

15.0 CULTURAL HERITAGE

This chapter of the EIS consists of an assessment of the potential impacts of the proposed development on the archaeological and cultural heritage and architectural heritage. The Chapter is sectioned into two parts:

- Archaeological and Cultural Heritage – Section 15.1
- Architectural Heritage – Section 15.2

This assessment includes a desktop study, description of the receiving environment and an assessment of the potential impact on the receiving environment. Measures to mitigate the likely significant impacts of the proposed development are also provided, where appropriate.

The proposed development site is located in the townland of Lumcloon, in the civil parish of Gallen and the barony of Garrycastle, Co. Offaly. The site is located adjacent to the R357 and approximately 5km south of Ferbane, 22km south of Athlone and 20km west of Tullamore.

15.1 ARCHAEOLOGICAL AND CULTURAL HERITAGE

15.1.1 Introduction

The potential inputs of the proposed development on Archaeological & Cultural Heritage are addressed in this section of the EIS. The following report comprises the results of a desk top study and field survey of the land on which the development is planned.

15.1.2 Methodology

15.1.2.1 Introduction

For the purpose of setting the proposed development within its wider archaeological and cultural heritage landscape, and to assess the archaeological potential of the site, a comprehensive desk top study of available archaeological, historical and cartographic sources was undertaken. A study area of c. 1.5km from the proposed development site was applied. The townlands located within this study area are Bun, Derrycarney, Falsk, Lumcloon and Rin.

15.1.2.2 Record of Monuments and Places

The Record of Monuments and Places (RMP) is compiled by the Archaeological Survey of Ireland (ASI) and comprises lists and maps of monuments known to the National Monuments Service. Monuments recorded in the Record of Monuments and Places are protected under the National Monuments Acts 1930 to 2004. The information contained within the RMP is derived from the earlier non-statutory Sites and Monuments Record (SMR); some entries, however, were not transferred to the statutory record, as they do not fall within the strict criteria for inclusion within the RMP; some, for instance, could not be located with sufficient accuracy. Such sites however remain part of the SMR. The record is a dynamic one and is updated so as to take account of on-going research. The relevant files for these sites contain details of documentary sources and aerial photographs, early maps, OS memoirs, the field notes of the Archaeological Survey of Ireland and other relevant publications. A study area of c. 1.5km from the proposed development was taken; there are no RMP or SMR sites recorded within that area.

15.1.2.3 List of Monuments in State Ownership or Guardianship

National Monuments may be acquired by the Minister for the Environment, Heritage and Local Government whether by agreement or by compulsory order. The State or Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister for the Environment, Heritage and Local Government or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in the ownership or guardianship of the State it may not be interfered with without the written consent of the Minister. There are no monuments within State Ownership or Guardianship within the study area.

15.1.2.4 Register of Historic Monuments

Section 5 of the 1987 National Monuments Act states that the Minister for the Environment, Heritage and Local Government is required to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the register are afforded statutory protection under the 1987 Act. Any interference with sites recorded in the Register without the permission of the Minister is illegal, and two months notice in writing is required prior to any work being undertaken on or in the vicinity of a registered monument.

This list was largely replaced by the Record of Monuments and Places following the 1994 Amendment Act. There are no Registered Historic Monuments within the study area.

15.1.2.5 List of Preservation Orders

Sites deemed to be in danger of damage or destruction can be allocated Preservation Orders under the 1930 National Monuments Act making any interference to the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the circumstances must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with written consent and at the discretion of, the Minister for the Environment, Heritage and Local Government. There are no monuments under Preservation Order within the study area.

15.1.2.6 Offaly County Development Plan 2009 – 2015

The relevant sections of the Offaly County Development Plan 2009 - 2015 (Offaly County Council) were reviewed to highlight potential areas of concern regarding archaeological and cultural heritage.

15.1.2.7 Cartographic Sources

Reference to cartographic sources is important in tracing land use development within the area as well as providing important topographical information on sites and areas of archaeological potential. Primary cartographic sources consulted included the Ordnance Survey 6" maps, first and later editions (T.C.D. Map Library), William Larkin's A Map of the Bogs of Allen within the Kings County in Ireland (1809) and John Longfield's map of this area for the Bogs Commissioners (1810), both of which are reproduced in Arnold Horner's Mapping Offaly in the early 19th century (Horner 2006).

