SITE CLOSURE PLAN

For

CARDIFF WASTE MANAGEMENT RESOURCE CENTRE

Review Sept 2021

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1.0 INTRODUCTION

The principle objective of the Site closure plan is to outline the procedures that will be followed in order to ensure proper and safe decommissioning and dismantling of the plant and equipment associated with Cardiff WMRC within the installation boundary.

The Site closure plan has been reviewed as required by Permit condition 2.7.3

2.0 PREVIOUS LAND USES

Table 1 summarises the historical potentially contaminative activities that have taken place at the Site.
The Site was previously occupied by a steel foundry which was considered to be a potentially contaminative industry. The foundry activities may have resulted in localised contamination of the soil and/or groundwater beneath the Site.

Table 1

Dates	Source SR or OS	Description
1880	OS	The Site is shown as an undeveloped area of salt marsh.
1886/1885	OS	The Site is shown to be situated on an undeveloped area of land.
1901	OS	The Site is shown to be undeveloped and within a timber pond.
1920	OS	As previously.
1922	OS	As previously.
1941/1942	OS	The Site is occupied by an unnamed building.
1954/1955	**OS**	**The Site is shown to be developed as a foundry.**
1965	OS	As previously.
1969	OS	The Site is shown to be developed as a steel foundry.
1974	OS	The Site is shown to be developed as a foundry.
1986/1984	OS	The Site is shown to be undeveloped.
1995/1996	OS	The Site is shown to be in an area of developed land.

Source: Historical Ordnance Survey (OS) or Site Representative (SR). Note that the date of publication can be some years later than the survey dates.

Table 2 summarises the potentially contaminative historical land uses that are recorded as having taken place within 500 m of the Site. Further information regarding historical activities, that took place up to 1 km from the Site and of non-contaminative land uses that occurred around the Site, is available upon further request.

The Site has been historically surrounded by a number of potentially contaminative industrial land uses. Potential contaminative historical off Site activities within 250 m include tank storage, engineering works, foundry, garages, a window factory, grocery and stationary warehouse and works.
Of the activities listed below several works including, an engineering works, warehouse, garage, foundry and timber pond are located up the hydraulic gradient of the Site.

Map Dates	Description
1880	• Two timber yards, the closest 280 m northeast of the Site; • Bute Chain and Anchor Testing House 300 m east of the Site; • Industrial School Ship Havannah 320 m northwest of the Site; • Saw Mill 300 m northeast of the Site.
1886	• Industrial School Ship Havannah 320 m northwest of the Site; • Brick and Tile works 490 m northwest of the Site; • Two Timber Yards the closest 280 m northeast of the Site.
1901	• Pumping Station 255m northwest of the Site; • Industrial School Ship Havannah 320 m northwest of the Site; • Saw Mill 300 m northeast of the Site; • Joinery Works 370 m northeast of the Site; • Creosote Works 320 m northeast of the Site; • Two Timber Yards the closest being 280 m northeast of the Site; • Pumping Station 260 m northwest of the Site.
1920	• Creosote Works 320 m northwest of the Site; • One Building formally marked as a saw mill is present but no longer identified as such on the Site; • Saw Mill 320 m northeast of the Site; • Pumping station 262 m northwest of the Site.
1922	• Pumping station 262 m northwest of the Site; • Timber pond on Site area and extending up to 320 m northeast of the Site.
1942	• Foundry 260 m northeast of the Site; • Tanks 120 m southwest of the Site; • Fire Engine Station 150 m east of the Site; • Engineering works 320 m east of the Site.
1951	• Similar buildings to 1942 although no description of status.
1947/1950/1957	• Timber pond 130 m northeast of the Site; • Engineering works 400 m north of the Site; • Saltings 355 m south of the Site; • Tanks located 120 m southwest of the Site.
1954	• Warehouse 75 m northeast of the Site; • Garage 80 m northeast of the Site; • Government centre 130 m north of the Site; • Three engineering works 190 m, 150 m and 170 m north of the Site; • Two engineering works 170 m and 100 m south of the Site; • Wheel and chain factory 280 m south of the Site; • Warehouse 380 m south of the Site; • Foundry 200 m west of the Site; • Warehouse 300 m east of the Site; • Warehouse 180 m northwest of the Site; • Engineering works 320 m northeast of the Site; • Glass factory 260 m northeast of the Site; • Tool handle factory 230 m east of the Site; • Wood box and packaging factory 220 m east of the Site; • Sack and bag factory 330 m northeast of the Site.
1965	• Foundry located 200 m west of the Site; • Two works 170 and 100 m south of the Site; • Factory 280 m south of the Site; • Warehouse 380 m south of the Site; • Works 170 m north of the Site.

