

08 MAY 2023

APPENDIX 15.2: CULTURAL HERITAGE INVENTORIES

Inventory of Archaeological sites within the 1km Study Area

SMR No.	Class	Townland	Description
LI005-005----	Cairn - burial cairn	Clondrinagh	Scheduled for inclusion in the next revision of the RMP: Yes Description: Situated on a rise, in the lowlying floodplain of the river Shannon. A flat-topped circular mound (diam. 23m; H 1.5m) with a near vertical gradient on the N side and more gentle gradients at S and W. The site was partially archaeologically excavated in advance of road construction works. Prior to archaeological investigation, the site consisted of a circular mound (diam. c. 23m; H 1.5m). In 2003 archaeological test excavation was carried out by Florence Hurley under licence No. 03E1144. Two hand-dug trenches, one on the W edge of the mound (7m by 1m) and one on top of the mound (2m by 2m), were excavated. These confirmed that the mound, or cairn, was made up of small and medium-sized stones (D 1m). A combination of larger stones and natural bedrock acted as revetting on the western side of the cairn. Fragments of cremated human bone were found in a discrete deposit on the old ground surface beneath the cairn. No evidence for any cists or deposits of bone within the cairn was found in the limited area examined. No external ditch was present.
LI005-007----	Children's burial ground	Clonconane	Scheduled for inclusion in the next revision of the RMP: Yes Description: Burial ground known locally as 'Crag Grave Yard' described in 1840 as following; 'There is an old burial place in the townland of Cluain Chanáin (Cloon conan) about two miles to the north of the city in the parish of St. Munchin to the north of the city of Limerick, but only children are now interred in it' (OSL Vol. 1, 57). Outline of circular-shaped burial ground (approx. diam. 20m) visible today on Digital Globe aerial photographs.
LI005-038----	Bridge	Clonconane	Scheduled for inclusion in the next revision of the RMP: Yes Description: Meelick Bridge which traverses the Crompaun River or Meelick Creek connecting

SMR No.	Class	Townland	Description
			the townland of Clonconane to Meelick in County Clare may have been built on the site of the medieval bridge that is depicted on the 17th century Down Survey map of the Barony of North Liberties (Hib. Reg.). Cross referenced with CL062-049----
LI005-039----	Settlement cluster	Ballygrennan (North Liberties By.), Clonconane	Scheduled for inclusion in the next revision of the RMP: Yes Description: On low-lying pasture, in the angle of Cratloe Road and Galtee Avenue. Site of Castle Park castle (LI005-010----) lies c. 1km to NE. Shown as a cluster of dwellings either side of the road out of Limerick City on the Down Survey barony map of the North Liberties (Hib. Reg.). The name Red Gate is depicted on the 1840 OS 6-inch map, c. 65m to NW and may be of some significance (O' Rahilly 1998). A pit and a burnt spread were uncovered from this area during archaeological monitoring (License No. 98E0321) for a development in 1998 (ibid). Area is now occupied by Clonile and Shanrath housing estates. Archaeological test trenching (License No. 04E0851) and monitoring of a site directly on the opposite side of the Cratloe Road, proved negative for archaeology (Brewer February 2004; Dunne July 2004).
CL063-001----	Enclosure	Pass	Scheduled for inclusion in the next revision of the RMP: Yes Description: The Archaeological Survey of Ireland (ASI) is in the process of providing information on all monuments on The Historic Environment Viewer (HEV). Currently the information for this record has not been uploaded.
CL062-049----	Bridge	Meelick	Scheduled for inclusion in the next revision of the RMP: Yes Description: The Archaeological Survey of Ireland (ASI) is in the process of providing information on all monuments on The Historic Environment Viewer (HEV). Currently the information for this record has not been uploaded.
CL063-002----	Enclosure	Gortgarraun	Scheduled for inclusion in the next revision of the RMP: Yes

SMR No.	Class	Townland	Description
			Description: The Archaeological Survey of Ireland (ASI) is in the process of providing information on all monuments on The Historic Environment Viewer (HEV). Currently the information for this record has not been uploaded.
LI005-010----	Castle - unclassified	Ballygrennan (Pubblebrien By.)	<p>Scheduled for inclusion in the next revision of the RMP: Yes</p> <p>Description: Ballygrennan Castle or Castle Park described by Westropp (1906-7, 81) as following; '1610 David McCanney owned the C[astle]. of Parck (Inq. Chan., Car. I., 29). 1631 Pardon to Simon Fanning for alienation of the C[astle]. of Park in the County of the City (Pat R.). 1655 Ballygrenane C[astle]. (Petty 63)'. Castle depicted as a tower house type structure on the Down Survey map of the North Liberties in Limerick (Hib. Reg.).</p> <p>Castle Park (NIAH Reg. No. 21900502) described in the Ordnance Survey Field Name Books for St. Munchins parish as following; 'The former name of this edifice was Castlepark, and it was built and occupied in 1620 by the O'Brien's of Thomond. In 1782 it became the property of the Ormsbys under the name of Blackland Castle, and lastly, in 1833, it became the property of Christopher Delmege Esq. who improved and rebuilt the greater portion of it. it is a splendid edifice, 4 story high, overlooking the Shannon' (OSNB Parish of St. Munchin, 1542).</p>

