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11 Archaeological, Architectural and Cultural Heritage

11.1 Introduction

Cultural Heritage is defined by UNESCO as “the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations” (Tangible Cultural Heritage, UNESCO – www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage).

In terms of the present project, Cultural Heritage is assumed to include all humanly created features on the landscape, including portable artefacts, which might reflect the prehistoric, historic, architectural, engineering and/or social history of the area.

This report provides information collected with respect to all previously identified sites of archaeological and architectural heritage interest located within the defined study area associated with the proposed scheme. An attempt was also made to determine any sites or areas that might be associated with significant historical events within the study area.

The report discusses the receiving environment from a Cultural Heritage perspective, in general terms; it provides information with respect to previously identified baseline data and it recommends that any proposals avoid direct impacts on such previously identified sites and areas of archaeological and architectural interest. The locations of all previously identified sites and areas of Cultural Heritage interest/potential are indicated in **Figure. 11.6**.

11.2 Assessment Methodology

The study involved a documentary and cartographic search, aerial photographic research and preliminary field inspection/surface reconnaissance survey.

The format of this report/section follows the guidelines published by the National Roads Authority (NRA) in 2005 with respect to the preparation of Archaeological and Architectural Heritage Assessments (2005 a & b – Section 6).

11.2.1 Paper Study

This is a documentary source study. The following sources were examined from which a list of sites and areas of archaeological and architectural interest/potential was compiled:

- Record of Monuments and Places (RMP) – Co. Dublin.
- Sites and Monuments Records (SMR) of the Archaeological Survey of Ireland – www.archaeology.ie
- Topographical File Records of the National Museum of Ireland.
- Dublin Archaeological Data – www.heritagemaps.ie
- Annual Archaeological Excavation Bulletin – www.excavations.ie
- Historic Cartographic and Aerial Photographic Archives of the Ordnance Survey of Ireland – www.osi.ie

- Documentary and cartographic sources in Dun Laoghaire-Rathdown County Library.
- Dun Laoghaire – Rathdown County Development Plan 2016 – 2022 (DLRCDP).
- Kiltiernan – Glenamuck Local Area Plan (KGLAP)
- Placenames Commission – www.logainm.ie

In addition, the following reports were inspected:

- *Glenamuck District Distributor Road – Constraints Report*. RPS (July 2007)
- *Glenamuck District Distributor Road – Feasibility Study & Route Selection Report*. RPS (July 2007)
- *Glenamuck District Distributor Road – Preliminary Design Report*. RPS (July 2007)
- *Glenamuck District Distributor Road – Environmental Study* [3 Vols]. RPS (July 2007)

11.3 Baseline Environment

11.3.1 General Historical Background

The subject Study Area incorporates portions of the townlands of Jamestown, Carrickmines Great, Glenamuck North, Glenamuck South, Glebe, Kiltiernan Domain, Kiltiernan and Kingston (O.S. 6" Map – Dublin Sheet 26). All of the townlands are located in the barony of Rathdown. The townlands of Jamestown, Carrickmines Great, Glenamuck North and Glenamuck South form part of the civil parish of Tully, while the townlands of Glebe, Kiltiernan Domain and Kiltiernan form part of the civil parish of Kiltiernan. The townland of Kingston is split into two Electoral Divisions (E.D.) and two civil parishes; the area within Ballybrack E.D. is in Tully civil parish and the area within Glencullen E.D. is in Kiltiernan civil parish. The Irish forms of the townland names, together with the possible derivations of the names – derived from the Placenames Commission: www.lo – are listed below in Table 11.1.

TOWNLAND NAME	IRISH FORM	DERIVATION/MEANING
Jamestown	<i>Baile Shéamais</i>	'townland or homestead of James'
Carrickmines Great	<i>Carraig Mhaighin Mhór</i>	'great plateau of rock'
Glenamuck North	<i>Gleann na Muc Thuaidh</i>	'glen of the pigs north'
Glenamuck South	<i>Gleann na Muc Theas</i>	'glen of the pigs south'
Glebe	<i>An Ghléib</i>	Glebe (church lands)
Kiltiernan Domain	<i>Diméin Chill Tiarnáin</i>	'Demesne of the church of (St) Tiernan'
Kiltiernan	<i>Cill Tiarnáin</i>	'church of (ST) Tiernan'
Kingston	<i>Baile an Rí</i>	Townland or homestead of the king'

Table 11- 1: Information on Townland Names

In the early historic period the whole area of Dublin and the Wicklow mountains was known as Cualu. It was controlled by the Dál Messin Corb, a leading tribe in Leinster but by the seventh century they had withdrawn to an area around Arklow. At around this time, according to Corlett (1999, 35) "the Uí Théig became the leading tribe of north-east Wicklow and south-east Dublin. They were replaced during the eighth century by the Uí Briúin, who lent the name Uí Briúin Cualann to much of the territory known today as Rathdown". During the early Christian period, a number of churches were founded in the area, many of which are still remembered in place names such as Kilmacud (Cill McCudd – the

church of (St.) Macud) and Taney (Teach Nathi – the house or church of (St.) Nathi). The Uí Briúin who had come from north Kildare brought with them the influence of St. Brigid and several churches in the area have a strong association with her, including that of Stillorgan. Indeed, Corlett (1999, 42) notes that “the old texts tell of a visit paid to St. Brigid of Kildare by eight bishops of Tully”.

In 917 the Vikings founded a town at Dublin, after which a number of Viking families settled in the hinterland, including parts of Uí Briúin Cualann and by 980 many had converted to Christianity. Those living in the hinterland of Dublin provided the town with food and raw materials such as timber and thus these areas became relatively wealthy. Indeed, it appears that the Scandinavians became well integrated within the local community and their lasting impression can be gleaned from place names such as Ballaly (Baile Amhlaibh - ‘The town or settlement of Óláf’), while the common local surname Doyle derives from dubh gall – ‘dark foreigner’, a name given to Scandinavian inhabitants in the area.

During the twelfth century the Mac Torcaills were the rulers of Dublin, and members of the family had settled in parts of Glencree, Glencullen and Tully. Sometime after 1130 the Uí Dúinchada became a powerful force of Uí Briúin Cualann, and their kings took the name MacGillaMoCholmóc, taking up residence in Rathdown, near Greystones in 1169.

Following the Anglo-Norman invasion, Henry II granted the kingdom of Leinster to Richard the Earl (Strongbow), reserving Dublin for himself. One of those who received an extensive grant from Strongbow in 1173 was Walter de Ridelesford, including lands in Kildare and much of the territory formerly known as Uí Briúin Cualann. However, when de Ridelesford went to have his landholding confirmed by Henry II, the king took back some of the lands for himself. A similar episode occurred when de Riddlesford’s son, Walter II, went to have his inheritance confirmed, with the king reclaiming further lands for himself.

The lands in the area were, at this time, owned by a branch of the Walsh family, who constructed and garrisoned the nearby Carrickmines Castle in 1441. The general area was subject to attacks by the Gaelic clans during the fourteenth and fifteenth centuries, culminating in an act of parliament in 1494 requiring landowners to construct a line of defences along the borders of the Pale. The subject lands were located outside this defensive line.

The sixteenth century found the Walshes in occupation either as tenants or owners of a wide extent of the general area and they had become one of the most important families in the region. However, their lands were subjected to devastating attacks from Gaelic clans towards the end of the century, when the property was in the custody of Peter Barnewall, a guardian of Richard Walsh, who was a minor at that time (Ball, 1902).

