



ENVIRONMENTAL BALANCE IN DESIGN AND CONSTRUCTION

KNOCKHARLEY LANDFILL LTD.

ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR) FOR PROPOSED DEVELOPMENT AT KNOCKHARLEY LANDFILL

VOLUME 2 – MAIN EIAR

CHAPTER 14 – ACHAEOLOGY, ARCHITECTURE AND CULTURAL HERITAGE

NOVEMBER 2018



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

TABLE OF CONTENTS

Page

14	CULTURAL HERITAGE	1
14.1	INTRODUCTION	1
14.2	STUDY AREA	1
14.3	METHODOLOGY	2
14.3.1	<i>Data Sources</i>	2
14.3.2	<i>Field Inspections</i>	3
14.4	EXISTING ENVIRONMENT	3
14.4.1	<i>Archaeological and Historical Background</i>	3
14.4.2	<i>Record of Monuments and Places (RMP)</i>	4
14.4.3	<i>National Monuments</i>	7
14.4.4	<i>Meath County Development Plan 2013 - 2019</i>	10
14.4.5	<i>Protected Structures</i>	10
14.4.6	<i>Architectural Conservation Areas</i>	10
14.4.7	<i>National Inventory of Architectural Heritage (NIAH)</i>	10
14.5	SUMMARY OF KEY POSSIBLE IMPACTS	11
14.5.1	<i>Construction Phase Impacts: Direct and/or Indirect</i>	11
14.5.2	<i>Operational Phase Impacts: Direct and/or Indirect</i>	11
14.6	MITIGATION MEASURES	11
14.6.1	<i>Construction Mitigation Measures</i>	11
14.6.2	<i>Operational Mitigation Measures</i>	12
14.7	RESIDUAL IMPACTS AFTER MITIGATION	12
14.8	MONITORING	12
14.9	CONCLUSION & SUMMARY	12
14.10	REFERENCES	14

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

APPENDICES

Appendix 14.1: Surrounding Lands Field Inspection, Archaeological and Historical Background, Fieldwork & Cartographical Analysis.

LIST OF TABLES

Page

TABLE 14-1: RMP SITES WITHIN 2 KM OF PROPOSED DEVELOPMENT AREA.....	4
TABLE 14-2: ARCHITECTURAL CONSERVATION AREAS WITHIN 1 KM OF THE PROPOSED DEVELOPMENT AREA...	10
TABLE 14-3: NIAH HISTORIC GARDENS AND DESIGNED LANDSCAPES WITHIN 1 KM OF THE PROPOSED DEVELOPMENT	10
TABLE 14-4: SUMMARY OF IMPACTS	12

LIST OF FIGURES

FIGURE 14-1: RMPs WITHIN 2 KM OF PROPOSED DEVELOPMENT AREA	8
FIGURE 14-2: NIAHS WITHIN 1 KM OF PROPOSED DEVELOPMENT AREA.....	9

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

14 CULTURAL HERITAGE

This chapter has been prepared by Dermot Nelis Archaeology.

14.1 Introduction

This chapter assesses the impacts, if any, of the proposed development at the facility on the archaeological, historical and cultural environment in the vicinity of the site. This section will also propose mitigation measures to safeguard any monuments, features or finds of antiquity if required.

The objectives of this section are to:

- identify all known features of archaeological, architectural and cultural heritage importance in the vicinity of the proposed development
- determine any potential impacts of the proposed development on the archaeological, architectural and cultural heritage resource
- identify measures to mitigate any potential impacts of the development on the archaeological, architectural and cultural heritage resource.

14.2 Study Area

There is no professional standard for defining the extent of a study area when assessing potential impacts on archaeological, architectural or cultural heritage remains. A study area of 1 km has been imposed around the proposed development to assess the presence of statutorily protected archaeological remains. A 1 km study area is an industry agreed approach for assessing potential impacts on archaeological remains and is accepted by National Monuments Service as providing an adequate assessment of any impacts that may occur on archaeological features. This involved mapping all Recorded Monuments within 1 km of the facility and assessing their potential to be impacted on as a result of the proposed development.

In addition, a study area of 1 km has been imposed around the proposed development area to record the presence of Protected Structures or any additional statutorily protected archaeological, architectural or cultural heritage features recorded in the *Meath County Development Plan 2013 – 2019* or the National Inventory of Architectural Heritage.

In relation to the potential visual impacts arising from the proposed development on important archaeological sites such as Bru na Boinne, the Hill of Tara, the Hill of Slane, and other archaeological sites, Chapter 13: Landscape deals with the potential visual impacts arising from the proposed development.