Inventory of Architectural Heritage sites within the 1km Study Area

NIAH No.	RPS No.	Class	Description
21900501	3308	Bridge	<p>Single-arched humpback road bridge, built c. 1800, over the River Cropaun or Meelick Creek. Rubble limestone and sandstone walls. Extended to north elevation. Red brick voussoirs to round-headed arch.</p> <p>This solidly built road bridge is indicative of the skill of early nineteenth-century craftsmen. The bridge forms a pleasing silhouette in the landscape.</p>
N/A	3306	Christ The King Roman Catholic Church	<p>Circular church opened in 1985, designed by John and Nuala Kernan</p>
21900502	3306	Castle Park House	<p>Detached five-bay two-storey country house, built c. 1750, comprising floating pediment to front (south) elevation, full-height canted bay to east elevation having extension adjoining remodelled tower house to east with crenellated curtain wall. Two-bay four-storey extension to rear (north) elevation. Now in disuse. This substantial house, attributed to Francis Bindon, displays characteristic features of his work such as the lunette resting on the Venetian window's keystone. Built in different phases, the house retains its eighteenth-century façade with earlier fabric to the rear elevation. Castle Park is distinguished by its finely carved limestone dressings, which are indicative of the skill of eighteenth-century craftsmen. Battlements were added in the nineteenth century, when the castle style of architecture was in vogue.</p>

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APPENDIX 15.3: FIGURES

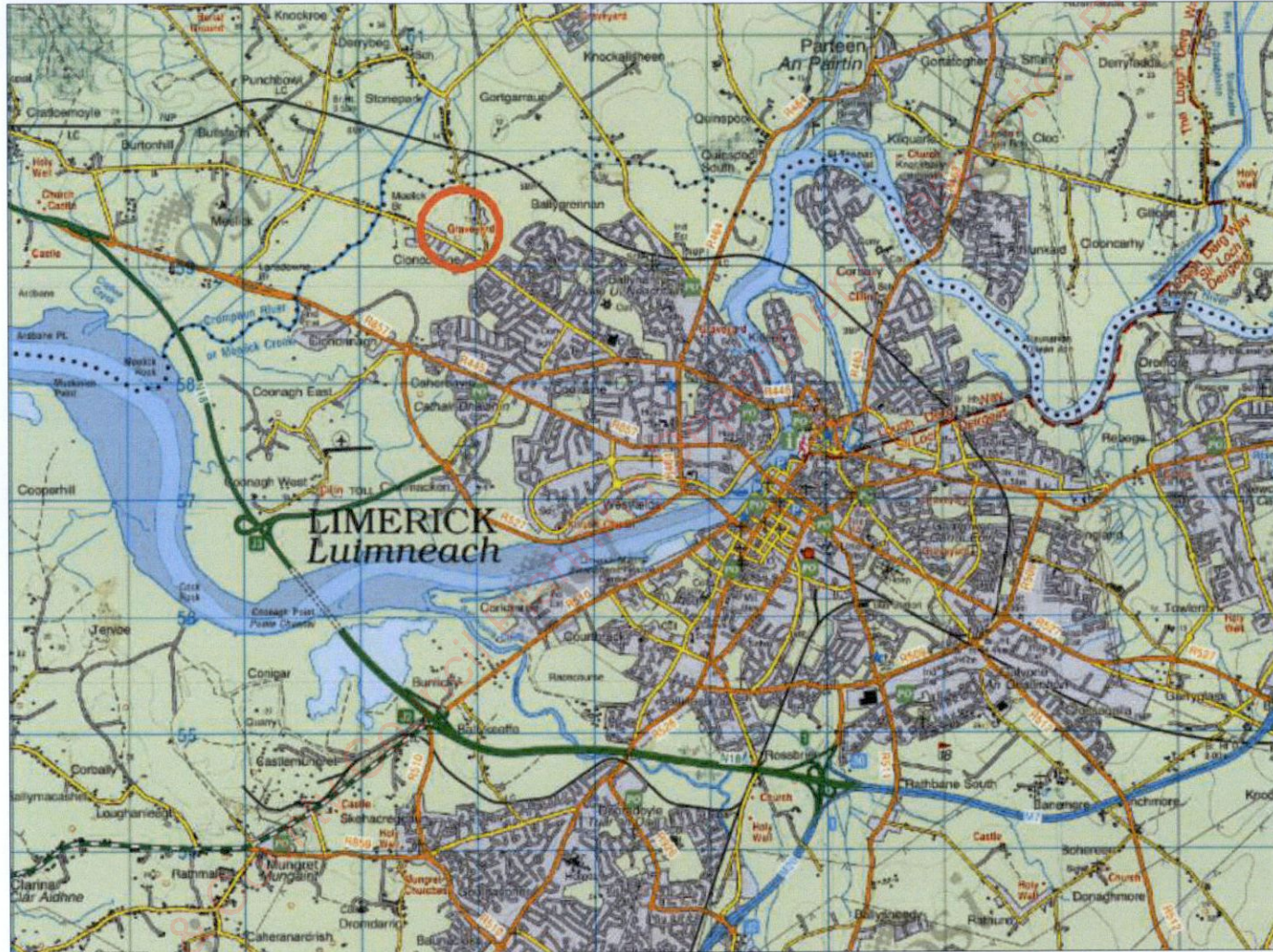


Figure 15.1 Location map with the proposed development site circled in red (Source: The Heritage Council)

Limerick City Development Plan 2019-2024



Figure 15.2 Location of Site in Context of Masterplan site outlined in blue with the Phase 3 area outlined in red

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Figure 15.3 Recorded archaeological sites (as recorded by ASI) within 1km of the Masterplan site, including proposed wet grassland habitat in blue (Source: Government of Ireland, Historic Environment Viewer)

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Figure 15.4 Recorded archaeological sites that interact with the Masterplan site
(Source: Government of Ireland, Historic Environment Viewer)

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Figure 15.5 NIAH sites within 1km of the Masterplan site, including proposed wet grassland habitat in blue
(Source: Government of Ireland, Historic Environment Viewer)

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Figure 15.6 Recorded archaeological sites (red dots) and their ZoNs (shaded purple) located within approximately 1km of the Phase 3 area



Figure 15.7 LiDAR image, showing the Masterplan site (Source: Geological Survey of Ireland - Open Topographic Data Viewer)