In 1609 the Barony of Rathdown was divided in two by the establishment of the county boundary between Dublin and Wicklow. At around this time, the Walshes were described as ‘of large and ancient stock’ and ‘men of note in the metropolitan county’, which was then ‘rich and plenteous in corn and cattle, and inhabited by a people of stately port and garb’ (Ball, *ibid.*). The Irish rebellion of 1641 and the ensuing Eleven Year’s war merged with the Civil War in England, which subsequently spilled into Ireland. Following the end of these wars, many of the landholdings in the area, particularly those belong to Catholic families or those who had sympathised with the monarchy, were confiscated and granted to Protestant families. In particular, the lands of the Walshes, who had supported the

monarchy, were awarded to the Earl of Meath. A map of the area in 1656 (**Figure 11.1**) indicates a substantial Tudor-type house at Carrickmines, as well as a number of smaller structures.

During the comparatively peaceful years of the eighteenth century the populations of south-east Dublin prospered and many fine mansions were built in the area. However, as illustrated by Rocque (**Figure 11.2**), the area surrounding the subject lands was still largely agricultural, and a number of large houses had been constructed. In addition, the map illustrates a road running from Carrickmines towards Kiltiernan. There are now no surface indications of this road, although a section was detected by a Geophysical Survey (Section 11.3.2.4).



Figure 11- 1: Extract from 'Down Survey' map of 1656 – north to left



Figure 11- 2: Extract from Roque 1760 (north to right)

Pearson (1999, 306) notes that in the early 1800s the inhabitants in the area of Kiltiernan and surrounding areas were largely occupied in dairy farming, and made a living supplying the needs of those living in the city.

The Ordnance Survey Map of 1837 (**Figure 11.3**) indicates that the area was largely rural at this time. Much of the present road systems had been established and there were pockets of settlement along the Enniskerry Road, with larger estate lands located to the east of this road in the townlands of Glenamuck North (Glenamuck House) and Glenamuck South (Rockville). In addition, the embryonic stages of the village of Kiltiernan can be seen with its church, school, post office and mills.



Figure 11- 3: Extract from Ordnance Survey Map – 1837

The Ordnance Survey Name Books (1837) note that the townland of Jamestown contained 64 acres, 16 perches, all arable; it formed part of the property of Lord Carysford and was in the possession of Mr. Rourke who lived in the adjoining townland and keeps a dairy and the soil was described as of 'excellent quality capable of bearing good crops of wheat oats, potatoes, etc.,' and about half was under dairy pasture. Kingston (Kingstown) contained 92 acres, 2 roods, 26 perches and was the property of Sir. Crampton Dunville and let at £3 - £5 per acre. Carrickmines Great contained 545 acres, 1 rood and was described as being the property of Lord Carysford agent, Mr. Franks; The lands were rented at £1 - £5 per acre and about 120 acres were described as 'uncultivated being covered with blocks of granite, furze, etc.' Glenamuck South contained 260 acres, 1 rood and 3 perches of which about 20 were planted and an unknown quantity was described as uncultivated; the property of Mrs. Yeats, with Mr. Brennan of Dublin as the agent; Mr Roach holds 60 acres at £5 per acres, with the remainder let at £2. 10s. - £5 per acre. Rockville is described as a 'fine Gentleman's seat sheltered by plantations, offices, gardens, etc.'

Lewis (1837) notes that the lands in civil parish of Tully were in a 'high state of cultivation, and embellished with numerous seats and well-planted demesnes'; the principal seats included Rockville, Glenamuck House and Carrickmines Castle, and that a 'twopenny' post office was located 'at the village of Golden-Ball'. He further notes that the lands in the civil parish of Kiltiernan largely comprised rock and mountain, with some bog and heath, with a 'considerable quantity of waste, but the system of

agriculture is improving'; the principal houses included Kiltiernan Cottage and Kingston House, and there was a cotton and paper mill [Kiltiernan] each employing about 40 persons.

During the nineteenth century, flax was grown in the district for supply to a cotton mill located on the Kiltiernan River and founded by the Moss family. Part of the mill race and mill pond still remains, as do a terrace of cottages on Kiltiernan Road which are still known as Moss's cottages (Pearson, 1999, 307).

The topographical nature of the area in 1912 is illustrated in **Figure 11.4**. Very little changes are recorded with respect to the lands comprising of the subject road corridor and immediate environs, when compared with the 1837 map (**Figure 11.3**). New property plots with associated dwellings have been established on either side of Glenamuck Road, Enniskerry Road and at Golden Ball and a post-office and a new school have been constructed in Kiltiernan, where the former cotton mill, marked as a factory, is indicated as disused. In addition, to the above, Pearson (1999, 307) notes that Kiltiernan Bridge had been reconstructed in 1852.



Figure 11- 4: Extract from Ordnance Survey Map – 1912

In terms of the present study, the only features of Historical/Cultural Heritage Interest that have the ability to be impacted upon are townland boundaries. A townland is a small geographical division of

land used in Ireland. The townland system is of Gaelic origin, pre-dating the Norman invasion, and most have names of Irish Gaelic origin (Colfer, 2004, 29). However, some townland names and boundaries come from Norman manors, plantation divisions, or later creations of the Ordnance Survey (Barry, 2000, 114; Clarke et al, 2004, 113). During the 19th century an extensive series of maps of Ireland (e.g. **Figure 11.3** above) was created by the Irish division of the Ordnance Survey for taxation purposes. These maps both documented and standardised the boundaries of the more than 60,000 townlands in Ireland. The process often involved dividing or amalgamating existing townlands, and defining townland boundaries in areas such as mountain or bog that had previously been outside the townland system. As noted above in **Table 11.1**, the study area incorporates all, or portions of, eight townlands. In some cases, these are formed by ditches, mature hedge-rows and banks (e.g. Carrickmines Great and Glenamuck North/Jamestown), watercourses (e.g. Glenamuck South and Kingston) or by existing roads (e.g. Glenamuck Road - Glenamuck North and Glenamuck South) The Enniskerry Road acts as both a boundary between the townlands of Glenamuck South and Kiltiernan/Kiltiernan Domain and Glenamuck North and Kiltiernan Domain/Glebe, as well as a civil parish boundary between Tully and Kiltiernan.

The proposed road corridor crosses four townland boundaries. These are listed below in **Table 11.2** and their locations are indicated in **Figure 11.6**.

Site No.	ITM	Townlands	Descriptions
CH-1	720818 723392	Carrickmines Great Glenamuck North	Overgrown ditch, mature banked hedge-row
CH-2	720215 723134	Glenamuck North Jamestown	Overgrown ditch, mature banked hedge-row
CH-3	720826 722959	Glenamuck North Glenamuck South	Glenamuck Road
CH-4	720905 721980	Glenamuck South Jamestown	Loughlinstown River (Banks overgrown)

Table 11- 2: List of Townlands to be crossed by road route

11.3.2 Archaeological Heritage

Archaeology is the study of past societies through their material remains and the landscapes they lived in. "The archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence" (DoAHGI 1999, p9).

11.3.2.1 Statutory Protections

The statutory and administrative framework of development control in zone of archaeological potential or in proximity to recorded monuments has two main elements:

- (a) Archaeological preservation and licensing under the National Monuments Acts and
- (b) Development plans and planning applications under the Planning Acts.

National Monuments Acts

Section 12 (1) of the National Monuments (Amendment) Act, 1994 provides that the Minister for the Environment, Heritage and Local Government shall establish and maintain a record of monuments and

places where the Minister believes there are monuments, such record to be comprised of a list of monuments and relevant places and a map or maps showing each monument and relevant place in respect to each county of the State. This is referred to as the 'Record of Monuments and Places' (RMP), and monuments entered into it are referred to as 'Recorded Monuments'.

Section 12(3) of the National Monuments (Amendment) Act 1994 provides for the protection of monuments and places in the record, stating that

"When the owner or occupier (not being the Minister) of a monument or place which has been recorded under subsection (1) of this section or any person proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such monument or place, he shall give notice in writing of his proposal to carry out the work to the Minister and shall not, except in the case of urgent necessity and with the consent of the Minister, commence work for a period of two months after having given the notice".