15.1.2.8 Recorded Archaeological Finds

The topographical files in the National Museum of Ireland were consulted to determine if any archaeological artefacts had been recorded from the area. This is the national archive of all known finds recorded by the National Museum. It relates primarily to artefact, but also includes references to monuments and has a unique archive of records of previous excavations. Other published catalogues of prehistoric material were also studied including; Raftery (1983 - Iron Age antiquities), Eogan (1965; 1993; 1994 - bronze swords, Bronze Age

hoards and goldwork), Harbison (1968; 1969a; 1969b - bronze axes, halberds and daggers) and the Irish Stone Axe Project Database (Archaeology Dept., U.C.D.). All townlands within the study area were assessed; finds are recorded from Lumcloon and Falsk (see Appendix 15.1.1).

15.1.2.9 Historical Research

Historical sources consulted included the British and Irish Archaeological Bibliography (www.biab.ac.uk), Lewis Topographical Dictionary (1837), A Census of Ireland circa 1659 (Pender 1939), Offaly: History and Society (Nolan & O'Neill 1998) and local archaeological and historical journals such as Offaly heritage : journal of the Offaly Historical & Archaeological Society.

15.1.2.10 Previous Excavations

The excavation bulletin website (www.excavations.ie) was consulted to identify previous excavations that may have been carried out within the study area. This database contains summary accounts of excavations carried out in Ireland from 1970 to 2005. Details of previous excavations are listed in Appendix 15.1.2.

15.1.3 Baseline Findings

15.1.3.1 Early History of the Lumcloon Area

The area around Lumcloon has a long history of human activity. Just 2km to the southeast of the proposed development site is located the habitation site at Lough Boora (RMP OF023-005), the only Early Mesolithic site identified to date from Ireland's midlands. The site dates from a period before the formation of the raised bog in this area. At that time the site was located on the shores of a large post-glacial lake and evidence from excavations suggests that hunter-gatherers were using fireplaces, working chert, shale and limestone and trapping pig, hare, birds, eels and trout in the area around the site (O'Sullivan 2007, 159). The area was subsequently covered by peat which masked the post-glacial topography and archaeological remains. Given that the extensive peatlands in Offaly were in the process of forming in the early prehistoric period it can be argued that sites of a similar nature remain to be identified (McDermot 1998, 11).

This area continued to be used through later phases in prehistory as evidence by the discovery of a bronze palstave from a bog in the townland of Falsk (NMI Record). This is a possible example of the widespread ritualised practice in the later phases of prehistory in

Ireland involving the deposition of weaponry, ornaments and other objects into watery places. This practice is most famously illustrated by the Late Bronze Age hoard of objects known as the 'Dowris' Hoard which was discovered in a bog in the 1820s c. 8km southwest of the proposed site in the townland of Whigsborough. The hoard, which may originally have comprised of over 200 objects, included weaponry, axes, gouges, knives, razors, buckets, cauldrons, horns, and pendants amongst other things. It is the largest collection of bronze objects ever found in Ireland (Waddell 1998, 255).

As the raised bogs in Offaly formed during the prehistoric period the construction of pathways and tracks was necessary to negotiate routes through and into the bogs. This is most frequently demonstrated by the togher or trackway; thousands of examples have been identified through archaeological survey in the midland's raised bogs (O'Sullivan 2007, 169). Most sites were constructed of brushwood or roundwoods or a combination of both and were only of short length, probably designed simply to cross small localised wet patches in, or at the edge of, the bog (O'Sullivan 2007, 175). In the vicinity of the proposed development at least four toghers were identified in Derrybrat Bog (NMI IA 174/66; SMR OF023-040; OF023-014001-03), located to the south of Lumcloon and in Broughal townland. Although the exact location of these toghers has not been recorded, they are likely to have been situated close to the boundary between the townlands of Broughal and Lumcloon, c. 2km south of the proposed development site, between two areas of dryer ground. They consisted of the fragmentary remains of four timber toghers, running in slightly different directions and were constructed of timbers in the round laid side by side at right angles to the lines of the toghers and supported by beams laid longitudinally below them (Lucas 1985, 39; OF023-014001-003 – (Archaeological Survey of Ireland, Record Details) on www.archaeology.ie. Compiled by Caimin O'Brien. Posted 26 January 2009). Another discovery from this vicinity is that of a possible prehistoric idol which was found by the Discovery Programme at a point 1.55km south-southeast of the Lumcloon Power Plant in an area that had been milled by Bord na Móna. This is one of only a handful of such objects to have been found in the country (Grogan, unpublished).

An object frequently found in Irish bogs is bog butter. Two examples have been found in the townland of Lumcloon (NMI 1957:132; 1977:2177; see Appendix 15.1.1 one of which was discovered just 200m southeast of the proposed development site. In this case (NMI 1957:132) the butter was contained within a wooden vessel measuring 12 inches in diameter and with a depth of 8 inches. It contained approximately 42 lbs of butter. The majority of Irish bog butters probably date to between the Iron Age and the medieval periods. In a recent experiment, thirteen samples of Irish bog butter from various locations were selected,

of which nine dated to the Iron Age (400 BC-500 Cal AD), three to the Medieval Period (1100-1600 Cal AD), and one much later (1520-1800 Cal AD) (Cronin et al 2007, 1011).