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08 MAY 2023

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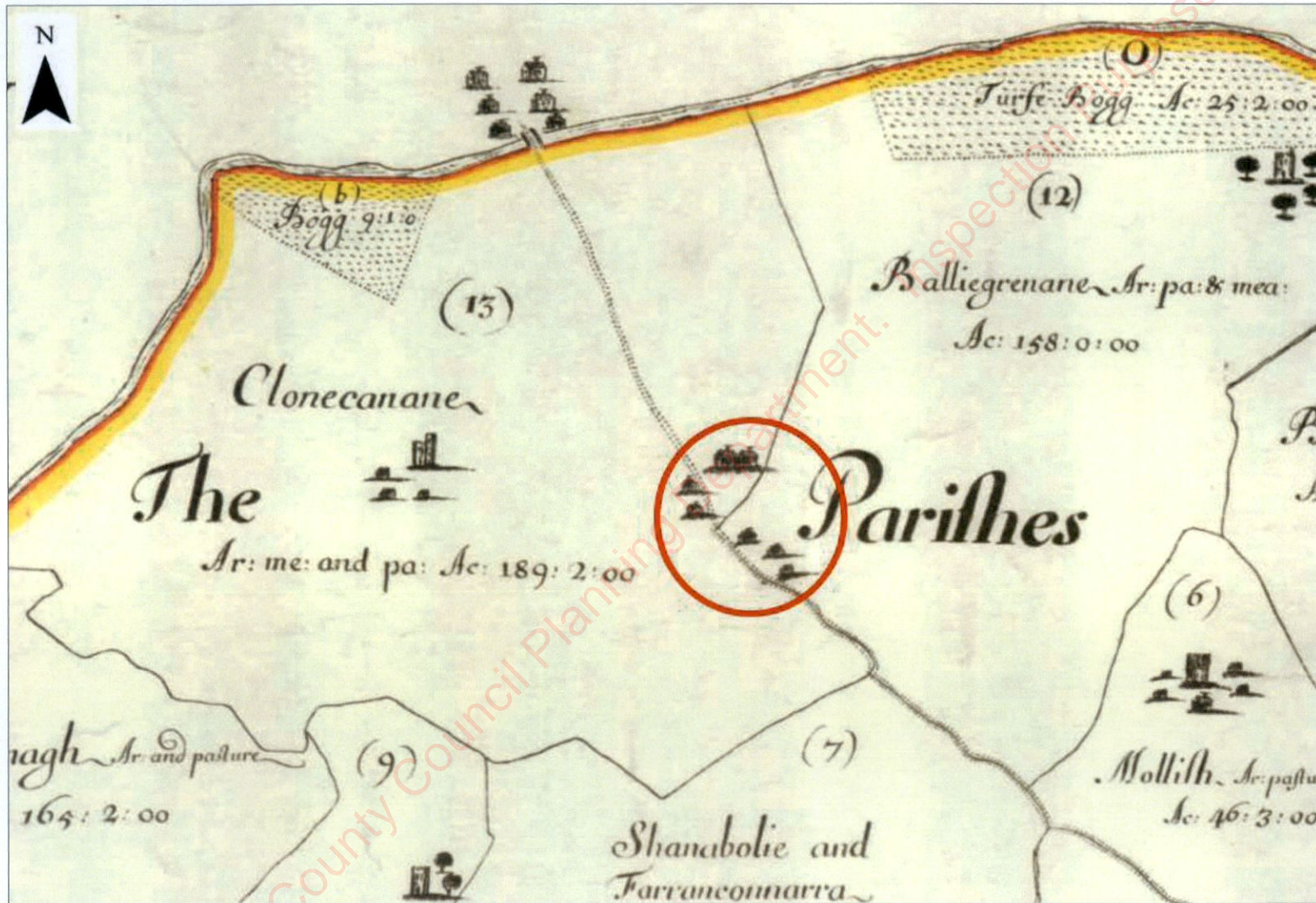


Figure 15.8 Extract from the Down Survey map of barony of the North Liberties, with the settlement cluster circled in red (Source: Trinity College Dublin)

