

Certificate of Authorisation Application Form

Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations,
2008

Site: Prusselstown, Athy, Co. Kildare

S22-02508

Attachment A.1

Non-Technical Summary

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Site Location:

Prusselstown Refuse Depot site was located c. 1.6km north-east of the centre of Athy town, County Kildare, and was accessed using a third-class road R418 off the national road N78. It was located within the Townlands of Gallowshill and Prusselstown (Figure 2-1, Section 2 of Attachment D1: Environmental Risk Assessment). The total area of the original Site is approximately 4.4 hectares (ha), although site investigations (trial pitting, installation of boreholes and a geophysical survey) have calculated the area of the site underlain by imported material to be 1.71ha. The site is currently occupied by a hotel with an associated car park, a waste ground field to the west of the hotel and a grassed area for grazing sheep, horses and alpacas to the east and south of the site.

There are a number of residential properties along the northern boundary of the Site, with the closest property at c. 11m distance from the boundary. There is a residential property c. 150m south-west of the site, a petrol station c. 160m south-west of the Site and the town centre is c. 1.6km south west of the site. The Athy Stream is located c. 600m north of the site with the River Barrow c. 1.6km to its south-west.

Site History:

The OSI Historic 25" map of the site (1888-1913) shows a gravel pit within the western part of the site. OSI orthophotography and historic Google Earth aerial images have been consulted to confirm the history of the site.

It is believed that the site was operated as a refuse depot accepting waste from early January 1981 for just over a year by Athy Town Council, although the lands have always been privately owned. OSI orthophotography images from 1995 show that the site had been restored and later 2000 images show the area in grass. By 2005 images confirm that the hotel was built and the residential property to the north of the site was also built. Some areas of exposed ground, which correspond to the original gravel pit in the northern segment of the western site boundary and to the north of the hotel, are also visible. Subsequent images from 2005-2012 also confirm this layout. Historical Google Earth aerial imagery dated 18th April 2009 re-confirm the hotel and car parks presence.

Site investigations, and principally the Geophysical Survey, have determined that approximately 160,888tonnes of waste material were imported onto the site. The imported material consisted of gravelly, clay and ashy material with variable amounts of red bricks, concrete, glass, wood, plastic, metal, cables, car parts, cloths, pieces of carpets and mattress, milk cartons, metal cans, lids, steel sheeting, supermarket bags and textiles.

Environmental Characteristics:

Geology: Based on the Teagasc subsoil maps the site is largely underlain by glaciofluvial sand and gravels (Carboniferous) derived mainly from calcareous parent materials (limestone). The GSI database (GSI, 2018) indicate that the bedrock underlying the quaternary deposits is generally comprised of the Ballysteen Formation, which consists of dark-grey muddy limestone and shale. The Ballysteen Formation is normally

described as irregularly bedded and nodular bedded argillaceous bioclastic limestones (wackestones and packstones), interbedded with fossiliferous calcareous shales.

Hydrogeology: The bedrock aquifer beneath the site is classified by the GSI as Locally Important Aquifer (LI). The gravel aquifer beneath the site is comprised of Barrow Gravels and is classified as being a 'Regionally Important Gravel Aquifer (Rg). The groundwater vulnerability rating is High (H). The inferred groundwater flow direction is to the south/south-west towards the River Barrow.

Hydrology: The Athy Stream is located c. 570m north-east, c. 950m north and c. 850m north-west of the site. The River Barrow is also located c. 1.69km south-west of the site and the Grand Canal is c. 2.13km to the south-west. The site is located with the Barrow hydrometric area and the sub-catchment Barrow_SC_080 (EPA, 2018). A public supply source if Inner Protection Area (SI) was identified approximately 1.6km west of the site in the townland of Athy. A source of Outer Protection Area (SO) was identified at 2.5km west of the site.

Ecology: There is one European designated Natura 2000 sites located within 10km of the site:

- River Barrow and River Nore SAC, site code 002162, c. 1.7km west of the site

An Appropriate Assessment Stage 1 Screening Report (AA) was prepared for the site (see Appendix I of Attachment D1: Environmental Risk Assessment). It concluded that the site does not currently have any adverse effect on any European Designated sites or any of their designated features of interest.

There are no Natural Heritage Areas (NHAs) within 5km of the site. However, one proposed NHA (pNHA) was located within 2km and one within 5km of the site.

- Grand Canal, code 002104, c.2.25km west of site
- Barrow Valley at Tankardstown, code 000858, c.4.7km south of site

Risk Category of the Site:

The initial risk rating of the site, carried out as part of the Tier 1 Assessment, classified the site as High Risk due to the potential risk of landfill gas migration to off and on-site receptors. Assessment of potential leachate migration to nearby receptors (private wells- human consumption), to the aquifer beneath the site and to the nearest surface water, were also required. However, following the extensive intrusive and non-intrusive site investigations carried out, and the updated conceptual site model, the site should be classified as a Moderate Risk site. During the data assessment, it was concluded that the pathways to the receptors were broken and therefore the pollutant linkages no longer exist.

Actual and potential environmental impacts:

The site is located within a sensitive receiving environment based on the high-extreme vulnerability rating assigned. This vulnerability rating was assigned due to the presence of an important gravel aquifer beneath the site. However, the River Barrow and River Nore SAC is c. 1.7km west of the site and therefore there would not be any potential risks arising from the site to the SAC.

The capping material encountered during the site investigations was identified as brown gravelly clay with a thickness of 0.6 to 1.4m. According to the geotechnical results the capping material was classified as brown very gravelly very sandy clay with a permeability of 4.9×10^{-9} m/s. The low permeability of the capping material overlying the imported material would impede rainfall infiltration and therefore reduce the generation of leachate.

The soil laboratory results of three (3No.) of the trial pits were compliant with the inert Waste Acceptance Criteria (WAC) limits. There were some exceedances in antimony, molybdenum, sulphate and total dissolved solids, which complied with the non-hazardous WAC. An exceedance was noted in Total Organic Carbon in TPA, which complied with the hazardous WAC. There was a visual identification only of asbestos fibres at TPG, which were quantified at concentrations $<0.001\%$, confirming that the imported material present on site, with the current use of the site, poses a low risk of contamination to the underlying strata (natural ground).

The leachate results indicate that there are some exceedances of the parameters analysed. However, it was concluded that they would not pose a risk to human health and the environment and do not require further assessment.

The groundwater results (GW1A to GW3A and the private well) confirm that the imported material has not negatively impacted the underlying aquifer. There were a number of exceedances in the groundwater, which it was concluded do not pose a risk to human health and the environment and do not require further assessment.

The surface water results confirm that the imported materials have not negatively impacted upon the Athy Stream. The risk to surface water is therefore considered to be low.

The Environmental Risk Assessment did not identify any impacts from the imported materials on the ecological receptors on site or within the surrounding vicinity.

Elevated Methane (CH₄) was detected at leachate/gas location L1A. Methane was not detected at groundwater monitoring locations external to the imported materials (GW1A to GW3A) during any sampling event. Given the very low flow concentrations of methane and the results of the surface VOC monitoring surveys measured within and outside of the site and within the hotel building, the detected gas concentrations are not considered to represent a risk to any identified receptors on or off-site.

The consultant has therefore concluded that the imported material has not resulted in any impacts on the identified human receptors or environmental receptors.

Proposed remediation including timescale:

As a result of the risk assessment findings, the consultant has concluded that no further actions are required to be carried out on this site, and no remedial measures are therefore proposed. However, it is suggested that in the future should there be a change in land use or there are new developments in the vicinity of the site, then there should be a reassessment of the risk.