Of the many archaeological objects that have been discovered in Ireland's bogs, it is interesting to note that many were discovered during nineteenth and early twentieth centuries at a time when most traditional peat cutting took place on the periphery of raised and blanket bogs. More recent archaeological surveys in peatlands, such as those carried out by the IAWU, have tended to be well out on the surface of the bog in the area of modern mechanised peat extraction and in these areas thousands of wooden trackways have been discovered, but only a handful of finds. It may therefore be the case that the Bronze and Iron Age objects found were originally deposited at the edge of bogs, in watery, reedy and overgrown marginal zones between land and open raised bog and that subsequent peat growth has created a sense that these were originally bog deposits (O'Sullivan 2007, 185).

Little is known of the medieval history of this area. Lumcloon is today situated in the civil parish of Gallen. The monastery of Gallen was founded sometime in the fifth century by St. Canoc and a celebrated school was established there by emigrant monks from Wales (Gwynn & Hadcock 1970, 176). The monastery later submitted to the rule of St. Augustine. A castle was built at Gallen by the MacCoghlan. In the medieval period this area was known as Delvin Eathra, or Delvin MacCoghlan, and as the name suggests was ruled by the MacCoghlan clan in the later medieval period and does not seem to have been colonised by the Anglo-Normans (O'Brien 1998, 170). During this period Lumcloon was called Lunclloon-Í-Flaithile and Ryan suggests that a branch of the MacCoghlan's descended from Flaithile were based here. The name has been anglicised to Flattery (Ryan 1994, 12). Lumcloon is mentioned on a number of occasions in the Irish annals. In 1285 A.D. a battle was fought there between Carbery O'Melaghlin, king of Meath, and Theobald Butler when Butler entered Devlin MacCoghlan with the intention of plundering it. In 1444 the annals tell of a feud between rival members of the MacCoghlan. Cormac MacCoghlan, who was bishop of Clonmacnois (1427-43), his brothers Brian and Manus, Conor MacCoghlan and some of the O'Kellys, forced an engagement against Felim MacCoghlan, and a David MacCoghlan, aided by McGeoghegan and others. The encounter took place at Lumcloon and the Bishop's army was defeated (Ryan 1994, 13). Lumcloon is again noted on the 9th May 1548 when Cormac MacCoghlan and the people of Hy-Many made an incursion into Delvin and burned and plundered Lomchluain-I-Flaithile (AFM 1548; see Cooke 1858, 382-384). The fact that the annals mention specifically that Lumcloon was plundered in 1548 does imply that there was something there to plunder and burn but what was there, or where exactly it was located, is

not known. The various entries in the annals to battles taking place at Lumcloon also suggest that it was located on a routeway along which invading armies could travel into the area.

Pender's *Census of Ireland*, dating from c. 1659, lists a 'Lomclon' and although it is noted as being within the parish of Reynagh, it probably corresponds to Lumcloon. The population of the townland is given as 13, two of whom were English and the remainder Irish (Pender 1939, 443). The exact number of persons recorded for this 'census', actually a poll tax aggregate, is not certain, but may only reflect persons above the age of fifteen. It has been suggested that a multiplier of three could be applied to the above figure to achieve a more realistic total number of persons, but any such calculation should be treated with a degree of caution (Byrne 2004, 56).

15.1.3.2 Ferbane Power Plant

In more recent time Lumcloon is best known as the site of Ferbane Power Station. Construction began at Lumcloon in May 1953 of the first milled peat generating station in Western Europe. Earlier stations constructed were powered by sod peat but, following a change in Bord na Móna's production policy in the early 1950s which saw a change to the more economic production of milled peat, Ferbane was the first of three stations constructed for the use of the new fuel.

The first stage of development at the power plant at Lumcloon, of 60,000 kilowatts, was commissioned in 1957. The second stage of development, of 30,000 kilowatts, was commenced in June 1961 and was commissioned in January 1964. This brought the total capacity of the station to 90,000 kilowatts capable of producing 400 million units of electricity a year. The station used about 2,000 tonnes of milled peat per day, delivered by the extensive network of bog railway in wagons holding about 5 tonnes each. The milled peat was tipped onto conveyor belts which lifted the fuel up to the bunkers. There were two water cooling towers, each almost 90m in height, through which 4 million gallons of water per hour was continuously circulated and cooled (McGowan & Corkery 1978, 122-123). The station closed in 2001 and was subsequently decommissioned by 2004.