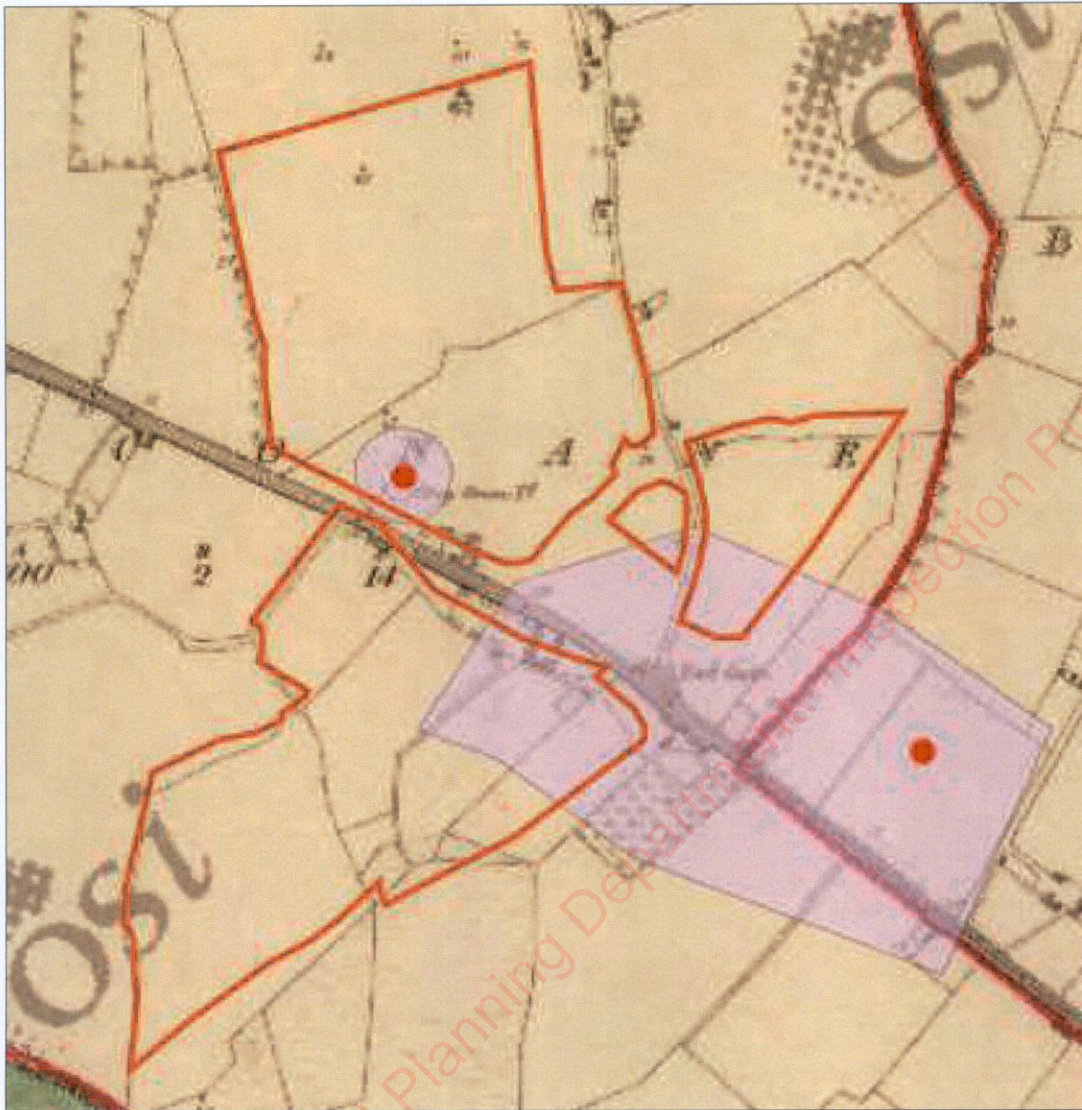


Figure 15.9 Extract from the first edition 6-inch OS map with the boundary of the Masterplan site outlined in red (Source: Ordnance Survey of Ireland)

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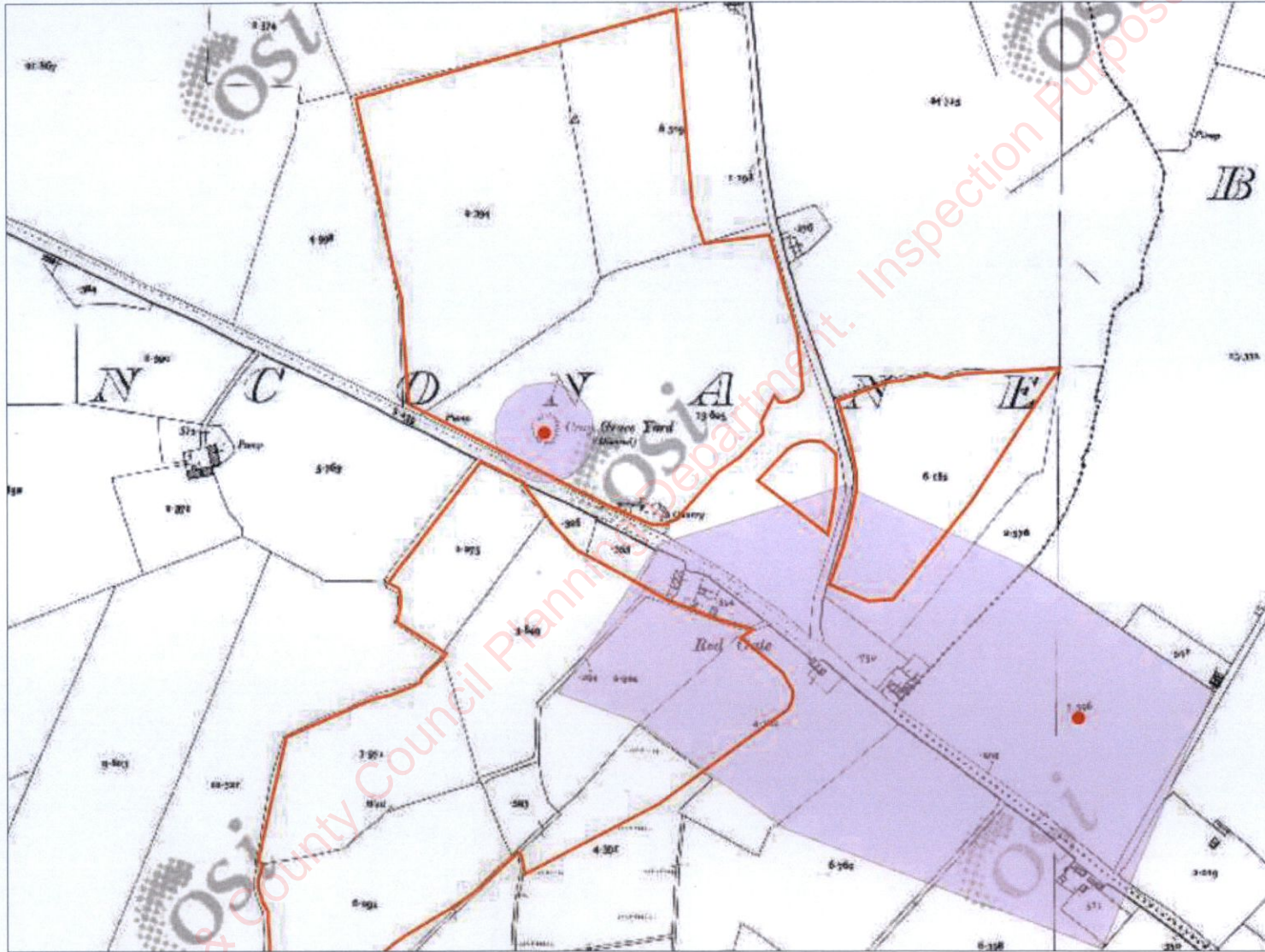