The key objectives of this report are to assess, as far as is reasonably possible from existing records, the potential impacts of the proposed development on the archaeological, architectural and cultural heritage resource. The following key issues are addressed:

- Direct and indirect impacts of construction activities on recorded and unrecorded archaeological, architectural and cultural heritage features
- Direct and indirect impacts of the operation of the proposed development on recorded and unrecorded archaeological, architectural and cultural heritage features
- Residual impacts of the proposed development on recorded and unrecorded archaeological, architectural and cultural heritage features.

14.3 Methodology

The study involved detailed interrogation of the archaeological and historical background of the proposed development area and its surrounding landscape. This included information from the:

- Record of Monuments and Places (RMP) of County Meath
- Topographical Files of the National Museum of Ireland
- Meath County Council's *Meath County Development Plan 2013 – 2019*
- National Inventory of Architectural Heritage, cartographic and documentary records and aerial photographs
- Environmental Protection Agency's *Guidelines on the Information to be Contained in Environmental Impact Statements* (2002). Environmental Protection Agency (EPA). 2002. Guidelines on the Information to be Contained in Environmental Impact Statements.
- EPA. 2003. Advice Notes on Current Practice (in the preparation of Environmental Impact Statements).
- EPA. 2017. Guidelines on the Information to be Contained in Environmental Impact Assessment Reports- Draft.

An impact assessment and mitigation strategy has been prepared. The impact assessment is undertaken to outline potential adverse impacts the proposed development may have on the archaeological, architectural or cultural heritage resource, while the mitigation strategy is designed to avoid, reduce or offset such adverse impacts.

Research has been undertaken in two phases. The first phase comprised a paper and digital survey of archaeological, historical and cartographic sources. The second phase involved a field inspection of the proposed development area.

14.3.1 Data Sources

The following sources were examined, and a list of sites and areas of archaeological, architectural and cultural heritage potential was compiled:

Record of Monuments and Places of County Meath - This is a list of archaeological sites known to the National Monuments Service. Back-up files of the Sites and Monuments Record (SMR) provide details of documentary sources and field inspections where these have taken place. There are no sites recorded on the RMP within the proposed development area or the 1 km study area.

Topographical Files of the National Museum of Ireland – This is the archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts, but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information in the discovery of sites of archaeological significance.

The **Meath County Development Plan** (2013 - 2019) contains Policies and Objectives on the preservation and management of archaeological, architectural and cultural heritage features. It was consulted to obtain information on sites within the proposed development area and the 1 km study area.

National Inventory of Architectural Heritage (NIAH) - This is a section within the Department of Arts, Heritage and the Gaeltacht (DoAHG). The work of NIAH involves identifying and recording the architectural heritage of Ireland from 1700 to the present day. The NIAH website also contains a non-statutory register of historic gardens and designed landscapes, and this was assessed to look for the presence of any such locations within the proposed development area and the 1 km study area.

Cartographic sources - These are important in tracing land-use development within the proposed development area, as well as providing important topographical information on sites and areas of archaeological potential. Cartographic analysis of relevant maps has been made to identify any topographical anomalies that may no longer remain within the landscape.

Documentary sources were consulted to gain background information on the historical and archaeological landscape surrounding the proposed development area.

Aerial photographs of Ordnance Survey Ireland and Bing aerial photography - This coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its potential to contain previously unidentified archaeological remains.

14.3.2 Field Inspections

Field inspection is necessary to determine the extent, character and condition of archaeological, architectural and cultural heritage remains, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The areas walked correspond to the areas of development as identified in Chapter 2 of this EIAR and comprise the IBA facility, the biological treatment plant area, the leachate plant area, the surface water lagoon location, areas of potential tree felling and locations for screening berm development.

In addition, land surrounding these areas, but which does not form part of the proposed development, was also visually assessed in an attempt to gain information on the wider landscape. Further information in relation to the field inspection undertaken is included in Appendix 14.1 of Volume 3 of this EIAR.

14.4 Existing Environment

14.4.1 Archaeological and Historical Background

There are no Recorded Monuments within the proposed development area or the 1 km study area (www.archaeology.ie). The closest Recorded Monument (RMP ME026-030) is located approximately 1.3 km west of the landfill site boundary and takes the form of a possible ringfort (Figure 14-1).

Reference to Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie) has shown that seven fieldwork projects have been carried out in Knockharley townland, the location of the proposed development. All fieldwork programmes were directly associated with the development of the Knockharley landfill site and were required by Condition 2(b) of planning permission PL17.220331, as approved by An Bord Pleanála, which relates to the ongoing site development. Condition 8.11 of the facility Industrial Emissions (IE) licence also requires the undertaking of archaeological assessment prior to development works onsite.