Map Dates	Description
1969	• Two engineering works 170 m and 100 m south of the Site; • Wheel and chain factory 280 m south of the Site; • Grocery and stationery warehouse 60 m north of the Site; • Government depot 130 m north of the Site; • Two engineering works 148 m and 170 m north of the Site; • Window factory 190 m north of the Site; • Central cleaning depot 300 m north of the Site; • Omnibus depot 340 m north of the Site; • Two food warehouses 350 m and 355 m respectively of the Site; • Chemical work 350 m northwest of the Site; • Foundry 200 m west now an alloy foundry; • Two engineering works 130 and 140 m southwest of the Site; • Warehouse 130 m south of the Site; • Abattoir 370 m north of the Site; • Chain works 300 m north of the Site; • Glass works 260 m north of the Site; • Glass warehouse 205 m north of the Site; • Food warehouse 195 m north of the Site; • Tyre remould works 300 m north of the Site; • Two warehouses 260 and 340 m north of the Site.
1975	• Warehouse 75 m northeast of the Site; • Warehouse 150 m north of the Site; • Works 170 m north of the Site; • Factory 190 m north of the Site; • Two engineering works 170 m and 100 m south of the Site; • Factory 280 m south of the Site; • Factory 300 m south of the Site; • Foundry 200 m west of the Site; • Warehouse 300 m east of the Site; • Warehouse 180 m northwest of the Site; • Engineering works 320 m northeast of the Site; • Works located 190 m northeast of the Site;
1984/1986	• Works 220 m south of the Site; • Works 290 m northeast of the Site; • Abattoir 370 m north of the Site; • Two works 355 m and 370 m northeast of the Site.
1995/1996	• Works 220 m south of the Site; • Two works 355 m and 370 m northeast of the Site.

3.0 DESIGN ISSUES

Cardiff WMRC is a hazardous waste transfer station designed and optimised for the acceptance, physical treatment, storage and onward consignment of a wide range of hazardous and non hazardous packaged wastes. The processes and activities undertaken at the Site include the following:

- Mixing, blending, bulking and re-packaging of hazardous and non-hazardous waste and re-packaging of lab smalls
- Storage of hazardous and non-hazardous waste
- Storage of waste oil
- Size reduction (drums, solids, waste in containers) by means of cutting and shredding plastic and metal containers

The waste transfer station has a series of chemically separated storage bays for the safe warehousing of drums and containers (e.g. Intermediate Bulking Containers (IBCs).

To ensure that the ground on which the plant is constructed is not contaminated during the life of the plant, a fully sealed reinforced concrete surface has been laid on all operational areas. Surface water is collected via dedicated drainage systems, all site surface water runoff leaves site via foul sewer which is connected to pH controlled auto shutoff valve and a 3 stage interceptor.

Any new buildings or infrastructure installed at the Site will give due regard to the following at the design and build stage:

• Underground tanks and pipework will be avoided where possible;
• Where necessary underground tanks and pipework will be protected by secondary containment or a suitable monitoring programme;
• Provision will be made to allow pipework, tanks, and vessels to be cleaned out prior to dismantling;
• Insulation will be used that is easily dismantled without dust or hazard; and
• Materials used in the construction will be readily recyclable having due regard to operational and environmental objectives.

4.0 SITE CLOSURE PLAN

The Site closure plan refers to Cardiff WMRC and associated infrastructure, within the installation boundary. The decommissioning plans for the Site and the proposed methods will be discussed and agreed with Natural Resources Wales prior to the commencement of any decommissioning works.