Figure 15.10 Extract from the 25-inch OS map with the boundary of the Masterplan site outlined in red
(Source: Ordnance Survey of Ireland)

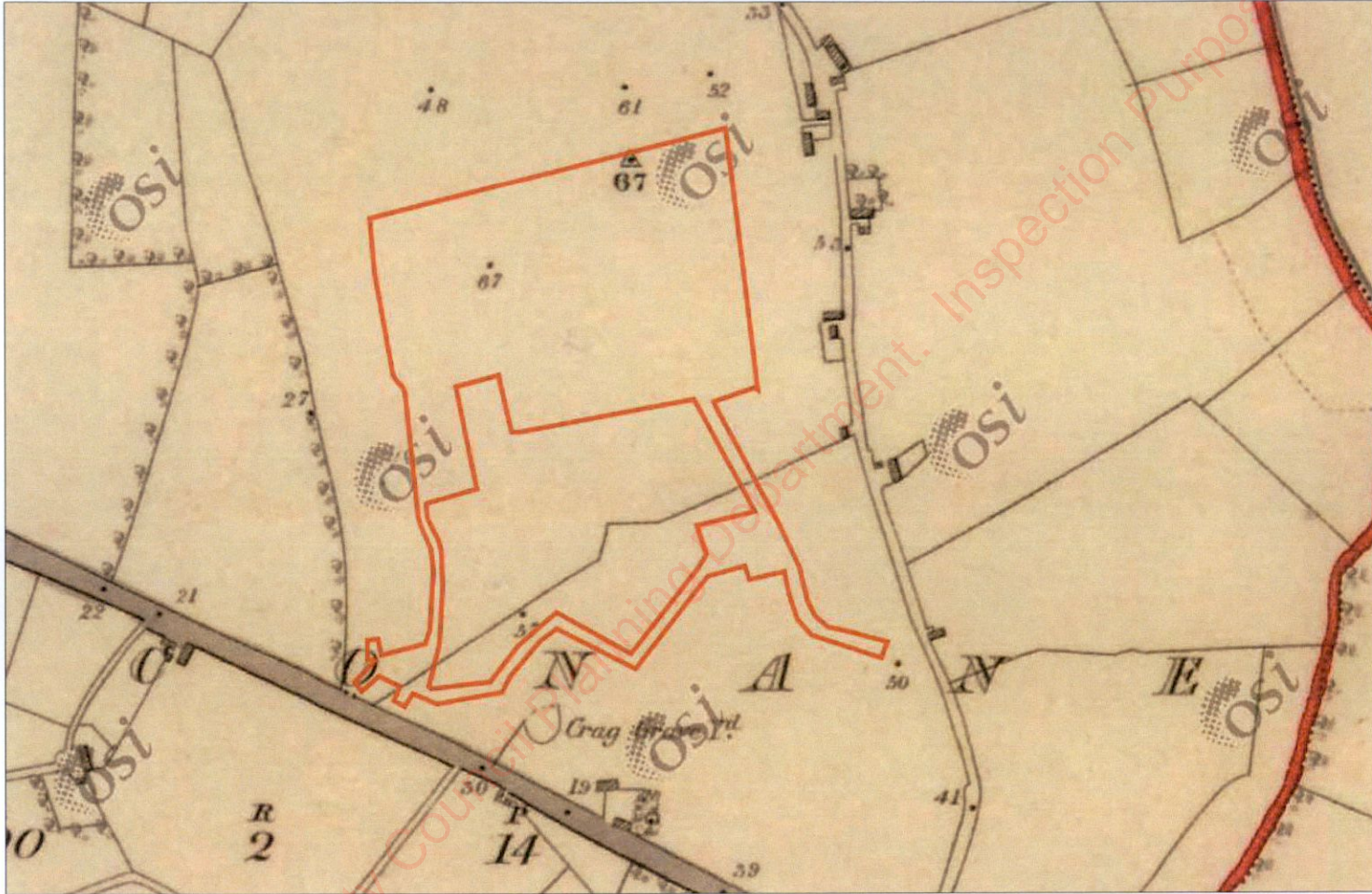


Figure 15.11 Extract from the first edition 6-inch OS map with the boundary of the Phase 3 area outlined in red (Source: Ordnance Survey of Ireland)