Of the seven projects, only one failed to reveal features or artefacts of archaeological significance. Of the remaining, fieldwork revealed evidence of a possible below-ground circular enclosure, a burnt mound or fulacht fiadh, a number of pits, linear spreads, deposits of burnt stone, a deer pit and a well. In addition, fieldwork carried out in 2016 within the landfill site and immediately west of the proposed lined cell revealed a possible truncated fulacht fiadh or burnt spread with associated pit features, four closely related pit features with burnt stone and clay and a small linear feature with a pit which was also filled with burnt stone and clay.

All of these features have been located within the immediate environment of the proposed development, and as such, they confirm the landscape surrounding the development area to have the potential to contain previously unrecorded archaeological remains.

No fieldwork projects are recorded as having been carried out in Flemingstown townland.

Information on artefact finds and excavations from County Meath is recorded by the National Museum of Ireland. There was no record of any finds from within Knockharley or Flemingstown townlands noted in the Topographical Files. Finds recorded from townlands in the wider vicinity of the proposed development area include a polished stone axehead, a stone axe, a bronze vessel and an ogham stone.

Reference to cartographic sources failed to identify any archaeological or architectural features within the proposed development area. A townland and parish boundary forms the majority of the northern boundary of the landfill site, and also part of the north-eastern boundary.

A townland boundary is recorded along all of the western and southern borders of the site. A townland boundary will be truncated by construction of the lined cell.

Five small presumably vernacular structures are recorded in the extreme northern end of the development area on cartographic sources but outside the land take required for construction of the landscaping berms or stream diversion. A well is also noted in this general area on the First Edition 1:2,500 Ordnance Survey map, but this feature is again outside all areas of proposed land take.

There was no evidence of any archaeological, architectural or cultural heritage features recorded on aerial photographs within the proposed development area or the surrounding landscape.

No archaeological, architectural or cultural heritage features were revealed within the proposed development area or the surrounding landscape as a result of carrying out the walkover survey.

Detailed information on the archaeological and historical background of the landscape surrounding the proposed development area, as well as a summary of previous fieldwork undertaken and the cartographical analysis carried out, is provided in Appendix 14.1.

14.4.2 Record of Monuments and Places (RMP)

There are no Recorded Monuments within the proposed development area or the 1 km study area. There are 13 Recorded Monuments located within 2 km of the landfill site boundary (Figure 14-1). The closest Recorded Monument (RMP ME026-030) is located approximately 1.3 km west of the landfill site boundary and takes the form of a possible ringfort.

Table 14-1: RMP sites within 2 km of Proposed Development Area

RMP No.:	ME026-013
Townland:	Brownstown
Classification:	Enclosure
Distance from proposed development area:	c. 2 km
Description:	Sub-circular area defined by a fosse (dimensions 40 m east/west x 36 m north/south). The fosse is almost obliterated on the east side. Original entrance may have been there. The monument is set within a large tree-ring.
Reference:	www.archaeology.ie
RMP No.:	ME026-014 and 026-014001
Townland:	Brownstown
Classification:	Church and graveyard
Distance from proposed development area:	c. 1.7 km
Description:	Located towards the top of the north east-facing slope of a hill. A church at Brun is listed in the ecclesiastical taxation (1302-06) of Pope Nicholas IV. At the Suppression in 1540 the rectory, or office of parish priest, with 20 acres was vested in St. Mary's Cistercian abbey in Dublin, and Edward Dowdall of Broniston was a witness at an inquiry. According to Ussher (1622) the church and chancel were ruined.

	<p>Dopping's Visitation (1682-85) states the parish church of St. Michael at Brownstown was unrepaired since 1641 and that it was not enclosed.</p> <p>In 1640 the parish of Brownstown, consisting of the townlands of Brownstown and Realtoge, amounted to almost 700 acres and was the property of Nicholas Dowdall. A large stone house at Brownstown is the only item recorded on the Down Survey (1656-58) parish map and its terrier or commentary.</p> <p>The grass-covered foundations of an east/west building (internal dimensions 13.35 m east/west x 5.75 m north/south) with possible doorways towards the west end of the north and south walls is within a neglected sub-rectangular graveyard (dimensions c. 40 m north/south x c. 40 m east/west). The graveyard has a small number of headstones dating from 1786 to 1934. Cogan (1862-70) records that the chancel arch stood 20 feet (c. 6 m) from the east end of the church and that there was a tomb of Catherine Plunkett, daughter of Mathew Plunkett, baron of Louth, which would date to c. 1700. This tomb has not been identified however.</p>
Reference:	www.archaeology.ie
RMP No.:	ME026-030
Townland:	Realtoge
Classification:	Ringfort- unclassified
Distance from proposed development area:	c. 1.3 km
Description:	This possible ringfort was identified on LIDAR.
Reference:	www.archaeology.ie
RMP No.:	ME032-005
Townland:	Kentstown
Classification:	Font- present location
Distance from proposed development area:	c. 1.5 km
Description:	<p>The font from Timloole church (RMP ME032-013) was moved to the Roman Catholic church at Kentstown, c. 5km to the west, shortly after the Catholic church was built. The limestone octagonal font with chamfered under-panels and a circular flat-bottomed basin (internal diameter 0.48 m; depth 0.24 m) is resting on an octagonal sandstone base. The English inscription in Roman letters running on all the sides below the rim reads: THIS / FANT / STONE WAS / BWYLDE / D BY ROBA / RE HOLI / WOD AN / DNI. 1597 / HE BEYN / GE RROCT /OR.</p>
Reference:	www.archaeology.ie
RMP No.:	ME032-006, ME032-006001 and ME032-006002
Townland:	Kentstown
Classification:	Church, graveyard and tomb
Distance from proposed	c. 1.4 km