15.1.3.3 Cartographic Evidence

Lumcloon is named on William Petty's Atlas of Ireland (*Hiberniae Delineatio*) in 1685.

The earliest detailed survey of the area was undertaken by the Bogs Commissioners who were appointed in the second decade of the nineteenth century to assess the potential of

Ireland's bogs for agricultural reclamation. The maps produced by the bogs commissioners for their survey may have been based on an earlier survey of King's County (modern Co. Offaly) carried out by William Larkin who produced a working copy of his map for the Commissioners (1809) (Horner 2006, 23-27).

This map shows little detail in the area around Lumcloon but does show Millbrook Mill and the mill race leading to it from the Silver River.

The area around Lumcloon was included in District No. 5 for the purposes of the Bogs Commission survey and this was completed by 1811 by John Longfield. This map shows the study area in a little more detail, depicting what appears to be two buildings opposite the entrance to Millbrook on the modern R357 which are not shown on Larkin's map. Millbrook is here noted as a 'Mill' for the first time. The course of the Silver River is also shown in more detail.

The 1st edition Ordnance Survey 6-inch map shows the study area in more detail again and the site of the proposed development is shown as a greenfield area to the north of Millbrook Flour Mill, delimited by the road to the north, a field boundary and mill race to the east, the laneway to Millbrook to the west and with a number of field boundaries running through the area (see Figure 15.1.2).

By the time of the 1880 revision of the 6-inch map Millbrook flour mill seems to have closed down and the former mill building is now marked as a National School. The mill race no longer joins the Silver River near Lumcloon Bridge and the channel of the river itself has been straightened, probably part of drainage works in the area. The immediate area of the proposed development does not seem to have changed (see Figure 15.1.3)

The RMP map (Figure 15.1.1) is based on the 1912 edition of the OS 6-inch map and here the mill race is marked as disused but little else has changed.

15.1.4 Field Assessment

15.1.4.1 Introduction

The site visit was undertaken by Bairbre Mullee of CRDS Ltd on Monday 2nd March 2009 in overcast and occasionally drizzly conditions. Access was through gates on the R357 Cloghan to Blueball road.

The survey began at the entrance gate in the northwest corner of the site. The gate is situated c. 150m from the north-western corner of the site along the northern boundary. From this corner, to the gate, the boundary comprises a post and wire mesh fence, with scrub growing on the interior of the boundary. There is a broad high (c. 2m) grass verge between the road and the site. To the east of the gate, the remainder of the northern boundary is also delineated by a very deep drainage ditch. The ditch, c. 1.5m below the road level, is 3m wide at the top and there is a significant bank on the southern side, for most of its length, presumably including dredged materials from drainage works. There is water in the ditch and one access point across (IN13766, ITM19724), comprising a modern single-arch bridge clad with randomly coursed stone and with a pipe aperture. The bridge appears to be wide enough to accommodate vehicle. Between this bridge and the site gate, is a small area of what appears to have been ornamental planting.

Immediately to the west of the gate, there is a substantial plantation of mature conifers; this stand of trees is separated from the north and west boundaries by an avenue on each side, leaving a cleared area c. 3m in width. The plantation occupies the north-western section of the site. To the south of these are 4 pylons, carrying 220/440 kV lines, running westwards. The western boundary, consisting of fencing and hedgerow, has been trimmed/cut down to the height of the fencing, where the wires extend westwards from the pylons. The western boundary, as it extends south, beyond the proposed impact area, consists of mature trees and hedgerow. There was an entrance at the southwest corner of the site however this has been blocked up with banded earth.

The southern boundary of the site is delineated by a post and wire double strand fence. To the south, there is a work shed still extant. This sits on a layer of concrete hard standing which has been removed elsewhere; the reduced ground level south of the site is up to c. 0.25m below this.

The eastern boundary is also delineated by the post and wire double fencing, which continues around to the north-eastern corner of the site. In addition, there is a narrow, shallow ditch along the eastern boundary; this gives way to an earthen embankment, 1.5m in height, along the northernmost section of the eastern boundary. This is heavily grassed over and contains modern rubbish; metal fragments, car wheel etc, presumably resulting from clearance. Immediately east of the northeast corner is a gateway belonging to the ESB, this led to a road skirting the eastern boundary of the site and following the route of the old mill road (see Figure 15.1.2)

The interior of the site was difficult to assess as it is now overgrown with vegetation. However a number of features, identified Ordnance Survey aerial photographs of the site dating to 2000 have been removed by subsequent site clearance associated with the decommissioning of the power station in 2003.