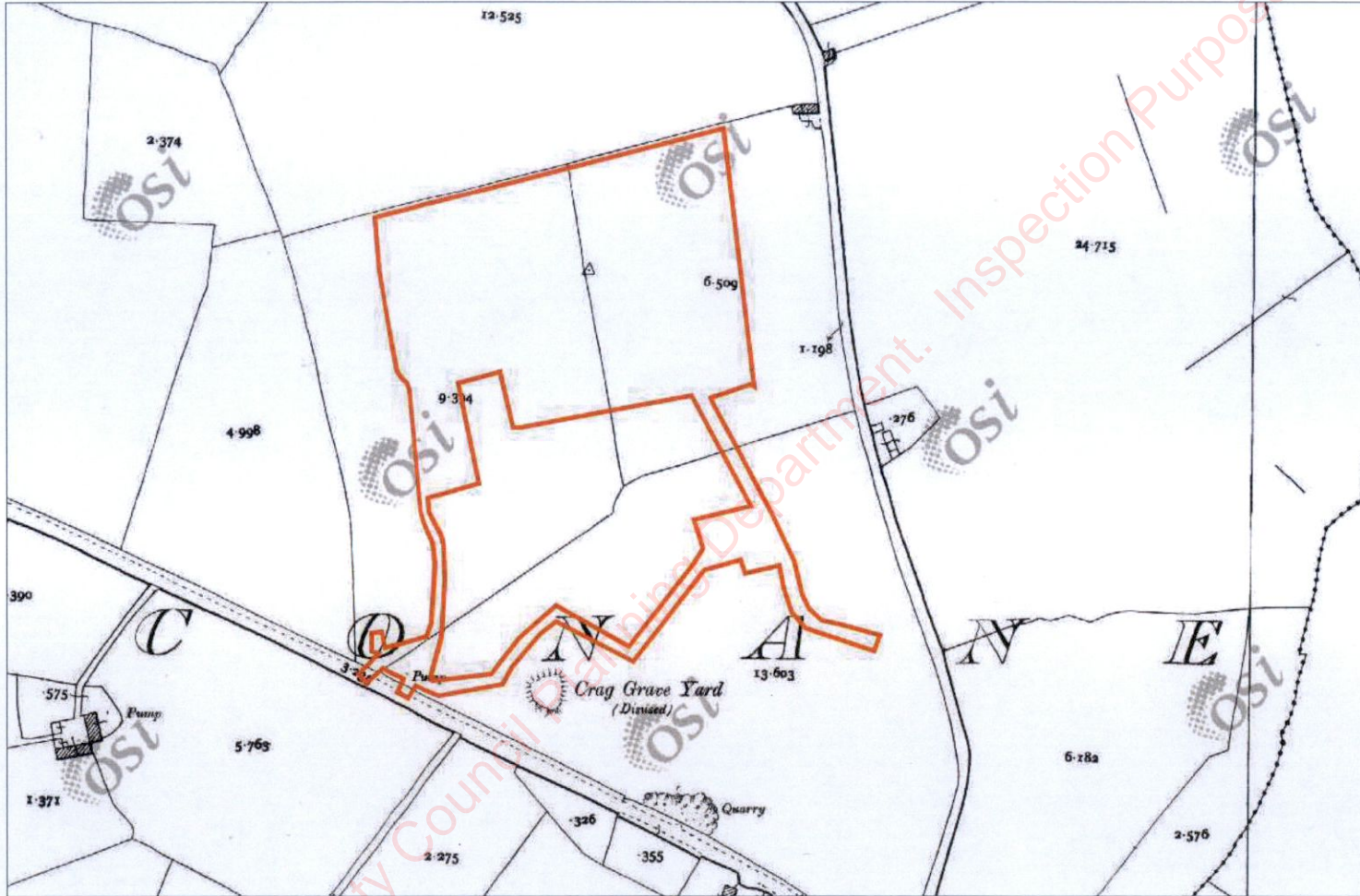


Figure 15.12 Extract from the 25-inch OS map with the boundary of the Phase 3 area outlined in red
(Source: Ordnance Survey of Ireland)



Figure 15.13 Aerial image from 1995 showing the Phase 3 area outlined in red
(Source: Ordnance Survey of Ireland)15.14



Figure 15.14 Aerial image from 2013-2018 showing the Phase 3 area outlined in red
(Source: Ordnance Survey of Ireland)