development area:	
Description:	Located at the southern edge of a level landscape and at the crest of a south-facing slope down to the west/east Nanny River, which is c. 150 m distant. The church of the "vill de Kent" is listed in the ecclesiastical taxation (1302-06) of Pope Nicholas. Ussher (1622) describes the church as ruined and the chancel as indifferently repaired. Dopping (1682-85) says the church was unrepaired since 1641 and it was not enclosed. The present Church of Ireland church was built c. 1750 when it became the head of Union with the parishes of Danestown and Ballymagarvey. It is within a sub-rectangular graveyard (RMP ME032-006001), measuring c. 55 m north/south x c. 38 m east/west at north and c. 45 m east/west at south, defined by masonry walls, but there is no evidence of an earlier structure. The mid-14th century effigy of Sir Thomas de Tuite (RMP ME032-006001) carved in low relief with a Latin inscription in gothic lettering along the long sides is displayed in the present church.
Reference:	www.archaeology.ie
RMP No.:	ME032-007
Townland:	Danestown
Classification:	Ringfort
Distance from proposed development area:	c. 1.8 km
Description:	Raised oval area defined by the remains of an earthen bank measuring 41 m east north east/west south west x 34 m north west/south east, with an external fosse and outer bank (maximum external diameter 82 m east north east/ west south west). There is an entrance and causeway at the south west.
Reference:	www.archaeology.ie
RMP No.:	ME032-008001 and ME032-008002
Townland:	Danestown
Classification:	Church, graveyard and font
Distance from proposed development area:	c. 1.95 km
Description:	Located on a slight rise of a south-facing slope near the west head of a small west/east valley. The parish church of Danestown (RMP ME032-008) is within a sub-rectangular graveyard (RMP ME032-008001) measuring c. 65 m north east/south west x c. 30 m north west/south east at north east to c. 48 m north east/south west at south west. It is defined by a stone-faced earthen bank c. 4-5 m wide. The inscriptions of many of the headstones have been published. Three pieces of window sill are used as grave-markers, and the head of an ogee-headed window and pieces of window tracery are in the graveyard. Inside the entrance on the north side of the graveyard is part of a font (RMP ME032-008002).
Reference:	www.archaeology.ie
RMP No.:	ME032-063003

Townland:	Burtonstown
Classification:	Ring-ditch
Distance from proposed development area:	c. 2 km
Description:	No further information is supplied in the National Monument's Service database.
Reference:	www.archaeology.ie

14.4.3 National Monuments

The Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs maintains a database on a county basis of National Monuments in State Care (www.archaeology.ie). The term National Monument is defined in Section 2 of the National Monuments Act (1930) as a monument, or the remains of a monument:

“the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto” (National Monuments Act, Section 2. 1930).

There are no National Monuments in State Care within the proposed development area or the 1 km study area.

There are no sites with Preservation Orders or Temporary Preservation Orders within the proposed development area or the 1 km study area.

There are no World Heritage Sites or Candidate World Heritage Sites within the proposed development area or the 1 km study area.