Dun Laoghaire – Rathdown County Development Plan 2016 – 2022

The following relevant Archaeological Heritage Policies are set out in Section 6.2.1 of the Plan:

AH1	<p>Protection of Archaeological Heritage</p> <p>It is Council policy to protect archaeological sites, National Monuments (and their settings), which have been identified in the Record of Monuments and Places (RMP) and, where feasible, appropriate and applicable to promote access to and signposting of such sites and monuments.</p> <p>In the implementation of this policy, the Council will endeavour to review and assess the feasibility of improving public accessibility to sites and monuments under the direct ownership or control of the Council or of the State.</p>
AH2	<p>Protection of Archaeological Material in Situ</p> <p>It is Council policy to seek the preservation in situ (or where this is not possible or appropriate, as a minimum, preservation by record) of all archaeological monuments included in the Record of Monuments and Places, and of previously unknown sites, features and objects of archaeological interest that become revealed through development activity. In respect of decision making on development proposals affecting sites listed in the Record of Monuments and Places, the Council will have regard to the advice and/ or recommendations of the Department of Arts, Heritage and the Gaeltacht (DoAHG).</p> <p>The Council will strictly control development proposals that could have a negative impact on the significance of archaeological sites and monuments, their settings and/or interpretation. Land uses shall not give rise to significant losses of the integrity, quality or context of archaeological material – except as may be conditioned or directed by the appropriate heritage agencies. This shall be achieved by the application of appropriate design standards and criteria.</p>
AH6	<p>Underwater Archaeology</p> <p>It is Council policy for all developments, which have potential to impact on riverine, intertidal and subtidal environments to require an archaeological assessment prior to works being carried out.</p> <p>Under the National Monuments Act all shipwrecks over one hundred years old, and other underwater archaeological structures, features and objects are protected.</p>

Note: The Record of Monuments and Places (RMP) for County Dublin was published in 1998. Consequently, all monuments discovered since the publication are not RMP Sites but, where preserved ‘in-situ’ are subject to protection under Policy AH2 above.

11.3.2.2 Archaeological Monuments

There are four previously identified individual sites of archaeological interest/potential located within the defined study area, as listed below in **Table 11.3**. Two of these, CH-5 and CH-6, are located within the defined Environmental Assessment Corridor and all but one, CH-6, are listed in the RMP. The

locations of the monuments are illustrated in **Figure 11.6**. The monument classifications are further expanded in **Appendix 11.1** and the monuments are briefly described in **Appendix 11.2**.

The following abbreviations/codes are used in relation to **Table 11.3**:

Site No.: Individual site number assigned to site with respect to the defined study area.

SMR No.: Individual number assigned to site in the Sites and Monuments Record of the Archaeological Survey of Ireland

ITM: International Transverse Mercator Grid Reference (centre-point of monument)

Classification: Brief nature of the archaeological site as listed in the RMP

RMP: Listed in the Record of Monuments and Places for County Dublin

DLRCDP: Listed in the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022

Site No.	SMR No.	ITM	Townland	Classification	Protection
CH-5	DU026-021	720925 722064	Glenamuck South / Kingston	Enclosure(s)	RMP; DLRCDP
CH-6	N/A	721102 723525	Carrickmines Great	Burnt Spread / Fulacht Fiadh	DLRCDP
CH-7	DU026-018	721623 723306	Carrickmines Great	Cross	RMP; DLRCDP
CH-8	DU026-015	720118 723467	Jamestown	Cist	RMP; DLRCDP

Table 11- 3: Archaeological Inventory

NOTE: The Dun Laoghaire – Rathdown County Development Plan indicates a ‘Zone of Archaeological Notification’ associated with DU026-135 (Carrickmines Great Td; Classification: Fulacht Fia; ITM: 721264 723478) adjacent Glenamuck Road. A review of the Sites and Monuments Record (SMR) of the National Monuments Service (Archaeological Survey of Ireland) indicates that DU026-135 is located approx. 1km (ITM: 722220 723726) to the northeast of the location indicated on the Development Plan Map. The matter was discussed with Ms. Margaret Keane, Senior Archaeologist, National Monuments Service and Director, Archaeological Survey of Ireland and it was determined that an error was made when the location of the monument DU026-135 was originally uploaded to the SMR (www.archaeology.ie) and that this has since been rectified. The erroneous location was used by DLR Co. Co. when drafting the Development Plan.

11.3.2.3 Archaeological Artefacts

Two artefacts are listed in the Topographical Registers of the National Museum of Ireland, as having been discovered within the defined study area, as follows:

❖ **NMI Reg. No: 1974:89; Glenamuck North Td.**

Bronze Palstave cast in a bi-valve mould; found approx. 18 inches deep while draining field (ITM: 720900 722937 approx.)

❖ **NMI Reg. No: 1984: 119; Kiltiernan Td.**

Polished Stone Axe found during ploughing (ITM: 720804 721619 approx.)

11.3.2.4 Results from previous documented relevant archaeological investigations

A. Intrusive Investigations

A search undertaken of the annual Archaeological Excavations Bulletin (www.excavations.ie) indicates that a number of archaeological investigations have been undertaken within the general area, as follows:

➤ Carrickmines Great (Site 72)

The site was discovered during monitoring of the South-Eastern Motorway and was investigated by Gary Conboy, Valerie J. Keeley Ltd (Licence No: 02E0653; ITM: 720810 724405). It contained three possible archaeological features, two of which proved to be tree roots. The third feature was a circular pit, 0.3m wide and 0.2m deep. The fill contained burnt clay and frequent charcoal flecking. No finds that could be used to date the feature came from the pit

➤ Carrickmines Great

Excavations were carried out by Red Tobin, Margaret Gowen & Co (Licence No: 04E0773) in the townland of Carrickmines Great, Co. Dublin, in advance of a commercial development and infrastructure works. Monitoring of the topsoil removal took place during May 2004. The topsoil-strip corresponded to the main access, drainage and cabling routes and the Phase 1 development. This development is a large-scale retail outlet with extensive car parking. Access to this retail park will be from the South Eastern Motorway, which bounds the site to the north.

Two significant archaeological sites occur in close proximity to the proposed development, most notably Carrickmines Castle and ancillary earthworks (SMR 26:5), lying immediately to the north-east, and the Pale Boundary (SMR 26:115) to the north-west.

During the course of the topsoil-strip, 22 areas of archaeological potential were demarcated for examination. All features were identified by the presence of charcoal, in situ burning/oxidisation or soil discolouration. Several of the features were likely to be the result of relatively recent field clearance work or land improvements. The landscape showed evidence for the removal of field systems to expand the ploughlands into substantial open farmlands. Previous archaeological work in the environs of this development has revealed little. The type of site identified beyond the limits of 'The Pale' is marginal in nature, prehistoric in date and peripheral to any settlement. The artefact-bearing nature of the soil is quite disappointing; flint is present in the soil but largely natural fragments and small nodules carried in the glacial drift.

During testing it was possible to conclude that nine possible sites were natural in origin, two were substantial land drains and two were tree boles. The remainder of the sites are of archaeological origin. These features are grouped on the well-drained soils but have been heavily truncated during agricultural works over the last thirty years. Of the archaeological features only five survived in any substantial form.

Site 1, NGR 321084.413 223837.274, 87.163m OD

This site was identified in the course of topsoil-stripping as an isolated patch of oxidised clay. The deposit was 0.4m in diameter and a few millimetres in thickness. It was tested and shown to have no

relation to any other archaeological material. The nature of the material defines it as the lowest stratigraphic deposit of a fire or event involving burning. No further archaeological work was deemed necessary at this location.