Figure 15.15 Location of test trenches excavated across the Phase 1 area

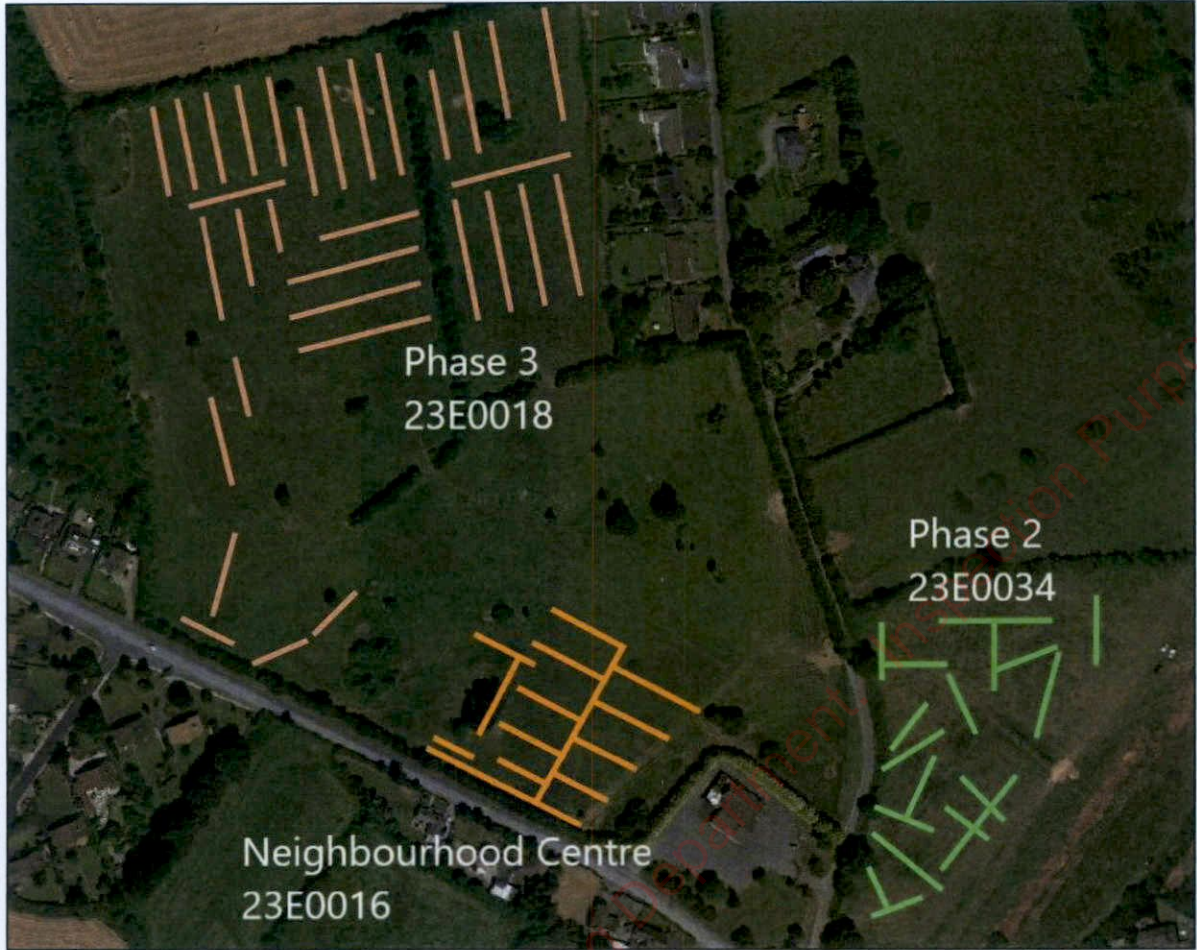


Figure 15.16 Location of test trenches excavated across the Phase 2, Phase 3 and Neighbourhood Centre areas

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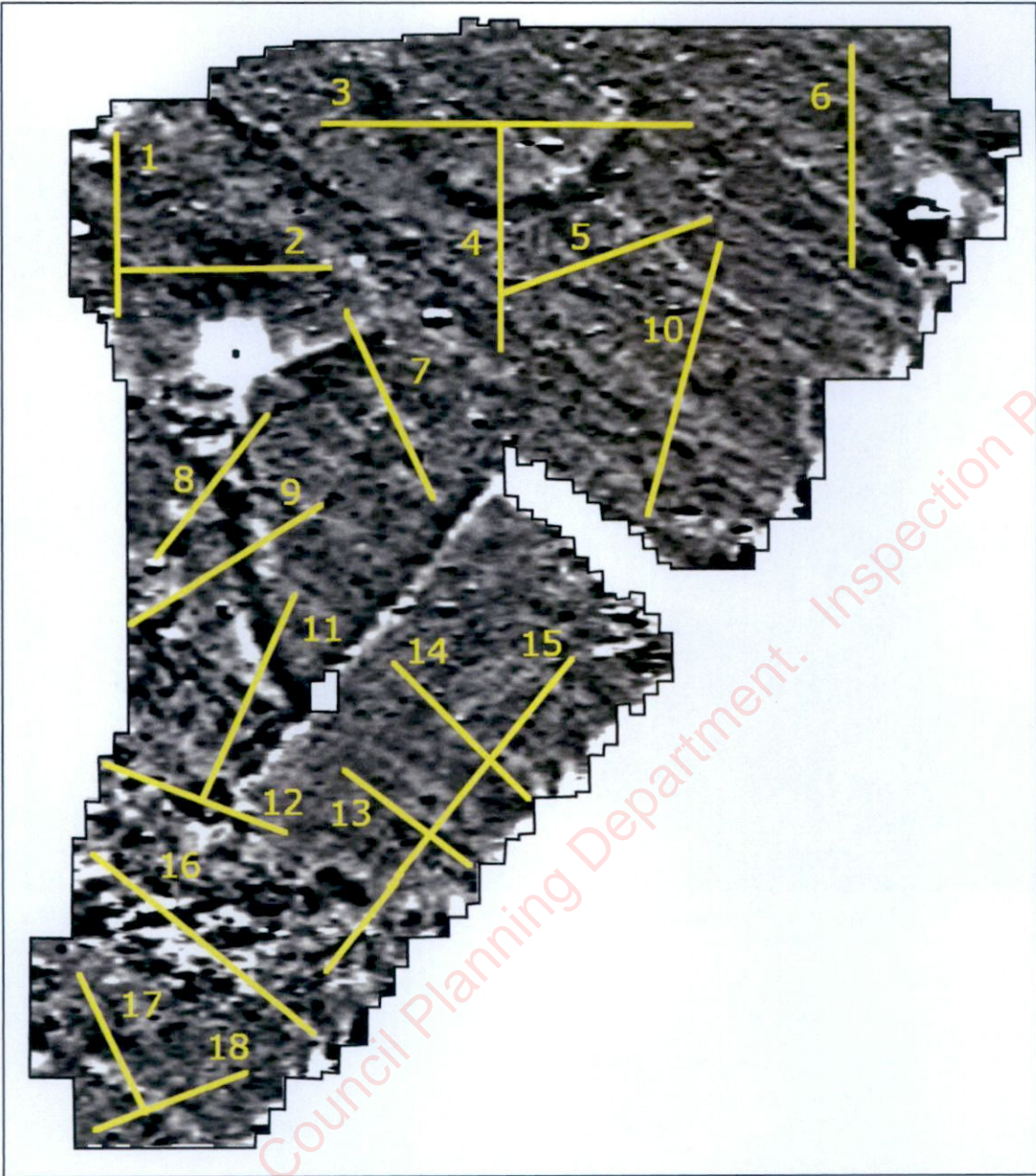


Figure 15.17 Test trench layout for Phase 2, over greyscale image from geophysical survey

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Figure 15.18 Location of test trenches excavated across the Phase 3 area with potential archaeological features circled in black

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Figure 15.19 Location of test trenches excavated across the Phase 4 area

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Figure 15.20 Location of test trenches excavated across the Neighbourhood Centre area

