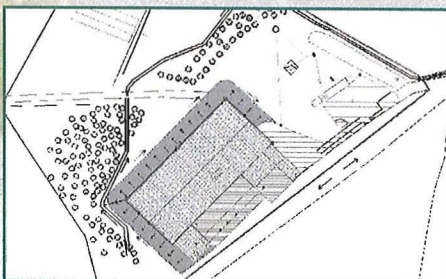


# Environmental Impact Statement for Killarney Waste Disposal



*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## Volume III : Technical Appendices



**January 2005**



# DOCUMENT CONTROL SHEET

Client	Killarney Waste Disposal					
Project Title	Killarney Waste Disposal Waste Licence Application					
Document Title	Environmental Impact Statement – Vol. III, Technical Appendices					
Document No.	MGE0031RP0008GAL					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	-	-	-	-

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	S. Aherne	W.Madden	W.Madden	Galway	31/01/05

# ENVIRONMENTAL IMPACT STATEMENT

for

**Killarney Waste Disposal Ltd.**

**January 2005**

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

**VOLUME I      NON-TECHNICAL SUMMARY**

**VOLUME II     MAIN REPORT**

**VOLUME III    TECHNICAL APPENDICES**

# Volume III

## Technical Appendices

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



## TABLE OF CONTENTS

Appendix A	RPS-MCOS Ltd. Geology and Hydrogeology
Appendix B	RPS-MCOS Ltd. Archaeology and Cultural Heritage
Appendix C	RPS-MCOS Ltd. Landscape and Visual Assessment
Appendix D	Biospheric Engineering Ltd Noise
Appendix E	Roger Goodwillie & Associates Terrestrial Ecology
Appendix F	Conservation Services Ltd. Aquatic Ecology
Appendix G	RPS-MCOS Ltd. Air Quality
Appendix H	RPS-MCOS Ltd Traffic

**RPS-MCOS Ltd.**  
**GEOLOGY & HYDROGEOLOGY**

**A**

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



## DOCUMENT CONTROL SHEET

Client	Killarney Waste Disposal Ltd					
Project Title	Killarney Waste Disposal - Waste Licence Application					
Document Title	Soils, Geology and Hydrogeology Assessment					
Document No.	MGE0031RP0006					
This Document Comprises	DCS	TOC	Text	List of Tables	List of Figures	No. of Appendices
	1	-	4	-	-	-

Consent of copyright owner required for any other use.  
For inspection purposes only.

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	F. Collins	S. Aherne	W. Madden	Galway	09/09/04

# SOIL, GEOLOGY AND HYDROGEOLOGY

## 1.1 INTRODUCTION

RPS-MCOS were appointed by Killarney Waste Disposal to prepare a Soils, Geology & Hydrogeology chapter, which will form part of the main Environmental Impact Statement to accompany the Waste Licence Application for a proposed Waste Recycling Facility for non-hazardous waste at Aghacurreen, Co. Kerry. The likely significant impacts are identified and measures are proposed to mitigate these potential impacts.

## 1.2 METHODOLOGY

This report includes a desk study and a summary of the available and relevant data for the area:

- Geological Survey of Ireland (GSI) "Geology of Kerry-Cork" Sheet 21. Scale 1:100,000 (1997) & accompanying report.
- GSI Well records database.
- GSI Quaternary Soils Maps

A site visit was made on 1<sup>st</sup> July 2004.

This report follows the guidelines set out by the Environmental Protection Agency for Environmental Impact Statements (EPA, 1995 & 2002) and by the Institute of Geologists in Ireland regarding Geology and the EIS Process (IGI, 2002).

## 1.3 DESCRIPTION OF THE EXISTING ENVIRONMENT

### 1.3.1 Bedrock Geology

Reference to the Geological Survey of Ireland (GSI) Sheet 21 "Geology of Kerry-Cork" Scale 1:100,000 indicates that the bedrock underlying the site is black shale and sandstone of Upper Carboniferous (Namurian) age.

Depth to bedrock is variable and is reported to reach up to 30 metres, however elsewhere bedrock outcrops locally or is within 1m of the surface. No outcrops were evident on the site.

### 1.3.2 Soils and Subsoils

The General Soils Map of Ireland indicates that the soil type in the area is podzolic. These are poor, acidic soils, typical of cool, damp climates.