A light railway ran through the centre of the site and continued eastward along the northern boundary (Ordnance Survey aerial photos, 2000); this railway is traceable along its north-south extent.

There was a building complex to the east of the railway, in the southeast section of the proposed development site. This has been cleared and this has been back-filled with hardcore. In addition, the ground here is more uneven than elsewhere on the site.

The main buildings on site were in the centre of the site. The buildings have been demolished and there are areas of hard-standing/concrete slab to the north and south which are partially grassed over and partially under standing water.

The pylons survive from the old power station and there appears to have been no impact in the grassy area in which they are situated.

The plantation of mature conifers in the northwest of the site and the area of ornamental planting appear unchanged.

The Silver River flows north-south just east of the site. The river, which has been canalised as part of drainage over the last century, is c. 8-10 in width, the depth at the bridge is c. 50cm. The river is relatively clean and the flow is slow. Lumcloon Bridge is located to the northeast of the site and carries the R357 over the Silver River. It is mid-20th century in date and was constructed as part of the River Brosna Drainage Scheme.

The banks are 2m in height over the river, and are steep grassy banks, south of the bridge. North of the bridge, they are also grassy but decrease in height, are less steep and less regular. There are two extremely large limestone boulders on the east bank of the river, north of the bridge. There are also large boulders visible in the bank further north of the bridge.

The landscape to the south of the power station is dominated by the Boora bog which provided the peat for the former power station. There is a railway bridge 20m south of Lumcloon Bridge, which delivered the peat supply to the power station.

North of the river, the fields are flat and in grass, below the level of the road with field boundaries comprising hedgerow and ditches.

15.1.4.2 Archaeological and Cultural Heritage Significance of the Site

There are no recorded archaeological monuments in the immediate area of the proposed development. However, the important Early Mesolithic habitation site at Lough Boora is located just 2km to the southeast of the proposed development. As noted above, the site was inhabited prior to the growth of the peatlands which covered and preserved the site and has been argued that sites of a similar nature remain to be identified from this area (McDermot 1998, 11). Recent archaeological surveys in peatlands have tended to concentrate on the interior of the bogs, areas exploited for modern mechanised peat extraction. The surveys have, for the most part, avoided the peripheral or marginal areas which are now often cut away or have been reclaimed. The Geological Survey map of this area (c. 1840) describes the area of the proposed development as 'moory flat', with gravel along the banks of the Silver River. It is precisely marginal areas like Lumcloon, located on the fringes between the deep bog and dry land, which could hold the most potential for the discovery of archaeological sites and deposits (Conor McDermott *pers comm.*; O'Sullivan 2007, 185-86). The find of a bog butter just 200m from the site is further evidence of this. In addition, there are a number of prehistoric finds of significance recorded from the surrounding area, including the Dowris hoard and the possible wooden idol from Boora Bog. The historic records of battles taking place at Lumcloon suggests it was located on a routeway in the medieval period, an impression further supported by the topography of the area. Lumcloon is located on a ribbon of dryland within an extensive wetland and is an obvious choice for a traveller seeking a route through this landscape. The location of trackways in Derrybrat bog is further proof that people were moving through this landscape in the past. Furthermore, the siting of the proposed development at the edge of a bog and close to a river would mark it out as an ideal location for *fulachta fiadh*.

15.1.5 Impact Assessment

As noted above, the proposed development is located on the site of the former Ferbane Milled Peat Power Station. A great proportion of the site has therefore been disturbed in the past. However, the depth and level of that disturbance is difficult to quantify on the basis of a walkover survey as the interior of the site is now largely overgrown with vegetation. An examination of aerial photographs of the area taken before and after the decommissioning of the plant does suggest that there are areas of the site which were never subject to

construction. These are located in the north-western corner of the site which is currently under plantation, in the area of the proposed warehouse and Above Ground Gas Installation (AGI), and at the north-eastern end of the site, in the area of the proposed Steam Turbine, Control Room, Air Cooled Condenser and Fuel Oil Tank. As noted above, the site of the proposed development is considered to be an area of archaeological potential. It is possible that sub-surface archaeological remains survive in undisturbed areas of the site. Should archaeological remains survive within the site, then they could be directly and/or indirectly impacted by construction works associated with the proposed development.

15.1.6 Mitigation

In order to mitigate for the potential occurrence of sub-surface archaeological remains in the area of the proposed development, it is recommended that further archaeological assessment should be undertaken prior to construction by a suitably qualified archaeologist with experience in wetland archaeology and the specific requirements of testing in this environment.