Site 2, 321086.109 223757.607, 87.006m OD

This site was identified in the course of topsoil-stripping as an isolated patch of oxidised clay. The deposit was 0.45m in diameter and a few millimetres in thickness. It was tested and shown to have no relation to any other archaeological material. The nature of the material defines it as the lowest stratigraphic deposit of a fire or event involving burning. No further archaeological work was deemed necessary at this location.

Site 8, 321085.138 223876.337, 86.695m OD

This site was identified in the course of topsoil-stripping as an isolated patch of oxidised clay 0.5m in diameter, F4. During testing a second feature (F2) was identified to the west of F4. This was sub-rectangular in plan and extended to 0.75m in diameter north-south by 1.2m. F2 was excavated by hand and found to be a shallow pit or hearth with gradual sloping sides and a flat base with a single fill. It is likely that these features are shallow fire pits with, in the case of F2, a single fill representing a transient single usage, while F4 is the remains of a similar hearth heavily truncated by agricultural activity.

Site 10, 321169.697 223863.968 85.633m OD

The site was identified during topsoil-stripping as a large area, approximately 15m², of concentrated burning and intense discolouration. Deposits of charcoal-rich soil and heat-shattered stones (F2) suggested that the site might represent a fulacht fiadh. This firing material deposit was also associated with a dense cover of dark-brown, peaty material (F3) overlying the firing material. Analysis showed it to contain no charcoal. A series of circular and subcircular pits lie adjacent to the F2 material and would appear to be the focus of industrial activity on this site. It appears that the F2 material and the pits are indicative of Site 10's use period. The F3 and F4 materials overlying F2 represent material washed in or silted up after the abandonment of the site.

The main spread of F2 was irregular in plan with a tendency to a 'horseshoe' shape, defined by a sub-rectangular open area (F23) on the north side of the F2 spread. Three pits of uniform size were recorded in the western part of F23. These pits, F6, F7 and F9, all display similar features that suggest a consistency of use. F6 and F7 show evidence of use, while F9 appears to have been prepared but never actually used. The proportions of these three pits and the consistency of their fills suggest a connection through function. It is hard to determine what that function might be, but the presence of deliberately placed and spaced granite stones suggests that the activity may have taken place above, or was supported on, the stones, as against being contained within the pit.

F17, a wide, shallow pit with steep sides and a sloping base, was contained within the main spread of F2 material. It was well defined and cut into the natural. It was 2m in length and 1.6m in width, reaching a maximum depth of 0.34m. The southern extremity of the pit was defined by a deliberately constructed facing of granite stones. The fill was composed in the main of F2 material incorporating some larger fragments of granite, similar to the pits F6, F7 and F9. F17 displays all of the features associated with a trough and maintains the right proportions for such a feature. If this is the case, then

it is directly associated with the use process of the F2 spread and supports an interpretation that the site did function as a fulacht fiadh.

Preliminary evaluation of the material is not conclusive and adds little interpretative strength to the excavation as above. It may be possible to date the features if sufficient quantities of charcoal are available. Further research into the interpretation of the pits is required. It would appear that Site 10 is that of a fulachta fiadh or burnt mound with a central trough (F17) and an array of small roasting pits (F6, F7, F9 and F19), possibly used for heating the stones in small quantities.

Site 13, 321198.342 223810.556, 85.843m OD

This site was exposed during the topsoil-stripping as two distinct areas of discolouration and blackened soil. Approximately 0.3m of soil was removed to identify the features and further topsoil was removed to assess their nature and extent.

Excavation revealed an extensive area of localised burning (F2), 3.8m east-west by 3.1m. The material defines an area irregular in plan consisting of burnt peat and vegetation within and surrounded by a larger deposit of peat. The F2 material appears to have been the result of deliberate burning but not of an industrial nature and is likely to be a result of the clearance of agricultural land. This burning event only penetrated to a depth of 0.2m. Excavation was halted after extensive testing revealed that this site had no structural, industrial or artefactual content. While the F2 burning event is likely to have had an archaeological origin, perhaps as evidence of land clearance, it is sufficient to record the event.

Site 17, 321183.984 223733.257, 86.032m OD

Site 17 was revealed during topsoil-stripping as an isolated pit/hearth displaying evidence for direct burning. The topsoil was c. 0.3m in depth. A subcircular to oval area of burning, 0.89m in length and 0.74m in width and reaching a total depth of 0.13m was exposed. The fill consisted of loose, dark-grey/black sandy soil with charcoal inclusions and a small percentage of small stones and gravel. It also contained an abundance of charred seeds. These suggest a more complex interpretation than a simple hearth. Seed identification will suggest a possible date range, which can then be confirmed through 14C analysis.

Site 22, 321222.689 223862.097, 84.238m OD

This site was revealed during the course of the topsoil removal. It was first identified as a small localised deposit of black soil and later the presence of cremated bone was confirmed. 0.3m of topsoil was removed; this material has been systematically ploughed and cultivated for the last thirty years.

The cremation pit is identified by a circular deposit of dark-black silty clay with loose compaction containing c. 30% burnt bone. The fill was also notable for the frequency of sub-angular stones of 10-40mm in size. It also contained flecks of oxidised clay throughout. The pit cut is circular in plan, measuring 0.46m by 0.53m in diameter and reaching a maximum depth of 0.2m. The total content was removed from the site for analysis. The cremated bone has been extracted from the soil sample and the soil has also produced a large amount of charcoal; charred seeds are also present.

The evidence accrued in the course of this project suggests that the archaeological activity was ephemeral in nature and in keeping with the landscape of the time. It is likely that the area was poorly

drained, with an abundance of retained surface water. The poor drainage marginalised this land until the 20th century, when land improvement grants made it a viable option to undertake a large-scale drainage project to change the land use from rough pasture to tillage.

➤ **Glenamuck Road, Carrickmines Great**

Test excavation for proposed development works undertaken by Emer Dennehy, Margaret Gowen & Co (Licence No: 04E0114) due to the scale of the proposed development and its partial location within the zone of archaeological potential for the site of a cross base. Seventeen trenches were excavated, varying from 9.5m to 50m in length and varied from 0.15m to 1m in depth. No artefacts or stratigraphy of an archaeological nature were discovered.

➤ **Carrickmines Great**

A test excavation was carried out by Theresa Bolger, Margaret Gowen & Co (Licence No: 05E1243; ITM: 721515 723665) at a c. 3.9ha site to the east of the Glenamuck Road adjacent to the new roundabout at Carrickmines. The site forms Phase I of a two-stage development called Carrickmines Green (Phase II will be located to the west of the Glenamuck Road). Seven test-trenches were excavated at the site. No archaeological deposits or features were identified. Following on from this, monitoring of topsoil-stripping was undertaken. No archaeological features or deposits were identified.

➤ **Carrickmines Great / Glenamuck North / Glenamuck South**

Monitoring was carried out by Theresa Bolger, Margaret Gowen & Co (Licence No: 05E0756) in conjunction with the construction programme for the Glenamuck-Kiltiernan Main Drainage. A burnt spread/fulacht Fiadh was uncovered in Carrickmines Great and was preserved 'in-situ' (**Site CH-6; Appendix 11.3**). The overall extent of the feature was not determined.

