

# Certificate of Authorisation Application Form

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

Site: Greenhills Refuse Depot, Athy, Co. Kildare

S22-02507

## Attachment A.1

Non-Technical Summary

### **Site Location:**

Greenhills Refuse Depot site was located in the centre of Athy town, County Kildare, along the national road N78, within the Townlands of Athy and Townparks (Narragh and Reban West) (Figure 2-1 of the Environmental Risk Assessment Report). The total area of the Site is approximately 4.09 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 1.62ha. The site is currently occupied by a public amenity building (sports and leisure facility), which is surrounded by open green areas.

There are several residential properties along the western boundary of the Site, with the closest property at c. 15m distance from the boundary. A shopping centre (Supervalu) and visitors' car park adjoins the south-eastern boundary of the Site. The River Barrow adjoins the eastern boundary of the site and there is a school (Ardscoil Na Trionoide) and a number of residential properties beyond the river. A green field with football pitches is located to the north of the site. A trial well drilled in 1899, a public supply well (KCC) drilled in 2001 and an infiltration gallery (public supply- KCC) drilled in 1899 are located c. 25m, 28m, and 45m respectively, north of the Site. Another public supply well (KCC) drilled in 1977 is located c. 252m north/north-west of the Site.

### **Site History:**

The OSI Historic 25" map of the site (1888-1913) shows a stream traversing the site and discharging to the river Barrow. Later images (2000 and 2005) do not show this stream so it may have been culverted.

Between early 1980 and late 1985, Kildare County Council operated a refuse depot at this location, taking waste from the surrounding area. It was subsequently capped with between 0.5m and 1.1m of clay and returned to a recreational open space. Following a Part 8 Planning Process the Sports and Leisure Facility was built in 2008/2009.

Site investigations have determined that 68,040tonnes of waste material, with an average thickness of 3m was imported onto the site. The imported material consisted of gravelly clay and sandy clay with rare C&D material (rare/occasional wood, concrete, cloths, black fibres, pieces of tiles, rubber

black plastic, red bricks, metal, plastic, bitumen, broken glass and styrofoam pieces) and also some municipal waste with minor organic material.

### **Environmental Characteristics:**

**Geology:** Based on the Teagasc subsoil maps the site is largely underlain by undifferentiated Alluvium. The GSI database shows that the bedrock underlying the quaternary deposits is generally comprised of the Milford Formation, which consists of peloidal calcarenitic limestone.

**Hydrogeology:** The bedrock aquifer beneath the site is classified by the GSI as Regionally Important Aquifer- Karstified. 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 Moderate (M).

**Hydrology:** The River Barrow adjoins the site along the eastern boundary and runs north to south. The Athy Stream is a tributary of the River Barrow and it is located c. 40m east of the site, where it discharges into the River Barrow. The Grand Canal is located c. 350m west, south-west of the site. The Bennetsbridge Stream is located approximately 1.3km south-west of the site. The site is located within the Barrow hydrometric area and the sub-catchment Barrow\_SC\_070 (EPA, 2018).

**Ecology:** There are two European designated Natura 2000 sites located within 10km of the site:

- River Barrow and River Nore SAC, site code 002162, along the site's eastern boundary
- Ballyprior Grassland SAC, site code 002256, c.9.5km west of the site

An Appropriate Assessment Stage 1 Screening Report (AA) was prepared for the site (see Appendix I of Environmental Risk Assessment Report). 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 were no Natural Heritage Areas (NHAs) within 2 or 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.350m west of site
- Barrow Valley at Tankardstown, code 000858, c.4.24km south-east 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 proximity of the River Barrow (adjacent to the eastern boundary of the site), the possibility of leachate migration to a protected area and the possibility of the landfill gas migration to human receptors on and off site (public amenity development and residential dwellings). 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 capping material encountered during the site investigations was identified as brown gravelly clay/brown clay with a thickness of 0.5 to 1.1m. According to the geotechnical results the capping material was classified as brown slightly sandy gravelly clay with a permeability of  $2.3 \times 10^{-8}$  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 did not record any exceedances in any of the parameters analysed. There was a visual identification only of asbestos fibres at TP4 and TP5, which were further 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 confirmed that there are some exceedances of the parameters analysed. However, due to the natural layer (clay) beneath the site and the fact that the groundwater and surface water results did not report exceedances on those parameters, it was concluded that the leachate did not pose a risk to any identified receptors.

The groundwater results confirm that the imported material has not negatively impacted the underlying aquifer. There were elevated concentrations of coliforms detected in groundwater, but these are highly unlikely to be from the imported material as microbiological pathogens (i.e. coliforms) can only survive up to 400 days in groundwater. The coliforms could possibly originate from an outside source, such as leaking foul sewer from the residential development.

The surface water results confirm that the imported materials have not negatively impacted upon the River Barrow, 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 (CH<sub>4</sub>) was detected at leachate/gas locations L1 and L3. Methane was not detected at groundwater monitoring locations external to the imported materials (GW1 to GW3) during any sampling event. Given the very low flow concentrations of methane and the results of the surface VOC monitoring surveys on the off-site (including within the leisure centre building), the detected gas concentrations are not considered to represent a risk to any identified receptors on or off-site.

### **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.