A programme of archaeological test excavation in the greenfield area at the northeast end of the development site is proposed as this area appears to have been largely undisturbed by previous development on the site, i.e. the Ferbane Power Plant, and is therefore the area most likely to reveal archaeological remains. The assessment should investigate the possible existence of sub-surface archaeological material. Should any archaeological material be discovered, the assessment should quantify and qualify the extent, depth (to Ordnance Datum), complexity and significance if this material. The assessment should include a detailed archaeological impact statement which specifies the impact of the proposed development, its services and enabling works, on any identified archaeological material, both in terms of direct and indirect (e.g. change in water table) impacts. The assessment should also contain detailed mitigation recommendations so that a scope of archaeological works can be produced, programmed and costed. Proposed mitigation measures may include preservation in situ, preservation by record (excavation), or archaeological monitoring. If the assessment finds there to be no archaeological material on the development site, no further action would be required.

Please note that the recommendations given here are subject to the approval of the National Monuments Service of the Department of Environment, Heritage and Local Government.

15.1.7 References and Consultations

- Byrne, J. 2004. *Byrne's Dictionary of Irish Local History*. Cork: Mercier Press.
- Cooke, T.L. 1858. Wayside Ancient Monument at Drisoge, King's County, in *The Journal of the Kilkenny and South-East of Ireland Archaeological Society*, Vol. 1, 380-385.
- Cronin, T., Downey, L., Synott, C., McSweeney, P., Kelly, E.P., Cahill, M., Ross, R.P. & Stanton, C. 2007. Composition of ancient Irish bog butter, in *International Dairy Journal*, vol. 17, no. 9, 1011-1020.
- Eogan, G., 1965. *A catalogue of Irish Bronze swords*. Dublin.
- Eogan, G., 1983. *Hoardings of the Irish Later Bronze Age*. Dublin.
- Eogan, G., 1994. *The Accomplished Art, Gold and Gold working in Britain and Ireland during the Bronze Age*. Dublin.
- Grogan, E. unpublished. *A possible prehistoric idol from Broughal ('Lough Boora'), Co. Offaly*. Unpublished report for the Discovery Programme.
- Hammond, F. 2005. *Bridges of Offaly County: an Industrial Heritage Review*. Report commissioned by Offaly County Council.
- Harbison, P., 1968. Catalogue of Irish Early Bronze Age associated finds containing copper or bronze. *Proceedings of the Royal Irish Academy* 67C, 35-91.
- Harbison, P., 1969a. *The daggers and the halberds of the Early Bronze Age in Ireland*. *Prähistorische Bronzefunde, Abteilung VI, Band 1*. Munich.
- Harbison, P., 1969b. *The axes of the Early Bronze Age in Ireland*. *Prähistorische Bronzefunde, Abteilung IX, Band 1*. Munich.
- Horner, A. 2006. *Mapping Offaly in the early 19th Century: with an atlas of William Larkin's map of King's County, 1809*. Bray: Wordwell
- Hurley, C. 2005. *Bog of Allen Habitat and Heritage Survey*. Rathangan: Irish Peatland Conservation Council
- Lewis, S., 1837. *Topographical Dictionary of Ireland*. London.

- McDermott, C. 1998. The prehistory of the Offaly peatlands, in W. Nolan & T.P. O'Neill (eds) *Offaly History & Society: interdisciplinary essays on the history of an Irish county*. Dublin: Geography Publications, 1-28.
- McGowan, P.A. & Corkery, E. 1978. *Ferbane Parish and its Churches*. Publisher unknown.
- Nolan, W. & O'Neill, T.P. 1998. *Offaly History & Society: interdisciplinary essays on the history of an Irish county*. Dublin: Geography Publications
- O'Sullivan, A. 2007. Exploring past people's interactions with wetland environments, in Ireland, in *Proceedings of the Royal Irish Academy* Vol. 107C, 147-203.
- Pender, S., 1939. A census of Ireland, circa 1659: with supplementary material from the poll money ordinances (1660-1661). Dublin: Irish Manuscripts Commission
- Raftery, B., 1983. A catalogue of Irish Iron Age antiquities. Marburg.
- Ryan, B. 1994. A Land by the River of God: A history of Ferbane Parish from earliest times to c. 1900. St. Mel's Diocesan Trust
- Stout, M. 1997. *The Irish Ringfort*. Dublin: Four Courts Press
- Trodd, V. 1998. *Clonmacnoise & West Offaly*. Banagher: Scéal Publications
- Ordnance Survey 6" maps, first and later editions.
- Ordnance Survey of Ireland Aerial/Ortho Photographs 2000 and 2005: viewed at <http://ims0.osiemaps.ie/website/publicviewer/main.aspx?id=&utype=&ecom=S1&user>
- Record of Monuments and Places. National Monuments Section: Dept. of Environment, Heritage, and Local Government.
- The Irish Stone Axe Project Database. Department of Archaeology: University College Dublin.