➤ **Enniskerry Road, Glenamuck South**

Monitoring of topsoil strip was carried out on a development site at Glenamuck South on the Enniskerry Road by Dominick Delaney, Dominick Delaney & Associates (ITM: 720837 21964). The topsoil strip revealed 0.4-0.6m of garden soil over orange/brown silty sand subsoil. Two pet burial sites were uncovered during topsoil strip. The larger burial was centrally located within the garden and consisted of a sub-circular pit (0.75m x 0.6m) with frequent inclusions of animal bone in the fill. An adjoining 'foundation pit' (1.1m x 0.85m) containing a fill of crushed mortar and red brick fragments may indicate the site of a prominent garden feature with the pet burial inserted at its base. A second pet burial was recorded a couple of meters to the west. No archaeological material was uncovered

B. Non-Intrusive Investigations

A limited Geophysical Survey was undertaken by David Harrison, Margaret Gowen & Co (Licence No: 06R0064; Harrison, 2006) in 2006 with respect to the previous proposed Glenamuck Distributor Road proposals. An initial gradiometer scan of an area totalling 14ha was undertaken at two locations – within the extent, and south of, DU026-021 (Site CH-6) and at a location to the north, where there was potential for subsurface remains of a former road which is marked on Rocque's Map of 1760 (**Figure 11.2** above). A subsequent more detailed gradiometer survey was undertaken in nine separate areas at these locations, totalling 3.2ha.

The results of the geophysical survey are summarised in **Appendix 11.3**. The Geophysical Survey Report concluded that several small and isolated geophysical responses were recorded within the constraints area of CH-6 (DU026-021), possibly representing ephemeral archaeological remains and possibly related to deeply buried ferrous objects; none were indicative of the presence of enclosure sites. Similar geophysical responses/anomalies were detected elsewhere but no archaeological patterns were discernible implying that these too may be associated with buried ferrous objects.

11.3.2.5 Underwater Archaeology

Watercourses have always attracted human activity for a variety of reasons, as a source of water and food, as transport routes, as a source of energy and for their spiritual, religious or ritual associations. They also act as depositories for archaeological artefacts.

There are three watercourses within the overall study area, the locations of which are highlighted in **Figure 11.6**. The Loughlinstown River forms part of the townland boundary between Glenamuck South and Kingston, and runs in a west-east manner through the archaeological constraints area of CH-6. A watercourse runs in a general north-easterly manner through the northern areas of Glenamuck North and Carrickmines Great, while a further watercourse runs almost parallel to east of this in the townland of Carrickmines Great.

11.3.2.6 Archaeological Potential of Study Area / Receiving Environment

The siting preferences of particular monument types are well documented. Broadly speaking, the general landscape of the study area offers a potential setting for additional sites and remains as follows:

- The subject lands and surrounding landscape offer many opportunities for the location of Fulachta Fiadh (prehistoric cooking sites). These sites are location specific, generally located close to streams and rivers or in wet marshy areas, and sometimes occur in groups.
- The general rolling nature of the landscape is a favoured position for the location of prehistoric burial sites, ringforts and enclosure sites in the general region surrounding the subject development lands
- Waterways have always attracted human activity for a variety of reasons, as a source of water and food, as transport routes as a source of energy and for their spiritual, religious or ritual associations. They also act as depositories for archaeological artefacts.
- The area under assessment is part of a landscape which is rich in historical and archaeological material. The general region has attracted settlement from early times as evidenced by the presence of monuments dating back to the prehistoric period. Continuity of settlement is illustrated by artefacts dating to the Bronze Age and by identified monuments ranging from Neolithic to Medieval and Post-Medieval remains.

11.3.3 Architectural Heritage

Architectural heritage has several definitions and meanings for people. A useful rule of thumb (which is actually the legal situation) is set out in the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 which provides the following definition:

- (a) Structures and buildings together with their settings and attendant grounds, fixtures and fittings,
- (b) Groups of such structures and buildings, and
- (c) Sites, which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

A rich architectural heritage has survived to the present-day area of Dun Laoighaire - Rathdown. While there are impressive demesne features and large houses in the county, much of the architectural heritage has come from vernacular traditions with local craftsmen sometimes borrowing from the traditions of classical architecture to construct buildings that met local needs. This rich architectural heritage contributes enormously to the overall built environment and, indeed, helps to give it definition in terms of place and character for those that live and work in the county as well as those who visit here.

11.3.3.1 Dun Laoghaire – Rathdown County Development Plan 2016 – 2022

Section 51 of the Planning and Development Act, 2000 (as amended) requires the Development Plan to include a record of structures. These structures form part of the architectural heritage of the County and are to be protected. The Council has drawn up this list, referred to as the Record of Protected Structures (RPS). The RPS is a section of the Development Plan in which each structure is given a reference number – Appendix 4 of the County Development Plan. The following policies with respect to Protected Structures and Architectural Heritage, relevant to the subject development, are included in the Plan:

AR-1 Record of Protected Structures

It is Council policy to:

- I. Include those structures that are considered in the opinion of the Planning Authority to be of special architectural, historical, archaeological, artistic, cultural, scientific, technical or social interest in the Record of Protected Structures (RPS).
- II. Protect structures included on the RPS from any works that would negatively impact their special character and appearance.
- III. Ensure that any development proposals to Protected Structures, their curtilage and setting shall have regard to the Department of the Arts, Heritage and the Gaeltacht 'Architectural Heritage Protection Guidelines for Planning Authorities' (2011).
- IV. Ensure that new and adapted uses are compatible with the character and special interest of the Protected Structure.

A Protected Structure, unless otherwise stated, includes the interior of the structure, the land lying within the curtilage of the structure, any other structures lying within that curtilage and their interior and all fixtures and features which form part of the interior or exterior of that structure. The protection also extends to any features specified as being in the attendant grounds including boundary treatments.

AR-8 Nineteenth and Twentieth Century Buildings, Estates and Features

It is Council policy to:

- I. Encourage the appropriate development of exemplar nineteenth and twentieth century buildings and estates to ensure their character is not compromised.
- II. Encourage the retention of features that contribute to the character of exemplar nineteenth and twentieth century buildings and estates such as roof-scapes, boundary treatments and other features considered worthy of retention.

AR-9 Protection of Historic Street Furniture

It is Council policy to:

- I. Preserve the retention of historic items of street furniture where these contribute to the character of the area including items of a vernacular or local significance.
- II. Promote high standards for design, materials and workmanship in public realm improvements within areas of historic character.

Items of historic street furniture can be important elements in establishing the character of our streetscapes and sense of place. Such items could include bollards, railings, street signs, post boxes, telephone kiosks, horse troughs, water pumps, jostle stones, milestones, cobbles and setts, coal hole covers, weighbridges, plaques and granite kerbing.

AR-11 Industrial Heritage

It is Council policy to:

- I. Have regard to those items identified in the Industrial Heritage Survey listed in Appendix 5 [of the Development Plan] when assessing any development proposals.
- II. Identify further sites of industrial heritage significance with a view to assessing them for inclusion in the Record of Protected Structures.

Section 6.1.4 of the Plan deals with Areas of Architectural Conservation (ACA). Those policies relevant to the subject development are as follows:

AR-12 Architectural Conservation Areas

It is Council policy to:

- I. Protect the character and special interest of an area which has been designated as an Architectural Conservation Area (ACA).
- II. Ensure that all development proposals within an ACA be appropriate to the character of the area having regard to the Character Appraisals for each area.
- III. Seek a high quality, sensitive design for any new development(s) that are complimentary and/ or sympathetic to their context and scale, whilst simultaneously encouraging contemporary design.
- IV. Ensure street furniture is kept to a minimum, is of good design and any redundant street furniture removed.
- V. Seek the retention of all features that contribute to the character of an ACA including boundary walls, railings, soft landscaping, traditional paving and street furniture.

AR-15 Public Realm and Public Utility works within an ACA

It is Council policy to:

- I. Retain any surviving items of historic street furniture and finishes such as granite kerbing and paving that contribute to the character of an ACA
- II. Ensure that works to the public realm - such as the provision of traffic control measures, street furniture, materials and finishes - have regard to the distinctive character of the area.
- III. Encourage the undergrounding of over-head services and the removal of redundant wiring/ cables within an ACA.