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

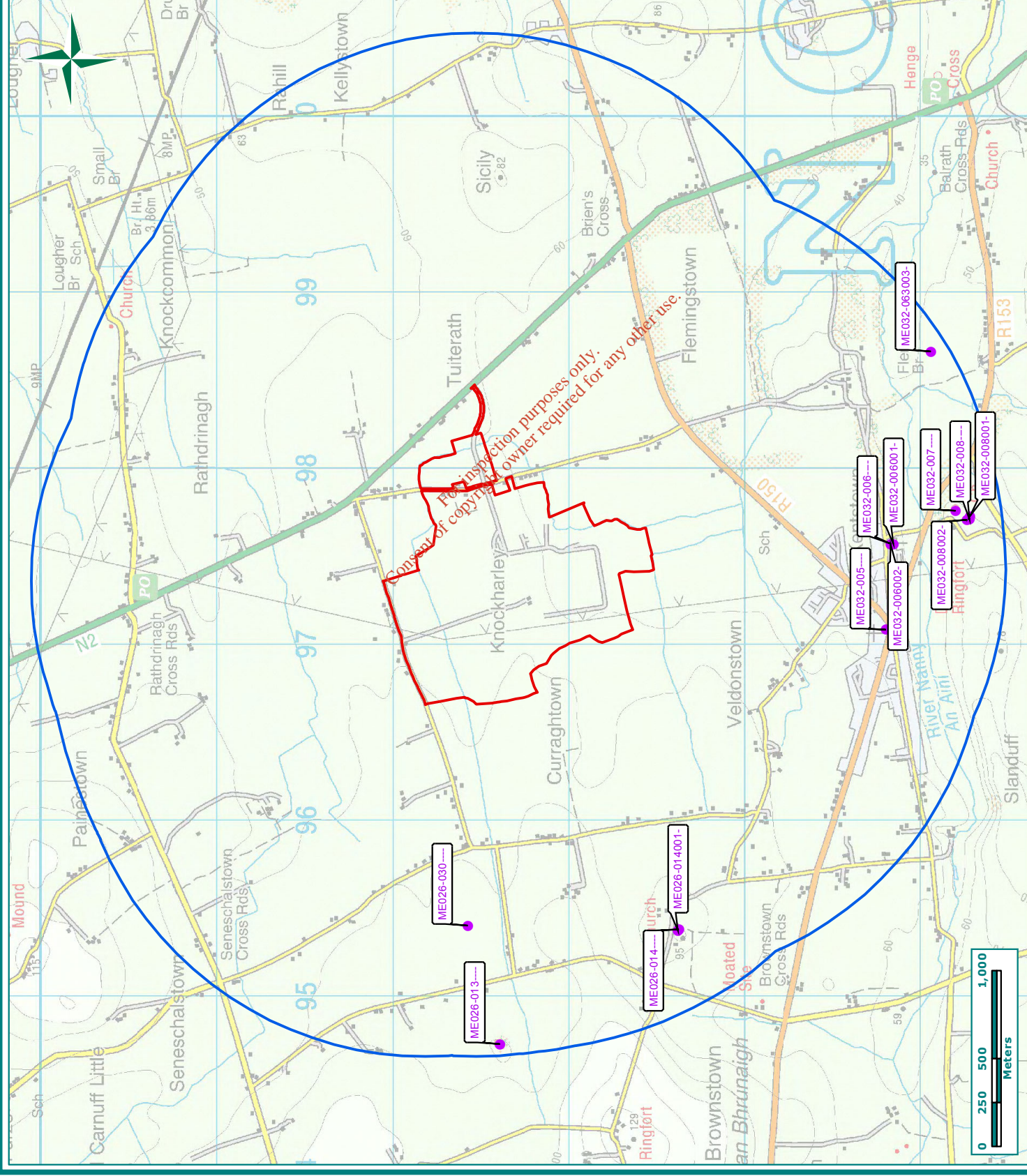
For inspection purposes only.
Consent of copyright owner required for any other use.



Legend

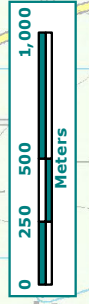
- Site Boundary
- 2km from Site Boundary
- Record of Monuments and Places (RMP)

Date	03/10/2018
Client Name	Knockharley Landfill Ltd.
Project Title	Proposed Development at Knockharley Landfill
Figure Title	RMPs within 2km of the Proposed Development
Figure No.	14.1
Rev.	A
Scale	1:30,000 @ A4



FEHILY TIMONEY & COMPANY
 CONSULTANTS IN
 ENGINEERING &
 ENVIRONMENTAL
 SCIENCES

Core House, Ballyduff Road, Cork, T12 D773, Ireland
 T: +353-21-4964135, F: +353-21-4464
 Unit 16/15 Plaza, North Park Business Park, Dublin 11, D11 PXT0, Ireland
 T: +353-1-6583900, F: +353-1-6583901
 W: www.fehilytimoney.ie E: info@ftco.ie



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



Legend

- Site Boundary
- 1km from Site Boundary
- Somerville Demesne
- National Inventory of Architectural Heritage (NIAH)
- NIAH Gardens (Unofficial)

Date 03/10/2018

Client Name Knockharley Landfill Ltd.

