal fabrication facility. The building layout remains unchanged to the present building, although the travelling crane has been removed.

	<p>In summary, the primary historical activity of concern relates to the extended period when the site was used for the manufacture of metal windows. This activity included a paint spraying facility at the site.</p> <p>Off site: the immediate surrounding areas have been used for a number of activities including:</p> <ul style="list-style-type: none"> • Wagon (railway) carriage manufacture to the west (1880 to 1942). • Foundry works to the south west (1901 to 1970). • Creosote works to the south west (1880). • Window Frame Manufacture (linked to subject site) to the north (1942 to 1970). • Iron and steel works to the east (1920 to 1970). • Warehouse to the south (1920 to 1970). <p>Since the 1970s the area has been cleared of much of the former heavy industry and replaced progressively with small scale commercial/industrial operations.</p> <p>Former EA data (presented within the Groundsure report) indicate the site is not subject to any environmental permitting.</p> <p>One of the adjacent sites (Cardiff Galvanisers) is subject to a Part A2 permit which covers Hot – Dip Galvanising activities.</p>
<p>Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)</p>	<p>Information in relation to potential existing contamination has been obtained from generic sources in the absence of any existing contamination investigation data. The primary source of information has been linked to the identified previous land use, i.e.</p> <p><i>Department of Environment Industry Profile: Engineering Works (mechanical engineering and ordnance works), 1995.</i></p> <p>This document was selected from amongst other documents in the series as it</p>

	<p>appeared to best represent the probable nature of historic operations at the site, i.e. the manufacture of metal products from imported raw steel or iron. The element within the document that relates to ordnance manufacture has been disregarded as does not appear to relate to the activities at the site.</p>
Baseline soil and groundwater reference data	<p>Reference to the above document would suggest the following potential contaminants or contaminating activities may be or were present at the site:</p> <ul style="list-style-type: none"> • Heavy/Phytotoxic metals (copper, nickel, zinc, chromium, lead, mercury, cadmium, arsenic) and their salts. • Solvents – from painting or degreasing activities (xylene, toluene, alcohols, acetone, ketone, chlorinated solvents). • Inorganic contaminants as salts or from galvanising/plating operations (sulphite, sulphate, phosphate, chloride, cyanide, carbonate). • Petroleum Hydrocarbons/Polyaromatic Hydrocarbons as a result of heating oil, diesel or lubricating oil use/storage. • Acidic or alkaline ground conditions as a result of acid or alkali use at the site. • Contaminants within made ground prior to site development (most likely metals, inorganics, polyaromatic hydrocarbons). <p><u>Overall Assessment:</u></p> <p>The long history of industrial use at the site and in the immediate surrounding area, coupled with the presence of fill materials placed prior to site development would suggest that soil and possibly groundwater quality could be of a generally poor quality. The presence of a wide range of potential contaminants linked to this industrial history has been identified. However, in the absence of any specific site data in relation to soil/groundwater quality, it is considered unlikely that the site is so severely impacted to prevent the permitted activities.</p> <p>The proposed activities will be undertaken within the building on an impermeable pavement and therefore there is little</p>

	chance of impact to ground as there will be no pathway present.
Supporting information	<p>In the absence of any existing contamination investigation data, the following information has been used in the preparation of this SCR:</p> <ol style="list-style-type: none"> 1. Borehole records from the British Geological Survey (ST17NW799 to 802, 4 No. boreholes drilled in March 1970 and assumed to be linked to the change of use from the window frame manufacturing facility to a generic industrial use). 2. Groundsure EnviroInsight Report, EMS-328824_4429812, dated 9 October 2015. 3. Groundsure Geoinsight Report, EMS-328824_442981, dated 9 October 2015. 4. Historical Ordnance Survey mapping 1:500 to 1:2,500, 1880 to 1995.

PERMITTED ACTIVITIES	
Permitted activities	<p><i>Specified Waste Management Activities</i></p> <p>The following specified waste management activities are proposed to be undertaken on site:</p> <ul style="list-style-type: none"> • the temporary storage of hazardous waste (D15); and • the temporary storage of hazardous waste (R13).
Non-permitted activities undertaken	None.
<p>Document references for:</p> <ul style="list-style-type: none"> • Plan showing activity layout; and • Environmental risk assessment. 	<p>Drawing 01 Site Location Plan Drawing 02 Site Layout Drawing 03 Sources, Pathways and Receptors Drawing 04 Cultural and Natural Heritage Heritage</p>

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (*Environmental Risk Assessment - EPR H1*) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater we may need to request further information from you or even refuse your permit application.

3.0 CLOSURE

This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client.

This report is for the exclusive use of Forward Waste Management Limited; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR. SLR disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

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