11.3.3.2 Protected Structures

There are six structures listed in the Record of Protected Structures (RPS) [Appendix 4] included in the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022 as being located within the subject study area. These are listed below in **Table 11.4** and their locations indicated in **Figure 11.6**.

Site No.	RPS No.	ITM	Location	Structure Name	Description
CH-9	1790	720913 722690	Glenamuck Road	Rockville House	House & Gate Lodge
CH-10	1775	720351 722949	Enniskerry Road	Shaldon Grange	House
CH-11	1771	720128 722896	Enniskerry Road	Church of Ireland	Church, School, Sexton's Lodge, Boundary Walls & Gates
CH-12	1802	720519 722138	Ballybetagh Road	Our Lady of the Wayside Church	Church
CH-13	1830	720889 721757	Kiltiernan Gallery, Enniskerry Road	Old Post Office	House and Shop
CH-14	1832	720912 721716	The Old School House, Enniskerry Road	Orange Lodge	House

Table 11- 4: List of Protected Structures with Study Area

11.3.3.3 Industrial Heritage

There are two structures of Industrial Heritage (IH) interest listed in Appendix 6 of the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022. These are listed in **Table 11.5** and their locations illustrated in **Figure 11.6**.

Site No.	IH No	ITM	Location	Description
CH-15	995	720402 722522	On west side of Glenamuck Road at junction with Enniskerry Road	Water Tap
CH-16	996	720917 721754	On south side of Enniskerry Road with junction with Barnaslingan Lane	Post Box

Table 11- 5: List of Industrial Heritage Structures with Study Area

11.3.3.4 Architectural Conservation Areas (ACA)

There is in the Architectural Conservation Area (ACA) listed in the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022. This is listed in **Table 11.6** and its location and extent is illustrated in **Figure 11.6**.

Site No	ITM	Location	Name
CH-17	720837 721847	West side of Enniskerry Road, Kiltiernan	Moss Cottages ACA

Table 11- 6: List of ACA with Study Area

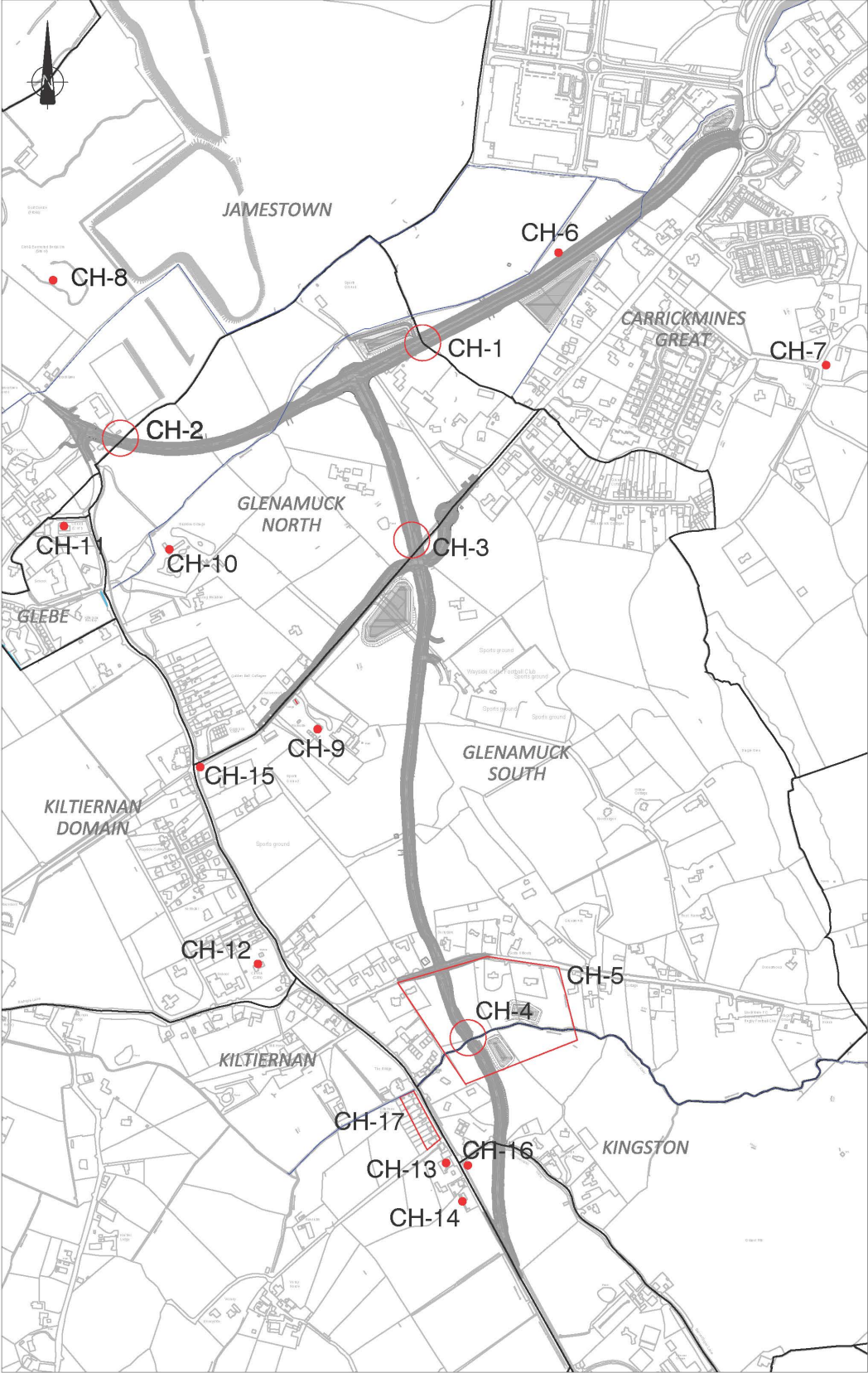


Figure 11- 5: Locations of Cultural Heritage Sites (Townland Boundaries marked Black; Watercourses Marked Blue)

11.4 Predicted Impacts

The following **Table 11.7** (from EPA, 2017, Table 3.3) provides the baseline criteria used to describe the impacts (effects) that the proposed development will have on Cultural Heritage Sites, Structures and Features.

Quality of Effects	<p>Positive Effects A change which improves the quality of the environment</p> <p>Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.</p> <p>Negative/adverse Effects A change which reduces the quality of the environment</p>
Significance of Effects	<p>Imperceptible An effect capable of measurement but without significant consequences.</p> <p>Not significant An effect which causes noticeable changes in the character of the environment but without significant consequences.</p> <p>Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</p> <p>Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</p> <p>Significant Effects An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.</p> <p>Very Significant An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.</p> <p>Profound Effects An effect which obliterates sensitive characteristics</p>
Extent and Context of Effects	<p>Extent Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.</p> <p>Context Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions</p>
Probability of Effects	<p>Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.</p> <p>Unlikely Effects</p>

	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration and Frequency of Effects	<p>Momentary Effects Effects lasting from seconds to minutes</p> <p>Brief Effects Effects lasting less than a day</p> <p>Temporary Effects Effects lasting less than a year</p> <p>Short-term Effects Effects lasting one to seven years.</p> <p>Medium-term Effects Effects lasting seven to fifteen years.</p> <p>Long-term Effects Effects lasting fifteen to sixty years.</p> <p>Permanent Effects Effects lasting over sixty years</p> <p>Reversible Effects Effects that can be undone, for example through remediation or restoration</p> <p>Frequency of Effects Describe how often the effect will occur.</p>

Table 11- 7: Descriptive Criteria for Cultural Heritage Impacts

11.4.1 Construction Phase

11.4.1.1 Historical Heritage

The general historical background to the development area is discussed above in Section 11.3.1. In summary, there are no significant historical events associated with the proposed development area which have the ability to be impacted upon by the construction of the proposed development.