GSI Quaternary maps record Devonian Sandstone dominated Till (boulder clay) at the site location. The thickness of the subsoil deposits in the area reaches up to 30m in places while elsewhere is absent (at outcrop) or less than a metre.

Boulder clay and peat is evident in the dug out drain/stream at the edge of the site.

### 1.3.3 Hydrogeology

The GSI has classified the shale and sandstone bedrock underlying the site as a locally important aquifer which is moderately productive only in local zones. Such rocks generally have a low permeability with groundwater concentrated in fractures. They are capable of yielding enough water to a well to supply a house or small farm (0.2-0.5 l/s) and may yield more in good fracture zones.



However since the yield often depends on the permeability of the upper few metres of broken and weathered rock, the yield will often decrease markedly in dry spells.

A GSI well database search within a 1 km radius of the site resulted in two wells at Knockasarnet, approximately 1km from the site (refer Figure 1). The wells were drilled approximately 5 metres into the top of the bedrock which was encountered at 30.5 metres depth. The wells are for agricultural and domestic use and have an estimated yield of 22 m<sup>3</sup>/day, which is classified as a poor yield but is sufficient to provide a domestic or small farm supply. No record of groundwater level was available. A summary of the well details provided by the GSI is included in Table 1.

**Table 1: Summary of GSI Well Records within 1km of Aghacureen (E94000, N94000)**

Townland	Easting	Northing	Type	Depth to bedrock (metres)	Total Depth (metres)	Usage	Yield (m <sup>3</sup> /d)	Main Aquifer Lithology
Knockasarnet	9500	9381	Bored well	30.5	35.7	Agricultural and Domestic	21.8 Poor	-
Knockasarnet	9500	9376	Bored well	30.5	35.4	Agricultural and Domestic	21.8 Poor	Red Sandstone

According to the GSI Vulnerability map, groundwater vulnerability for the area would be variable ranging from moderate or low (in areas where there are substantial subsoil deposits of low permeability) to high and extreme where overburden is of high permeability, thin or absent. This classification is derived from the vulnerability mapping guidelines presented in **Table 2**.

**Table 2: Vulnerability Mapping Guidelines**

Vulnerability Rating	Hydrogeological Conditions				
	Subsoil Permeability (Type) and Thickness)			Unsaturated Zone	Karst Features
	High permeability (sand/gravel)	Moderate permeability (e.g. sandy subsoil)	Low permeability (e.g. clayey subsoil, clay, peat)	(Sand/gravel aquifers only)	(<30m radius)
Extreme (E)	0 – 3.0m	0 – 3.0m	0 – 3.0m	0 - 3.0m	-
High (H)	>3.0m	3.0 – 10.0m	3.0 – 5.0m	>3.0m	N/A
Moderate (M)	N/A	>10.0m	5.0 – 10.0m	N/A	N/A
Low (L)	N/A	N/A	>10.0m	N/A	N/A

## 1.4 CHARACTERISTICS OF THE PROPOSAL

Killarney Waste Ltd. currently operate a recovery and recycling facility for non- hazardous waste at Aghacureen, Co. Kerry. Currently, the plant handles 16,500 tonnes per annum (tpa) of waste. It is proposed to increase the total annual intake to 40,000 tpa. The proposed development of the site will include the construction of:

- A new processing shed/building with a holding tank for process effluent.
- A holding lagoon for stormwater. This is to be lined with butyl rubber.
- A reed bed to treat stormwater from the lagoon. This is to be lined with plastic sheeting laid on top of clay.
- A percolation area to discharge treated stormwater to the ground. The percolation area is to be planted with willows to facilitate evapotranspiration of treated effluent during the growing season (May to October). Willow soakaways are suitable for low porosity soils such as the boulder clays which underlie the site.

An oil and solids separator, which currently operates as part of the stormwater system, will be retained.

Effluent from processing will continue to be collected in a tank and disposed of to Killarney Waste Water Treatment Plant.

## 1.5 IMPACTS

### 1.5.1 Soils and Geology

Any future construction activities will require surface soils to be stripped. This is an essential part of development and is an impact that cannot be mitigated.

There is potential for the erosion of soils during construction.