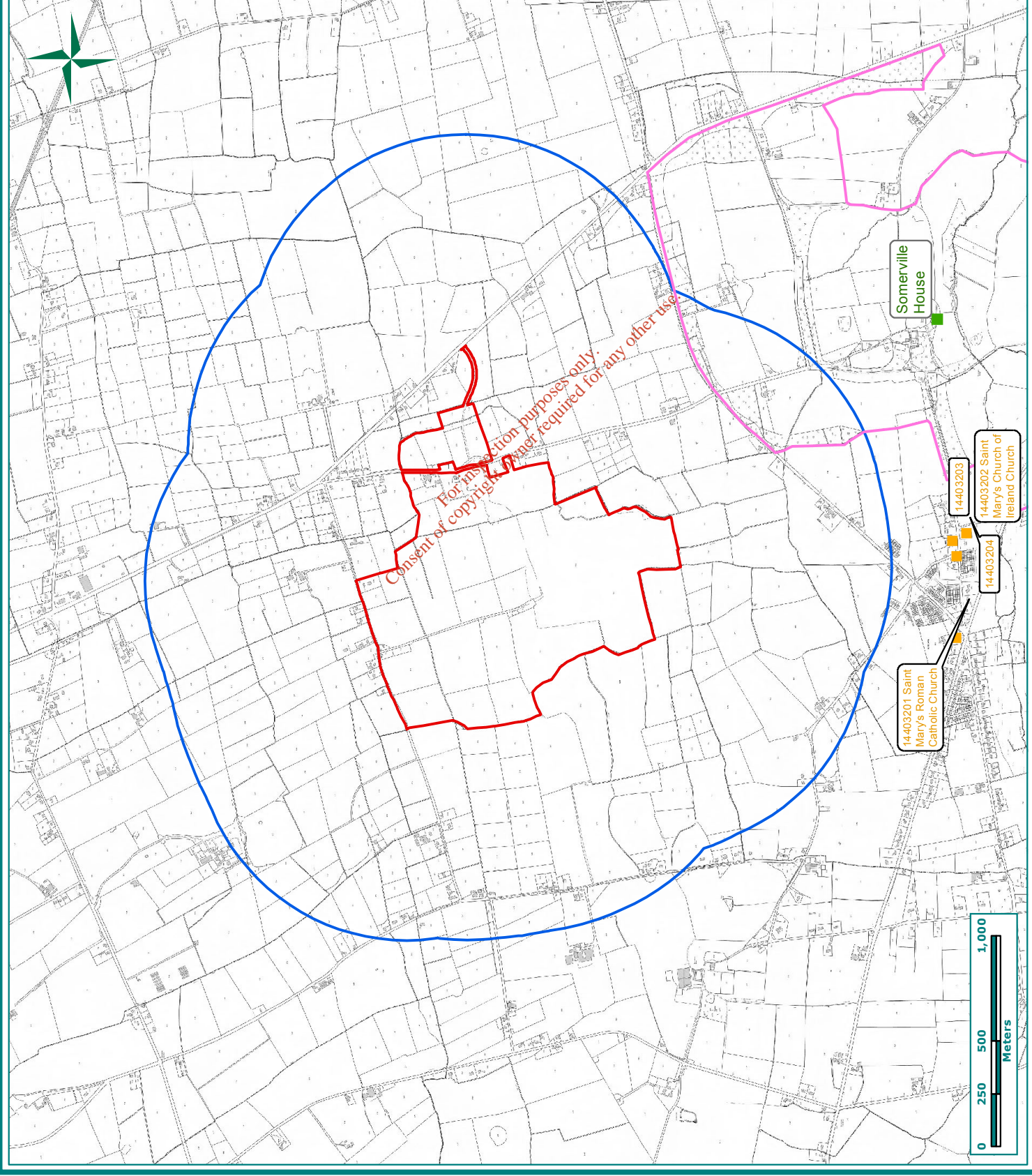
Project Title Proposed Development at Knockharley Landfill

Figure Title NIAH Gardens & Architectural Conservation Areas within 1km of the Proposed Development

Figure No. 14.2
Rev. A
Scale 1:25,000 @ A4

FEHILY TIMONEY & COMPANY
CONSULTANTS IN ENGINEERING & ENVIRONMENTAL SCIENCES

Core House, Boulduff Road, Cork, T12 D773, Ireland
T: +353-21-4964138, F: +353-21-4464
Unit 16/15 Plaza, North Park Business Park, Dublin 11, D11 PXT0, Ireland
T: +353-1-6583300, F: +353-1-6583301
W: www.fehilytimoney.ie, E: info@ftco.ie



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

14.4.4 Meath County Development Plan 2013 - 2019

Appendix 11 of the Meath County Development Plan (2013, 548 – 555) contains a list of *National Monuments in State Care* and the *Register of Historic Monuments*. There are no National Monuments in State Care or Registered Historic Monuments within the proposed development area or the 1 km study area.