The proposed road corridor crosses four townland boundaries. These are listed above in **Table 11.2** and their locations are indicated in **Figure 11.6**. Two of the boundaries – CH-1 (Carrickmines Great/Glenamuck North) and CH-2 (Glenamuck North/Jamestown) – comprise overgrown ditches with mature banked hedge-rows; one – CH-3 (Glenamuck North/Glenamuck South) – has no physical evidence as it is located along the centre of the existing Glenamuck Road while the other – CH-4 (Glenamuck South/Kingston) is formed by Loughlinstown River. None of these boundaries are subject to any statutory boundaries.

Short lengths, relative to the overall extents of such boundaries, of CH-1 and CH-2 will be removed to facilitate the development. It is considered that such removal is a localised slight permanent impact and there are no additional predicted impacts with respect to Historical Heritage with regard to the proposed construction phase of the development.

11.4.1.2 Archaeological Heritage

A. Terrestrial Archaeology

The general archaeological background to the subject development area is discussed above in Section 11.3.2. In summary, there are four previously identified monuments of archaeological interest/potential located within the defined study area associated with proposed development, as listed above in **Table 11.3**. No additional monuments or surface features of archaeological potential were noted by aerial photographic research or subsequent field/surface reconnaissance survey. Three of the monuments are listed in the Record of Monuments and Places (RMP) – Sites CH-5, CH-7 & CH-8 – and all are subject to protection under provisions of the DLR County Development Plan.

Two of the monuments – CH-7 and CH-8 are located at sufficient distances from the subject development that no direct impact to such will occur during construction stage.

Site CH-5 (Glenamuck South/Kingston; Enclosure(s)) includes a relatively large Zone of Archaeological Potential/Notification, to the south of Ballycorous Road and straddling the Loughlinstown River (**Figure 11.6** above). A Geophysical Survey undertaken in 2006 included such Zone and concluded that several small and isolated geophysical responses were recorded within the Zone, possibly representing ephemeral archaeological remains and possibly related to deeply buried ferrous objects; none were indicative of the presence of enclosure sites (Appendix 11.3).

Site CH-6 (Carrickmines Great; burnt spread/fulacht fia) was uncovered during a programme of Archaeological Monitoring undertaken in 2005 in conjunction with the construction programme for the Glenamuck-Kiltiernan Main Drainage. A burnt spread/fulacht Fiadh was uncovered in Carrickmines Great and was preserved 'in-situ' (Site CH-6; Appendix 11.2). However, the exact extent was not determined.

A section of the subject road, together with an associated bridge and two attenuation ponds are proposed within the Zone of Archaeological Potential/Notification established for CH-5. Although the results of a Geophysical Survey within the Zone indicate very little of archaeological potential, it is noted that no intrusive archaeological investigations have been undertaken with respect to this monument and the likelihood for subsurface archaeological remains has not been proven or disproven; therefore, it is considered that the extent of the Archaeological Zone must still be considered to be of archaeological potential. Consequently, without the adoption of a suitable mitigation strategy, the potential effect/impact of the proposed development on this possible monument is of likely negative, very significant and permanent.

CH-6, as uncovered, may be located immediately outside the proposed construction corridor, the overall extent of this feature has not, as yet, been determined, as noted above; consequently, it is likely that related components of this feature may be located within the proposed construction corridor and, without the adoption of a suitable mitigation strategy, the effect/impact of the proposed development on this feature is of likely negative, very significant and permanent.

In general, groundworks associated with developments such as that under discussion have the ability to uncover and disturb hitherto unrecorded subsurface features, deposits, structures and artefacts of archaeological interest and potential. Without the adoption of specific mitigation strategies, such subsurface archaeological features that might exist within the proposed development areas/corridors

would be potentially disturbed and destroyed and not identified and recorded, resulting in a likely negative, very significant and permanent effect/impact.

B. Underwater Archaeology

There are three new watercourse crossings proposed located within the subject construction areas/corridors – two culverts across the Glenamuck Stream and a bridge over the Loughlinstown River. The culverts will require disturbance works to the banks of the stream, as well as to the Glenamuck Stream beds, while only the banks of the Loughlinstown River will be directly disturbed by construction works.

As noted above in Section 11.3.2.5, waterways have always attracted human activity for a variety of reasons, and can act as territorial boundaries (e.g. Loughlinstown River) and as depositories for archaeological artefacts. Where monuments are located immediately adjacent watercourses, there is evidence that the edges of such monuments can be eroded, over time, by fluctuations in the flow of the watercourse, resulting in the dislodgement of artefacts and their transportation downstream by the watercourse. Consequently, it is considered that there is potential for the recovery of artefacts from the Loughlinstown River and, to a lesser extent, from the Glenamuck Stream. Consequently, without the adoption of specific mitigation strategies, any artefactual material that might exist at the location of the proposed watercourse crossings would potentially be disturbed and destroyed and not identified and recorded, resulting in a likely negative, very significant and permanent effect/impact.

11.4.1.3 Architectural/Industrial Heritage

There are six structures listed in the Record of Protected Structures (RPS) [Appendix 4] included in the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022 as being located within the subject study area. These are listed above in **Table 11.4** as CH-9 to CH-14, and their locations indicated in **Figure 11.6**. None are located within, or in the immediate environs of, the subject proposed road construction corridor/areas. Consequently, it is considered that it is unlikely that any negative/adverse effects/impacts will occur with respect to these structures during the construction phase of the development.

There are two structures of Industrial Heritage (IH) interest listed in Appendix 6 of the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022. These are listed in **Table 11.5** (CH-15 & CH-16) and their locations illustrated in **Figure 11.6**. Neither are located within, or in the immediate environs of, the subject proposed road construction corridor/areas. Consequently, it is considered that it is unlikely that any negative/adverse effects/impacts will occur with respect to these structures during the construction phase of the development.

There is in the Architectural Conservation Area (ACA) listed in the Dun Laoghaire – Rathdown County Development Plan 2016 – 2022. This is listed in **Table 11.6** (CH-17; west side of Enniskerry Road, Kiltiernan) and its location and extent are illustrated in **Figure 11.6**. The subject proposed road construction corridors are not routed through or close to this ACA. Consequently, it is considered that it is unlikely that any negative/adverse effects/impacts will occur with respect to such during the construction phase of the development.

11.4.2 Post-Construction/Operational Phase

11.4.2.1 Historical Heritage

The only extant features of potential historical interest are sections of existing field boundaries which serve as townland boundaries. These features are not subjected to any statutory protections. It is not considered likely these will be negatively impacted upon by the operation of the road, following construction.

11.4.2.2 Archaeological Heritage

There are four previously identified monuments of archaeological interest/potential located within the defined study area associated with proposed development, as listed above in **Table 11.1** (Section 11.3.2.2). Only one of these – CH-7 – has any extant remains; this is a low-visibility cross-base. None are located within, or in the immediate environs of, the proposed road corridors. Consequently, the settings and views associated with these monuments will not be negatively impacted upon by the operation of the road, following construction.

11.4.2.3 Architectural Heritage

There are no structures of architectural or industrial heritage interest located within, or in the immediate environs of, the subject proposed road corridors; likewise, none are routed through any Architectural Conservation Area. Consequently, it is not considered likely that the settings and views associated with these structures will be negatively impacted upon by the operation of the road, following construction.

11.5 Mitigation Measures

11.5.1 Historical Heritage

The general historical background to the development area is discussed above in Section 11.3.1. In summary, there are no significant historical events associated with the proposed development area which have the ability to be impacted upon by the construction of the proposed development.