15.2 ARCHITECTURAL HERITAGE

15.2.1 Introduction

The potential impacts of the proposed development on the architectural heritage are addressed in this section of the EIS. The architectural heritage assessment comprises a desk top study and field survey of the land on which the development is planned.

15.2.2 Methodology

15.2.2.1 Introduction

The assessment of architectural heritage utilised a number of sources including the Offaly County Development Plan, documentary, cartographic and aerial photographic sources supplemented by a field inspection of the site of the proposed development.

15.2.2.2 Historical Research

Historical research began with an assessment of bibliographic sources including the British and Irish Archaeological Bibliography (www.biab.ac.uk) and Hayes Indices of manuscripts and periodicals (Hayes 1965, 1970). It continued with a review of published books and periodicals on the area including Lewis Topographical Dictionary (1837), Offaly: History and Society (Nolan & O'Neill 1998), and Offaly heritage: journal of the Offaly Historical & Archaeological Society.

15.2.2.3 Cartographic Sources

Reference to cartographic sources is important in tracing land use development within the area as well as providing important topographical information on architectural heritage sites. Cartographic sources consulted included the Ordnance Survey 6" maps, first and later editions (T.C.D. Map Library), William Larkin's A Map of the Bogs of Allen within the Kings County in Ireland (1809), John Longfield's map of this area for the Bogs Commissioners (1810), both of which are reproduced in Arnold Horner's Mapping Offaly in the early 19th century (Horner 2006).

15.2.2.4 Offaly County Development Plan 2009-2015

The Offaly County Development Plan 2009-2015 (Offaly County Council) was consulted in order to establish whether any structures within the study area (i.e. 500m from the centre of the proposed development site) were included in the Record of Protected Structures or in an architectural conservation area. No structures within the study area are included in the Record of Protected Structures or in an architectural conservation area.

15.2.2.5 Aerial Photographic Sources

The aerial photographic collections of the Ordnance Survey of Ireland were assessed to establish if architectural heritage sites are present within the study area. The availability of aerial photographs dating to 2000 and 2005 allowed the comparison of the site prior to and following its decommissioning.

15.2.2.6 National Inventory of Architectural Heritage.

The National Inventory of Architectural Heritage (NIAH) is a systematic programme of identification, classification and evaluation of the architectural heritage of the State. The Minister for the Environment, Heritage and Local Government is currently using the Inventory as the basis for making recommendations for inclusion in the Record of Protected Structures; however, the survey of rural areas of Co. Offaly is, as yet, incomplete.

15.2.2.7 Industrial Heritage Review

The Bridges of Offaly County: an Industrial Heritage Review, commissioned by Offaly County Council, presents the results of a survey of over 400 bridges in the county. The objectives of this survey were to make a comprehensive record of all identified bridges and to highlight those bridges of special heritage significance which merit statutory protection.

15.2.3 Baseline Findings

15.2.3.1 Lumcloon

The earliest detailed survey of the area was undertaken by the Bogs Commissioners who were appointed in the second decade of the nineteenth century to assess the potential of Ireland's bogs for agricultural reclamation. The maps produced by the bogs commissioners for their survey may have been based on an earlier survey of King's County (modern Co.

Offaly) carried out by William Larkin who produced a working copy of his map for the Commissioners (1809) (Horner 2006, 23-27). This map shows little detail in the area around Lumcloon but does show Millbrook Mill and the mill race leading to it from the Silver River.

The area around Lumcloon was included in District No. 5 for the purposes of the Bogs Commission survey and this was completed by 1811 by John Longfield. This map shows the study area in a little more detail, depicting what appears to be two buildings opposite the entrance to Millbrook on the modern R357 which are not shown on Larkin's map. Millbrook is here noted as a 'Mill' for the first time. The course of the Silver River is also shown in more detail. In the early 19th century the mill was in the hands of Dennis Cassin, Esq. but by the mid-19th century the occupier is recorded as Peter Callaghan who leased a house, herd's house, corn mill offices and land from the Earl of Rosse (Griffith 1847-1864, 120).

The 1st edition Ordnance Survey 6-inch map shows the area in more detail again and the site of the proposed development is shown as a greenfield area to the north of Millbrook Flour mill, delimited by the road to the north, a field boundary and mill race to the east, the laneway to Millbrook to the west and with a number of field boundaries running through the area (see Figure 15.1.2).

By the time of the 1880 revision of the 6-inch map Millbrook flour mill appears to have closed down and the former mill building is now marked as a National School. The mill race no longer joins the Silver River near Lumcloon Bridge and the channel of the river itself has been straightened, probably part of drainage works in the area. The fields in which the proposed development is located do not appear to have changed and do not include any structures (see Figure 15.1.3).