14.4.5 Protected Structures

Appendix 8 of the Meath County Development Plan (2013, 393 - 520) contains the *Record of Protected Structures*. There are no Protected Structures within the proposed development area or the 1 km study area.

14.4.6 Architectural Conservation Areas

Appendix 9 of the Meath County Development Plan (2013, 522 - 540) contains a list of *Architectural Conservation Areas*. There are no Architectural Conservation Areas within the proposed development area. There is one Architectural Conservation Area partially within the 1 km study area.

Table 14-2: Architectural Conservation Areas within 1 km of the Proposed development area

Name	Townland	Distance
Somerville Demesne	Flemingstown	c. 600 m at its nearest point south east of the landfill site boundary

14.4.7 National Inventory of Architectural Heritage (NIAH)

NIAH (www.buildingsofireland.ie) maintains a non-statutory register of buildings, structures etc. recorded on a county basis.

There are no entries recorded on the NIAH building survey within the proposed development area or the 1 km study area.

NIAH also maintains a non-statutory register of historic gardens and designed landscapes recorded on a county basis. There are no such features within the proposed development area. There is one such feature partially within the 1 km study area.

Table 14-3: NIAH Historic Gardens and Designed Landscapes within 1 km of the Proposed Development

Name	Townland	Site Status	Distance
Somerville House	Flemingstown	Main features substantially present - peripheral features unrecognisable	c. 600 m at its nearest point south east of the landfill site boundary

14.5 Summary of Key Possible Impacts

Elements of the proposed development with the potential to impact on archaeological, architectural or cultural heritage remains in the vicinity of the proposed development are the IBA facility, the biological treatment facility, the leachate plant area, the surface water lagoon location, areas of potential tree felling and locations for screening berm development.

Development of these facilities will involve the mechanical excavation of all topsoil and overburden down to and through geologically deposited strata at their identified locations, followed by construction activities including, inter alia, the placement of concrete hardstanding, the installation of drainage infrastructure and the erection of buildings and other structures.

As a result of carrying out this assessment, the following potential archaeological, architectural and cultural heritage direct, indirect, construction, operational and residual impacts have been assessed:

14.5.1 Construction Phase Impacts: Direct and/or Indirect

- There are no Recorded Monuments, Protected Structures, Architectural Conservation Areas, NIAH structures or NIAH historic gardens or designed landscapes within the proposed development area. As a result, there will be no direct or indirect construction impact on the recorded archaeological, architectural or cultural heritage resource.
- Fieldwork previously carried out for the phased development of the Knockharley landfill site has revealed substantial archaeological remains within the immediate vicinity of the proposed development area. As such, it is considered there is a potential direct construction impact on previously unrecorded archaeological remains of unknown significance.

14.5.2 Operational Phase Impacts: Direct and/or Indirect

- There will be no direct or indirect operational impact on the archaeological, architectural or cultural heritage resource.
- There is one Architectural Conservation Area partially within the 1 km study area, and it is located approximately 600 m at its nearest point south east of the landfill site boundary. It is confirmed there will be no operational impact on this Architectural Conservation Area.
- There is one NIAH historic garden or designed landscape partially within the 1 km study area, and it is located approximately 600 m at its nearest point south east of the landfill site boundary. It is confirmed there will be no operational impact on this non-statutorily protected landscape feature.

14.6 Mitigation Measures

14.6.1 Construction Mitigation Measures

- Due to fieldwork previously carried out for the phased development of the Knockharley landfill site revealing substantial archaeological remains within the immediate vicinity of the proposed development area, it is proposed that a programme of pre-development licensed geophysical surveying will be carried out in all suitable areas of land take.
- It is proposed that a programme of pre-development test trenching will be carried out after the geophysical survey has been completed and within all areas of proposed land take. Test trenching will take in to account the results of the geophysical survey and will be carried out under licence to the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs and the National Museum of Ireland. Further archaeological mitigation measures, which may include preservation in situ or preservation by record, may be made pending the results of the test trenching programme, and in agreement with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs and the National Museum of Ireland.

14.6.2 Operational Mitigation Measures

- There will be no direct or indirect operational impact on the archaeological, architectural or cultural heritage resource. As such there are no operational mitigation measures required.

14.7 Residual Impacts after Mitigation

There will be no residual impacts on archaeological, architectural or cultural heritage remains after mitigation measures have taken place.