### 1.5.2 Hydrogeology

Should erosion of soils occur during construction this would result in the loss of soil particles to the local stream which could cause significant pollution of water through the generation of suspended solids.

The construction of a lagoon to store and treat stormwater has the potential to leak to groundwater and contaminate it if an adequate protective liner is not provided.

The construction of a reed bed to treat stormwater has the potential to leak to groundwater and contaminate it if an adequate protective liner is not provided.

The construction of a percolation area for treated stormwater had the potential to contaminate groundwater if not properly sited.

Accidental spillages of any oils or chemicals held on site during construction or operation could contaminate the aquifer via direct percolation or surface water (stream)/groundwater interaction.

The shredding of timber outdoors has the potential to contaminate groundwater if the drainage water from this area is not adequately controlled and treated. Contaminants would depend on the chemicals used to treat the timber and could include for example, creosols (coal tar derived), organochlorine pesticides, metals (copper-chromium-arsenate, boron) and light organic solvents.

Foul sewerage is to be treated via the existing septic tank by a planned puraflo system which is not part of the current proposed development.

## 1.6 MITIGATION MEASURES

### 1.6.1 Soils and Geology

Any future construction activities will be scheduled such as to minimise the area and period of time that soil will be exposed.



## 1.6.2 Hydrogeology

Suitable temporary drainage will be provided to intercept and divert run-off from undisturbed areas surrounding the construction area. Site runoff will be contained and treated. Settlement ponds, silt traps and interceptor drains will be employed to reduce the amount of surface runoff from the site and to trap silt before discharge to surface water.

Stockpiles (e.g. cement, fill material) and spoil heaps will be located as far as possible from drainage ditches, surface water drains and watercourses and should be covered with polyethylene sheeting.

Disturbed areas will be stabilised as soon as construction is finished.

Petroleum products will be stored within enclosed concreted/bunded areas and as far as possible from drainage ditches, surface water drains and watercourses.

A plan will be developed during the construction phase to deal with pollution incidents. The plan will identify the potential risks and sources of pollution and identify a set of measures to mitigating these risks. As part of the plan site staff will be appropriately trained in its implementation. This plan will be retained during the operational phase.

The stormwater holding lagoon and the reed bed will be lined to prevent leakage and to protect groundwater quality.

The percolation area for the reed bed will be appropriately sited, accounting for ground conditions, percolation characteristics and proximity to aquifers. The percolation area shall be sited in accordance with relevant EPA Wastewater Treatment Manuals and DoE/EPA/GSI guidelines for groundwater protection.

Leakage to groundwater from the lagoon will be prevented through the use of a butyl rubber liner, and from the wetland through a plastic sheeting and clay liner. Cut off drains are to be installed to prevent clean surface water drainage entering the treatment system. The reed bed system is active year round.

The percolation area will be planted with willows to facilitate the removal of treated effluent/residual nutrients through evapotranspiration during the growing season.

The oils and solids separator will be emptied on a regular basis as appropriate and the contents removed disposed to a suitably licenced landfill.

Timber treatment is to be carried out in the concreted area which will be drained to the oil and solids separator and on to the lagoon/reed bed/willow soakaway system.

## 1.7 REFERENCES

Collins, J.F, Cummins, S.T. 1996. *Agroclimatic Atlas of Ireland*.

Environmental Protection Agency (EPA), 1995. *Draft Guidelines on the information to be contained within Environmental Impact Statements*.