On the Ordnance Survey 25-map of 1911, the mill race to Millbrook mill is marked as "disused" and extensive drainage ditches have been constructed along the northern, western and south-eastern boundaries of the site.

In more recent time Lumcloon is best known as the site of Ferbane Power Station. Construction of the first milled peat generating station in Western Europe began at Lumcloon in May 1953. Earlier stations constructed were powered by sod peat but, following a change in Bord na Móna's production policy in the early 1950s which saw a change to the more economic production of milled peat, Ferbane was the first of three stations constructed for the use of the new fuel.

The first stage of development at the power plant at Lumcloon, of 60,000 kilowatts, was commissioned in 1957. The second stage of development, of 30,000 kilowatts, was commenced in June 1961 and was commissioned in January 1964. This brought the total capacity of the station to 90,000 kilowatts capable of producing 400 million units of electricity a year. The station used about 2,000 tonnes of milled peat per day, delivered by the extensive network of bog railway in wagons holding about 5 tonnes each. The milled peat was tipped onto conveyor belts which lifted the fuel up to the bunkers. There were two water cooling towers, almost 90 metres in height, through which 4 million gallons of water per hour was continuously circulated and cooled (McGowan & Corkery 1978, 122-123). The station closed in 2000 and was subsequently decommissioned by 2004.

15.2.4 Field Assessment

The site visit was undertaken by Bairbre Mullee of CRDS Ltd on Monday 2nd March 2009 in overcast and occasionally drizzly conditions. Access was through gates on the R357 Cloghan to Blueball road.

The interior of the site was difficult to assess as it is overgrown with vegetation. However a number of features, identified on Ordnance Survey aerial photographs of the site dating to 2000 had been removed by subsequent site clearance associated with the decommissioning of the site (see www.osi.ie)

A narrow gauge railway line ran through the centre of the site and continued eastward along the northern boundary (Ordnance Survey aerial photos, 2000). Part of the line is traceable along its north-south extent where it is set into concrete slab. It was part of a network of lines which ran out into the Boora bog. The locomotives which ran on the line were used to deliver the milled peat to the generating plant.

There was a building complex to the east of the railway, in the southeast section of the proposed development site. This has been cleared and back-filled with hardcore. The ground here is more uneven than elsewhere on the site.

The main buildings were in the centre of the site. The buildings have been demolished and there are areas of hard-standing/concrete slab to the north and south which are partially grassed over and partially under standing water.

The pylons survive from the old power station and there appears to have been no impact in the grassy area in which they are situated.

A plantation of mature conifers covers the northwest of the site.

15.2.4.1 Silver River and Lumcloon Bridge

The Silver River flows north-south just east of the site. The river is c. 8-10 metres in width and the depth at Lumcloon bridge is c. 50cm. The course of the river has been impacted by canalisation associated with the Brosna Drainage works and by its diversion to feed the mill race of Millbrook Flour Mill.

The landscape to the south of the power station is dominated by the Boora bog which provided the peat for the former power station. There is a railway bridge 20m south of Lumcloon bridge, which carried the peat supply to the power station. The three-span bridge dates to c. 1958 and is constructed of metal girders.

The present Lumcloon bridge is mid-20th century in date and was constructed as part of the River Brosna Drainage scheme. The bridge is constructed of shuttered concrete with two flat arches. The bridge has three concrete piers, one built into the banks to either side of the river and one in the centre of the river. Plaques to either side of the bridge are inscribed in English 'Office Of Public Works Brosna Drainage Rebuilt 1949' and in Irish 'Oifig na hOibreacha Poiblí, Sceim Siltin na Brosnaighe, Altógtha 1949'.

15.2.4.2 Architectural Significance of the Site

Only two features of architectural heritage significance were noted during the baseline survey. Lumcloon bridge and the bridge which carried the bog railway over the Silver River are listed in the Bridges of Offaly County: an Industrial Heritage Review (Ref. No. OFIAR-023-060 & Ref. No. OFIAR-023-020). Both structures are rated as being of local heritage significance.

15.2.5 Impact Assessment

As noted above only two features of architectural heritage significance was noted during the baseline survey. Both features, Lumcloon Bridge and the bridge which carried the bog railway over the Silver River, are located outside the area of the proposed development and will not be directly impacted.

15.2.6 Mitigation

No mitigation measures are required.

15.2.7 References and Consultations

- Griffith, R. 1847-1864. General Valuation of Rateable Property in Ireland Gallen Parish, Kings County.
- Hogg, W. 2008. Mills of Ireland: A list dated about 1850. Dublin.