14.8 Monitoring

With the exception of the mitigation measures recommended in Section 15.6 above, there are no future monitoring requirements.

Table 14-4: Summary of Impacts

Potential Impact	Significance	Proposed Mitigation	Residual Impact
Potential direct construction impact on previously unrecorded archaeological remains	Unknown	Licensed geophysical survey and licensed test trenching. Further mitigation measures, which may include preservation in situ or preservation by record, may be implemented pending the results of the test trenching programme	None are envisaged.

14.9 Conclusion & Summary

There are no Recorded Monuments, Protected Structures, Architectural Conservation Areas, NIAH structures or NIAH historic gardens or designed landscapes within the proposed development area. As a result, there will be no direct or indirect construction impact on the recorded archaeological, architectural or cultural heritage resource.

Fieldwork previously carried out for the phased development of the Knockharley landfill site has revealed substantial archaeological remains within the immediate vicinity of the proposed development area. As such, it is considered there is a potential direct construction impact on previously unrecorded archaeological remains of unknown significance. There will be no direct or indirect operational impact on the archaeological, architectural or cultural heritage resource.

There is one Architectural Conservation Area partially within the 1 km study area, and it is located approximately 600 m at its nearest point south east of the landfill site boundary. It is confirmed there will be no operational impact on this Architectural Conservation Area. There is one NIAH historic garden or designed landscape partially within the 1 km study area, and it is located approximately 600 m at its nearest point south east of the landfill site boundary (see Figure 14-2). It is confirmed there will be no operational impact on this non-statutorily protected landscape feature.

Due to fieldwork previously carried out for the phased development of the Knockharley landfill site revealing substantial archaeological remains within the immediate vicinity of the proposed development area, it is proposed that a programme of pre-development licensed geophysical survey will be carried out in all suitable areas of land take.

It is proposed that a programme of pre-development test trenching will be carried out after the geophysical survey has been completed and within all areas of proposed land take. Test trenching will take in to account the results of the geophysical survey and will be carried out under Licence to the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs and the National Museum of Ireland. Further archaeological mitigation measures, which may include preservation in situ or preservation by record, may be implemented pending the results of the test trenching programme, and in agreement with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs and the National Museum of Ireland.

There will be no residual impacts on archaeological, architectural or cultural heritage remains after mitigation measures have taken place.

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

14.10 References

Clancy, P. 2009. "A weave not to be forgotten", in Seanda, Issue No. 04. Dublin.

Department of Arts, Heritage, Gaeltacht and the Islands. (DAHGI). 1999a. Framework and Principles for the Protection of the Archaeological Heritage. Dublin.

DAHGI. 1999b. Policy and Guidelines on Archaeological Excavation. Dublin.

Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Record of Monuments and Places, County Meath. Unpublished.

Edwards, N. 2006. The Archaeology of Early Medieval Ireland. Oxford.

Environmental Protection Agency (EPA). 2002. Guidelines on the Information to be Contained in Environmental Impact Statements. Dublin.

EPA. 2003. Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Dublin.

EPA. 2017. Guidelines on the Information to be Contained in Environmental Impact Assessment Reports-Draft. Dublin.

Fehily Timoney and Company. 2008. Environmental Impact Statement for Intensification of Waste Intake at Knockharley Landfill, Co. Meath. Unpublished.

Kelly, E.P. 2006. "Secrets of the Bog Bodies: The Enigma of the Iron Age Explained", in Archaeology Ireland Vol. 20, No. 1, Issue No. 75. Wicklow.

Lewis, S. 1837. A Topographical Dictionary of Ireland. Two Volumes. London.

Meath County Council. 2013. Meath County Development Plan 2013 – 2019. Meath.

National Museum of Ireland. Topographical Files, County Meath. Unpublished.

Stout, M. 1997. The Irish Ringfort. Dublin.

Waddell, J. 2005. The Prehistoric Archaeology of Ireland. Wicklow.

Walsh, J.R. 2000. "The Early Church", in Jefferies, H.A. and Devlin, C. (eds.). History of the Diocese of Derry from Earliest Times. Dublin.

Internet Sources:

www.archaeology.ie	National Monuments Service
www.bing.com/maps	Bing aerial photography
www.buildingsofireland.ie	National Inventory of Architectural Heritage
www.excavations.ie	Database of Irish Excavation Reports
www.logainm.ie	Placenames Database of Ireland
www.maps.osi.ie	Ordnance Survey Ireland aerial photographs
www.meath.ie	Meath County Council

Cartographic Sources:

Ordnance Survey. Map Editions 1837, 1907 - 1911 and 1908 - 1911