The proposed road corridor crosses four townland boundaries. These are listed above in **Table 11.2** and their locations are indicated in **Figure 11.6**. Two of the boundaries – CH-1 (Carrickmines Great/Glenamuck North) and CH-2 (Glenamuck North/Jamestown) – comprise overgrown ditches with mature banked hedge-rows; one – CH-3 (Glenamuck North/Glenamuck South) – has no physical evidence as it is located along the centre of the existing Glenamuck Road while the other – CH-4 (Glenamuck South/Kingston) is formed by Loughlinstown River. None of these boundaries are subject to any statutory boundaries.

Short lengths, relative to the overall extents of such boundaries, of CH-1 and CH-2 will be removed to facilitate the development. As noted above in Section 11.4.1.1, this will result in localised slight permanent impacts. Consequently, it is considered that the constructional details of these lengths of boundaries, be recorded as part of the overall suggested pre-construction mitigation strategy for Archaeological Heritage (see Section 11.5.2 below). As part of the overall design of the proposed scheme, consideration should be given to the erection of stone marker, detailing the names of the associated townlands, at the locations of such boundaries adjacent the edges of the construction corridor.

11.5.2 Archaeological Heritage

The general archaeological background to the subject development area is discussed above in Section 11.3.2. In summary, there are four previously identified monuments of archaeological interest/potential located within the defined study area associated with proposed development, as listed above in **Table 11.1** (Section 11.3.2.2). No additional monuments or surface features of archaeological potential were noted by aerial photographic research or subsequent field/surface reconnaissance survey. Three of the monuments are listed in the Record of Monuments and Places (RMP) – Sites CH-5, CH-7 & CH-8 – and all are subject to protection under provisions of the DLR County Development Plan.

Two of the monuments – CH-7 and CH-8 are located at sufficient distances from the subject development that no direct impact to such will occur during construction stage. In addition, no impacts to any of the monuments will occur by the operation of the constructed road and associated features.

Site CH-5 (Glenamuck South/Kingston; Enclosure(s)) includes a relatively large Zone of Archaeological Potential/Notification, to the south of Ballycorous Road and straddling the Loughlinstown River (Figure 11.6 above). A Geophysical Survey undertaken in 2006 included such Zone and concluded that several small and isolated geophysical responses were recorded within the Zone, possibly representing ephemeral archaeological remains and possibly related to deeply buried ferrous objects; none were indicative of the presence of enclosure sites. A section of the subject road, together with an associated bridge and two attenuation ponds are proposed within the Zone of Archaeological Potential/Notification established for CH-5. Although the results of a Geophysical Survey within the Zone indicate very little of archaeological potential, it is noted that no intrusive archaeological

investigations have been undertaken with respect to this monument and the likelihood for subsurface archaeological remains has not been proven or disproven; therefore, it is considered that the extent of the Archaeological Zone must still be considered to be of archaeological potential. Consequently, without the adoption of a suitable mitigation strategy, the potential effect/impact of the proposed development on this possible monument is of likely negative, very significant and permanent.

Site CH-6 (Carrickmines Great; burnt spread/fulacht fia) was uncovered during a programme of Archaeological Monitoring undertaken in 2005 in conjunction with the construction programme for the Glenamuck-Kiltiernan Main Drainage. A burnt spread/fulacht Fiadh was uncovered in Carrickmines Great and was preserved 'in-situ' (Site CH-6; Appendix 11.3). However, the exact extent was not determined. CH-6, as uncovered, may be located immediately outside the proposed construction corridor, the overall extent of this feature has not, as yet, been determined, as noted above and in Section 11.3.2.4 A; consequently, it is likely that related components of this feature may be located within the proposed construction corridor and, without the adoption of a suitable mitigation strategy, the effect/impact of the proposed development on this feature is of likely negative, very significant and permanent.

In addition, it is further noted that in general, ground reductions associated with a development of this kind, in areas of previous generally undisturbed ground, have the ability to uncover and disturb hitherto unrecorded subsurface features, deposits, structures and finds of archaeological interest and potential. Without the adoption and implementation of a suitable mitigation strategy, any subsurface archaeological features or artefacts that might be located within the site during the construction phase of the development might not be identified and recorded.

In terms of potential underwater archaeology, there are three new watercourse crossings proposed located within the subject construction areas/corridors – two culverts across the Glenamuck Stream and a bridge over the Loughlinstown River. The culverts will require disturbance works to the banks of the stream, as well as to the Glenamuck Stream beds, while only the banks of the Loughlinstown River will be directly disturbed by construction works. As discussed above in Sections 11.3.2.5 and 11.4.4.2.B, watercourses are considered to be of archaeological potential interest, particularly with respect to the recovery of artefactual material.

As noted above in Section 11.3.2.5, waterways have always attracted human activity for a variety of reasons, and can act as territorial boundaries (e.g. Loughlinstown River) and as depositories for archaeological artefacts. Where monuments are located immediately adjacent watercourses, there is evidence that the edges of such monuments can be eroded, over time, by fluctuations in the flow of the watercourse, resulting in the dislodgement of artefacts and their transportation downstream by the watercourse. Consequently, it is considered that there is potential for the recovery of artefacts from the Loughlinstown River and, to a lesser extent, from the Glenamuck Stream. Consequently, without the adoption of specific mitigation strategies, any artefactual material that might exist at the location of the proposed watercourse crossings would potentially be disturbed and destroyed and not identified and recorded, resulting in a likely negative, very significant and permanent effect/impact.

Given the above, and in order that potential subsurface and hitherto unidentified and unrecorded features of archaeological heritage interest that might exist within the subject development/construction corridor, can be identified at an early stage, particularly in advance of the

construction phase of the development, the following pre-construction mitigation measures are suggested:

1. A further programme of Archaeological Geophysical Survey should be undertaken under licence from the Department of Culture, Heritage and the Gaeltacht. This should include all suitable green-field areas within the developmental corridors, including areas for attenuation etc., but outside those areas previously subject to such survey.
2. Following completion of the programme of Geophysical Survey, a programme of Archaeological Testing should be undertaken within the extent of the Construction Corridor, under licence from the Department of Culture, Heritage and the Gaeltacht. The results of the Geophysical Survey will help inform the locations and nature of the test trench, particularly if subsurface anomalies of archaeological potential are detected. In addition, a test trench should be inserted across the field/townland boundaries of CH-1 and CH-2, where possible, in order that a profile and constructional detail can be recorded.
3. Following completion of both the Geophysical Survey and Programme of Archaeological Testing, a report describing the results of such should be prepared. The report should include an impact statement with respect to any subsurface features of archaeological interest/potential that might have been discovered/identified and include a mitigation strategy for the archaeological resolution of such features (e.g. Mitigation by Excavation, Recording and Publication) in advance of the commencement of construction works.
4. A wade survey of the Loughlinstown River, within the extent of the Construction Corridor should be undertaken by an archaeologist, under licence from the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, followed by a metal detecting survey of the River stream bed, as well as the two area of the Glenamuck Stream where it is intended culvers will be inserted.; where required, removal of the overgrowth along the banks of the watercourse, should be undertaken to facilitate access and an inspection of the associated watercourse edges and banks. Any artefacts recovered by such work should be subject to the recording, reporting and conservation requirements of the National Museum of Ireland.

11.5.3 Architectural Heritage

As noted above in Sections 11.4.1.3 and 11.4.2.3, it is not considered likely that any impacts will occur, either at construction or operations phase of the subject development, to structures of architectural or industrial heritage interest, including within the identified ACA. Consequently, it is considered that no mitigation measures are required.

11.6 Residual Impacts

It is considered that with the adoption and implementation of the mitigation strategy suggested above in Section 11.5.2, and any further requirements arising from such, that no residual impacts, with respect to Cultural Heritage, will occur.

11.7 Difficulties Encountered

Access to the Zone of Archaeological Potential established for CH5 was denied and, consequently, no reconnaissance survey was undertaken in such lands. However, the lands were subject to field inspection previously, as part of the Geophysical Survey in 2006

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