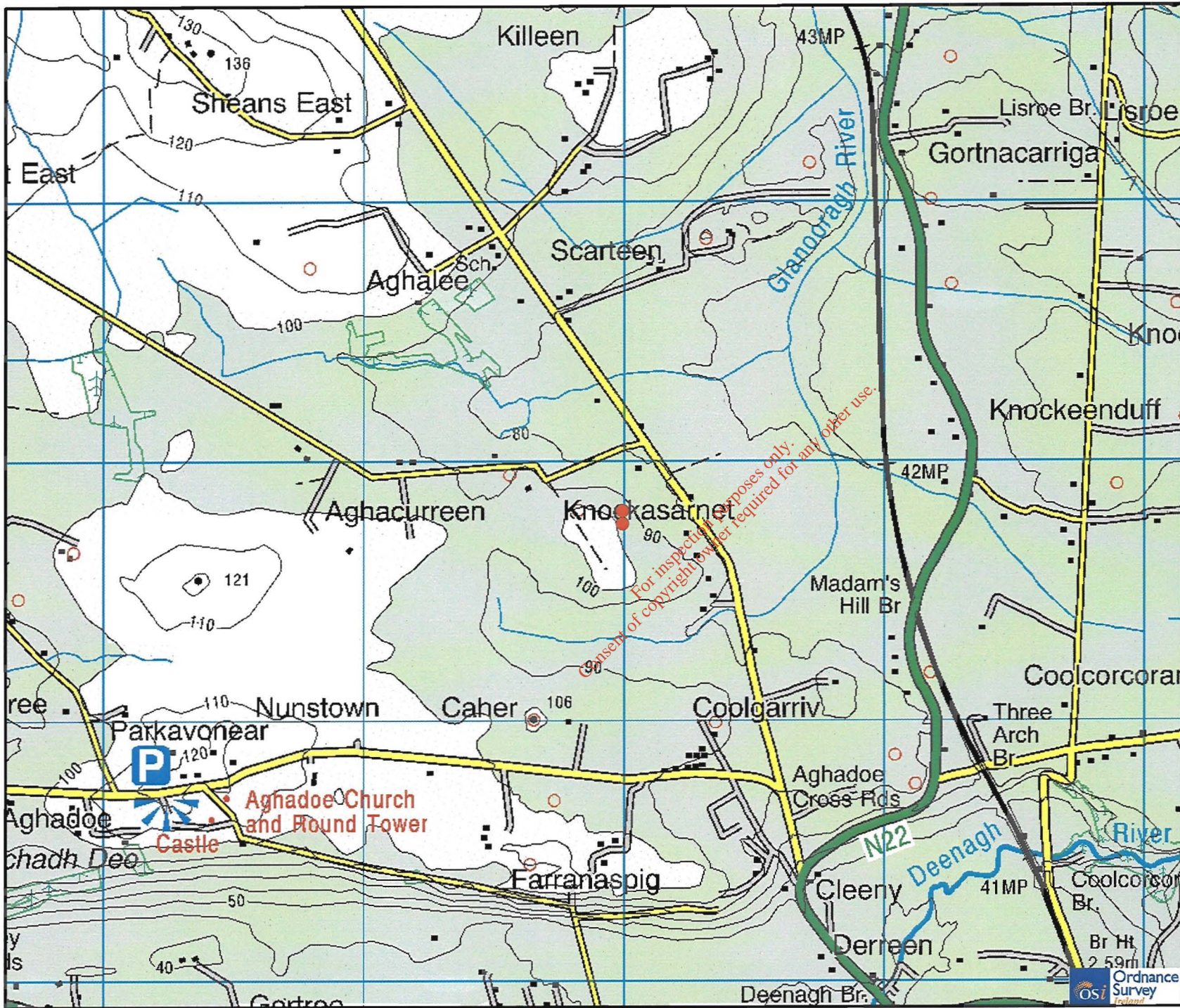
Environment Protection Agency, 2002. *Guidelines to be contained in Environmental Impact Statements*.

Geological Survey of Ireland, 1997. *Geology of Cork-Kerry*. Sheet 21. Scale 1:100,000.

Geological Survey of Ireland, 1997. *Geology of Cork-Kerry. A Geological Description to accompany the bedrock Geology 1:100,000 Scale Map Series, Sheet 21, Kerry-Cork*.

Institute of Geologists in Ireland, 2002. *Geology and the EIS Process. A Guide*.





**Legend**

- Well

Kerry

**Project**  
Killarney Waste Disposal - WLA

**Title**  
Well Location

**Figure** 1

**RPS mcOS**

Change House  
Dun Laoghaire  
Co. Dublin  
Phone: 01-2020870  
Fax No. 01-2020707  
rpsmcos@rpsmcos.ie

Issue Details	
Drawn: SK	Project No. MGE0031
Checked: FC	File Ref.
Approved: SA	MGE0031M0001F01
Scale: NTS	Drawing No. Rev.
Date: 08/09/2004	M0001 F01

**Notes**

- The drawing is the property of RPS-mcOS Ltd. It is a confidential document and must not be copied, used or its contents divulged without prior written consent.
- All levels are referred to Ordnance Datum Mean High.
- NOT TO SCALE, use figured dimensions only, if in doubt ask.
- Ordnance Survey Ireland Licence No. EN1 0005004 Copyright Government of Ireland.