Following decommissioning it is proposed that the portakabin buildings which house operative welfare facilities could be dismantled and removed from the Site for sale, re-use, recycling or disposal. Foundations, paved surfaces, office building and storage bay infrastructure could be left in-situ for possible re-use by any new equipment to be installed at the Site, subject to agreement with any new owner.

The most likely outcome following decommissioning will be complete demolition of the site and surrounding industrial area via a redevelopment project. The site and area has previously been subject to a compulsory purchase order being situated in area of Cardiff earmarked for regeneration.

4.1 Planned Shutdown of WMRC

Prior to closure waste streams accepted at the Site will be reduced until suitable operational conditions have been achieved to allow waste acceptance to cease.

Following cessation of waste acceptance materials stored within the transfer station will either be repackaged for disposal at appropriate off-Site facilities or transferred to another permitted site within the company portfolio.

Planned shutdowns of the different processes operated within the WMRC for maintenance work are routine activities and, as such, procedures exist for controlled reduction of waste streams.

4.2 Protection of Surface and Groundwater during Decommissioning

The Site water drainage and management system will be maintained during the decommissioning. The integrity of the Site drainage system is inspected at regular intervals and records are kept of the status and any remedial work undertaken.

Drains will be protected during the decommissioning if the risk assessment identified any potential for release of contaminants to controlled waters. Unmade ground, especially that around the Site boundary, will be similarly protected if potential pollution risks are identified.

4.3 Below ground interceptor

The underground interceptor containing potentially contaminated substances will be pumped out and the contents transferred into appropriate containers or vessels prior to off site disposal at a permitted facility.

4.4 Cleaning of Storage Areas

The segregated bays in the waste transfer station will be cleaned using suitable agent's e.g. water and detergents. It is likely that these areas will be used for the temporary storage of contaminated materials, decontaminated plant and equipment prior to transfer to appropriate recycling or disposal facility.

4.5 Waste Inputs and Waste Storage

It is assumed that any Site closure will be planned in advance, as stated in Section 3.1 above, so that waste inputs and stocks can be reduced to a minimum in a controlled manner.

All waste inputs are allocated a unique identification number. This ensures that there is no loss of traceability whilst the waste is on-Site. Wastes are allocated a delivery date which is based upon a combination of the following:

- Customer requirements;
- Available storage space; and
- Operational status.

The Site storage philosophy based on the HSG71 guidelines of segregation and separation is maintained. Non-bulk wastes i.e. drums, IBCs and otherwise packaged materials are stored within the appropriate self-contained bays within the transfer station.

Following final shutdown of Cardiff WMRC arrangements will be made to transfer any remaining waste materials to appropriate disposal facilities in agreement with Natural Resources Wales.

4.6 Insulation Material

Insulation material will be removed, bagged up and disposed to landfill. Insulation sheet metal cladding will be removed and recycled as scrap metal.

4.7 Electrical Equipment

Electrical cables and equipment will require cutting and dismantling for recycling off-Site.

4.8 Other Potentially Harmful Substances

4.8.1 Asbestos

Asbestos and other harmful materials will be removed with due regard to the associated hazards and in such a manner to reduce and mitigate the hazards. Where necessary removal of asbestos and other harmful materials will be carried out by specialist contractors, however a buildings asbestos survey carried out 23rd March 2004 found no asbestos within the office infrastructure.

4.8.2 Polychlorinated biphenyls (PCBs)

The Site does not accept any specific Polychlorinated biphenyls (PCBs) waste streams. However, there is potential for some waste contaminated with PCBs to be accepted at the Site. If waste streams containing PCBs are on-Site at the time of decommissioning then these will be removed with due regard to the associated hazards and in such a manner to reduce and mitigate the hazards.

There are no other know sources of PCBs on the Site.

5.0 ASSESSMENT OF POLLUTION

All incidents involving leaks and spills with potential to cause pollution are reported, recorded, investigated and any corrective and preventative actions are documented.

If assessment of compliance during lifetime of the site indicates there has been no risk of escape then normal practice may be for a low-risk surrender without intrusive site investigation.

The subsequent developer may undertake site investigation in relation to their proposed land uses, which may flag previously documented pre-existing contamination due to former historic land uses, which may entail further remediation of the land