**OSI** Ordnance Survey Ireland



**RPS-MCOS Ltd.  
ARCHAEOLOGY &  
CULTURAL HERITAGE**

**B**

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



## DOCUMENT CONTROL SHEET

Client	Killarney Waste Disposal					
Project Title	Killarney Waste Disposal – Waste Licence Application					
Document Title	Archaeological, Architectural and Cultural Heritage Assessment					
Document No.	MGE0031RP0002					
This Document Comprises	DCS	FOC	Text	List of Tables	List of Figures	No. of Appendices
	1	1	8	-	-	2

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
F01	Final	S. Aherne	J. McManus	W. Madden	Galway	22/09/04

## TABLE OF CONTENTS

1	INTRODUCTION .....	1
2	METHODOLOGY.....	2
2.1	Sites and Monuments Record and Record of Monuments and Places ...	2
2.2	Stray Finds Register .....	2
2.2.1	The National Museum of Ireland .....	2
2.2.2	Kerry County Museum .....	2
2.2.3	Kerry County Council.....	2
2.3	Excavations Database .....	2
2.4	Cartographic Sources .....	3
3	DESCRIPTION OF THE EXISTING ENVIRONMENT .....	4
3.1	Archaeological Heritage .....	4
3.2	Architectural Heritage .....	5
3.3	Cultural Heritage .....	5
3.3.1	Prehistoric Killarney and Arrival of Christianity .....	5
3.3.2	The Townland of Aughacurreen .....	5
4	PROPOSED DEVELOPMENT.....	6
5.	POTENTIAL IMPACTS .....	7
6.	SUMMARY & RECOMMENDATIONS .....	8
7.	REFERENCES.....	8

**Appendix A**

**Correspondence**

**Appendix B**

**Drawings**

# 1 INTRODUCTION

RPS-MCOS Ltd were appointed by Killarney Waste Disposal to prepare a Waste Licence Application with Environmental Impact Assessment for a proposed extension to the Waste Materials Recovery Facility at Aughacurreen, Killarney, Co. Kerry. As part of this assessment the potential impacts of this proposed extension were identified and recommendations proposed in relation to archaeology, architectural and cultural heritage.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



## 2 METHODOLOGY

### 2.1 Sites and Monuments Record and Record of Monuments and Places

Between 1984 and 1997 a list of all known and potential sites for each county were compiled in the Sites and Monuments Record (SMR), which was based on a paper survey of the 1<sup>st</sup> edition Ordnance Survey of Ireland carried out in the 1840s and 1850s, reports from various antiquarians, academic journals and excavation reports. This record shows that an archaeological site existed at some time and was recorded however it does not indicate whether these sites survive up to the present day.

### 2.2 Stray Finds Register

#### 2.2.1 The National Museum of Ireland

The topographical files of the National Museum of Ireland archive have records of stray finds that have been discovered and given to the state by the finders. Each find is identified by the townland in which it was found. The location and the nature of the find and in some cases excavation reports are available. There were no stray finds recorded in the townland of Aughacurreen where the facility is located.

#### 2.2.2 Kerry County Museum

The Curator of the Kerry County Museum was also consulted regarding any stray finds in the study area. No stray finds in this area were recorded at the museum however it was advised by the Curator to consult the County Archaeologist.

#### 2.2.3 Kerry County Council

Correspondence received from the Heritage Officer from Kerry County Council on 23/07/04, which is included in Appendix A stated "that there are no known monuments within 500m of the proposed extension. Two monuments are located just outside a 500m radius KE 58-093 Ringfort and KE 066-027 Fulacht Fiadh. A Late Bronze Age hoard was recovered from the neighbouring townland of "Knockasarnet".

### 2.3 Excavations Database

The website [www.Excavations.ie](http://www.Excavations.ie) was consulted to check if any previous excavations were carried out in the area. No excavations were registered for the area.

## 2.4 Cartographic Sources

The following historical map sources were consulted:

- The first edition map of the Ordnance Survey (OS) six-inch series, surveyed in 1841-42.
- The Sites and Monuments Record (SMR) constraints map which is based on the six inch OS revised edition 1894.

These maps were consulted at the Local History Section of the Kerry County Library in Tralee, County Kerry and the Archaeological Survey at 51, St. Stephens Green, Dublin 2 respectively.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

### 3 DESCRIPTION OF THE EXISTING ENVIRONMENT

#### 3.1 Archaeological Heritage

Drawing No. DG0001-04 shows the locations of sites and monuments within 500m and 1km from the boundary of the Killarney Waste Disposal facility. The data for this drawing was taken from the Sites and Monuments Record (SMR) for County Kerry. No sites or monuments are located within a 500m boundary. Six sites are located within 1km from the facility, descriptions of which are shown below in Table 1.

**Table 1: Sites and Monuments located within 1km boundary from Facility.**

Monument Number	National Grid	Townland	Classification
Monument No. KE066 -026	9404 9319	Nunstown	Fulachta Fiadh
Monument No. KE066 -027	9436 9332	Aghacurreen	Fulachta Fiadh
Monument No. KE058 -087	9380 9476	Aghalee Beg	Enclosure
Monument No. KE058 -088	9267 9349	Gortaree	Enclosure
Monument No. KE058 -089	9288 9366	Curragh	Enclosure
Monument No. KE058 -093	9457 9396	Knockasarnet	Ringfort (Rath\Cashel)

A booklet prepared by the Department of Environment, Heritage and Local Government describes the Irish field monument types in more detail as follows:

#### Fulachta Fiadh

Fulachta Fiadh are described as ancient cooking places, which were used from at least the Bronze Age down to the historic period and the method of using them is described in early texts. They usually survive as small horseshoe-shaped mounds made up mainly of small pieces of blackened stone and situated close to a waste source or in marshy or formerly marshy ground.

#### Enclosures

A large proportion of old church sites and graveyards around the country are on the sites of Early Christian ecclesiastical foundations which were originally surrounded by large enclosures, often circular or oval in plan, and usually far more extensive than the surviving graveyards. In some instances the entire enclosing bank, ditch or stone wall survives but more often the line of the enclosure is only indicated by curving field boundaries or cropmarks or low earthworks visible only from the air.

#### Ringforts

The ringfort is a space surrounded by an eathern bank formed of material thrown up from a fosse or ditch immediately outside the bank. Generally they vary from 25-50 metres in diameter. In some areas, a massive stone wall enclosed the site in place of a bank and ditch. This type of ringfort is called a caher, cashel or stonefort and well preserved examples may have terraces and

steps in the inner face of the wall. Ringforts were erected as protected enclosures around farmsteads mainly during the Early Christian period (C. 500 – 1100 AD).

## 3.2 Architectural Heritage

The rural nature of the location of the facility ensures that the architectural heritage is characterised by structures that serve primarily domestic and agricultural purposes. As shown in the first edition Ordnance Survey surveyed in 1841-1842, the ruins of 19th century cottages were evident. These cottages remain today on a nearby farmstead.

## 3.3 Cultural Heritage

### 3.3.1 Prehistoric Killarney and Arrival of Christianity

The first residents of the Killarney area were the Bronze Age Beaker Folk, from around 2000 BC. They mined copper on Ross Island. They led a prosperous life with strong trade ties to the Continent. The Beaker Folk were generally peaceful farmers. However in the beginning of 500 BC, the first invaders from the North of Ireland Pictish tribes came to Killarney. According to the legend, the ruling tribe in Killarney was descended from Queen Mebh's son Cair and was known as the Ciarraige. It is from this name that "Kerry" is derived.

In approximately 400 BC, the Fir Bolg of Inverni arrived who were experts in stone masonry. They created stone forts and developed the Ogham script.

The Gaels who later called themselves the Milesians arrived in 100 BC. It took them 500 years to dominate the other groups. From then on Killarney rulers were called Eoganacht Locha Lein.

Around 400 AD the first Christian communities were established around this time with St. Abban building a cell at Aghadoe. The Eoganacht Locha Lein ruled undisturbed for 200 years until they were defeated by another Milesian family from Cashel, the O'Donoghue/MacCarthy's. From 1200 onwards, the Anglo-Normans launched attacks on the O'Donoghue/MacCarthy's. The Anglo-Normans were defeated at Callan in 1261. The O'Donoghue/MacCarthy family built Ross Castle and Muckross Abbey. Then in 1583, the English defeated the O'Donoghue/MacCarthy's, and most of their lands were handed over to Sir Vincent Browne.

### 3.3.2 The Townland of Aughacurreen

The townland of Aughacurreen is located 4.5km northwest of Killarney Town. It is described by the Ordnance Survey Name Book for Co Kerry:

*"as Acad a curraoin, field of the small moor-*

*This townland contains --- acres of arable and --- acres of bog. The proprietor H.A. Herbert Esqr. has it let to tenants on a lease of 21 years at £2 per acres. One eight tilled; soil good; no limestone. County Cess not paid by the acres but by Gneeves which is an indefinite quantity of land, varying in different townlands being in some places more and some less."*



## 4 PROPOSED DEVELOPMENT

Appendix B contains the Existing Site Layout Plan and the Proposed Site Layout Plan for the facility. Killarney Waste Disposal (KWD) currently operate a Materials Recovery Facility under a Waste Permit from Kerry County Council and accept 16,500 tonnes of non-hazardous waste per annum for processing. KWD propose to increase the annual intake to 40,000 tonnes and extend the current KWD facility by constructing a new processing building. Therefore they are required to apply to the EPA for a Waste Licence and an Environmental Impact Statement will accompany the application. The size of the existing building on site is 720 square metres and the new extension will be 2,503 square metres (total size 3,333 square metres). The total area of the site is approximately 2.2 hectares.

The landscape character of the area is defined by a combination of agricultural farmlands, bog lands and forested areas. The topography of the site and the surrounding lands is generally low lying. A stream is running through the site which has already been diverted. Peatland and wet grassland are located to the west of the site where the stormwater treatment system is located. The area for the proposed extension is covered in a hardcore surface fill. Please refer to the Existing and Proposed Layout Plans and Figure 1.

**Figure 1: Area for Proposed Extension (Facing Southeast towards the Existing Building).**



## 5. POTENTIAL IMPACTS

The proposed extension area is located in a low lying landscape surrounded by peatland and poor drained land with natural watercourses intersecting the site. This type of landscape is characteristic of where most archaeological sites of interest are often found as these areas would have been favourable to settlers.

Although there are no known sites within a 500m boundary of the site, as the surrounding area has recorded sites then there is a possibility that unknown sites remain to be discovered.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## 6. SUMMARY & RECOMMENDATIONS

An investigation of archaeological and historical sources has confirmed that the proposed extension site at Killarney Waste Disposal Ltd., Aughacurreen, Co. Killarney is situated within an area which contains archaeological remains. However the proposed extension area itself does not contain any recorded archaeological monuments and does not appear to have been the site of any recorded finds. The most significant artefact recorded from the surrounding area is a hoard dating from the late Bronze Age, which was recovered from the neighbouring townland of "Knockasarnet".

The Department of Environment, Heritage and Local Government recommended that a geophysical survey of the site be undertaken as part of the Environmental Impact Statement (correspondence in Appendix A). However the significance of a geophysical survey is not an issue due to the fact that the proposed extension area is covered in hardcore fill and therefore it is considered that this method of investigation will not provide any additional information to the assessment.

Therefore the following recommendations are proposed:

1. The site preparatory works within the proposed extension area will be monitored by a qualified archaeologist. This will ensure that any archaeological features that may be disturbed will be identified.
2. The stream on site should be inspected by a qualified archaeologist to assess its archaeological potential.

Mitigation measures will be finalised following consultation with the Department of Environment, Heritage and Local Government.

## 7. REFERENCES

Environmental Protection Agency (EPA), 1995. *Draft Guidelines on the information to be contained within Environmental Impact Statements.*

Environment Protection Agency, 2002. *Guidelines to be contained in Environmental Impact Statements.*

The Topographical Files of the National Museum of Ireland Archive.

Record of Sites and Monuments archaeological constraints maps, manuals and files.

Department of Heritage and Local Government, 2003. *Irish Field Monuments.*

*Ordnance Survey Name Books for County Kerry, Volume I.*