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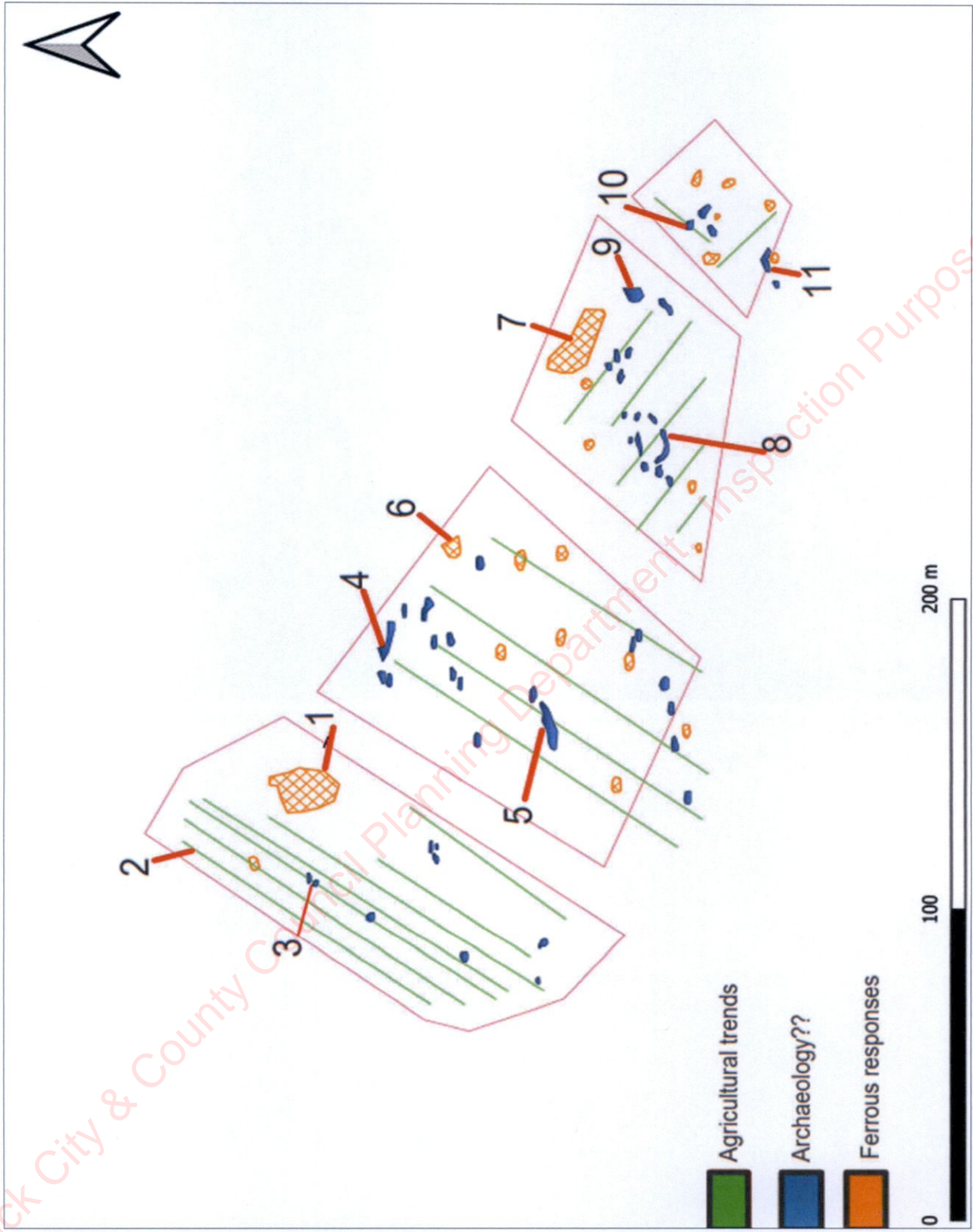


Figure 15.21 Interpretive map from geophysical survey of the Phase 5 area

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Figure 15.22 Greyscale image from geophysical survey of the Phase 5 area

Limerick
 OS 01/2011
 Planning
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Figure 15.23 Habitats to be retained or created, including a proposed new wet grassland and pond in the Phase 5 area

APPENDIX 15.4: PREVIOUS EXCAVATIONS

Location	Licence	Summary
Clonconane, County Limerick	04E0851	<p>Planning permission was granted for the construction of 200 houses and ancillary works at Clonconane. The north section of the development site is within the zone of archaeological potential of a possible settlement site.</p> <p>Phase 1 of archaeological works consisted of monitoring of topsoil removal at the northern end of the site. Phase 2 consisted of the excavation of 57 test-trenches over the area of the rest of the site. The trenches were excavated on the footprint of the house sites and access roads. The topsoil was removed to an average depth of 0.3-0.5m. The topsoil was a mid-brown clay and contained occasional sherds of modern pottery and glass. The subsoil consisted mainly of mid-orange/brown silty clay with frequent limestone outcrops. No evidence of archaeological activity was recorded.</p>
Knock, Clonconane and Ballygrennan townlands, County Limerick Clondrinagh, Monabraher and Ballynanty More, County Clare	E4440	<p>Test trenching on the route of the proposed Coonagh – Knockalisheen Distributor Road in Counties Limerick and Clare revealed thirteen burnt stone spreads (four with possible troughs), four burnt stone pits, two pits associated with charcoal production, a probable ring-barrow, two pits of unknown function and a curvilinear feature (?barrow, ?house). See below Nos 84, 382-4, 391-2 and 399 (E4452-8).</p>
Clonconane, County Limerick	E4455	<p>Clonconane 1 was located on the proposed Coonagh – Knockalisheen Distributor Road. Six burnt stone spreads, pits and two wooden structures were excavated over six areas.</p> <p>The burnt stone spread in Area A measured 4.3m by 2.5m, was 0.03m deep and was composed of dark brown clayey silt with frequent charcoal and heat-affected stone inclusions.</p> <p>In Area B the burnt stone spread was similarly composed and measured 4.4m by 4.2m and was 0.07-0.1m deep.</p> <p>In Area C a wooden trackway, a post-and-stake structure and two burnt stone spreads were excavated. The trackway and post-and-stake structure were located adjacent to one of the burnt stone spreads, but it was not apparent during excavation if the three were contemporary. They were then covered by clay and a second burnt stone spread was located on top of the clay.</p> <p>The wooden trackway measured 3.05m long orientated from the south-west to the north-east and was 1.82m wide; the north-western edge had collapsed into a natural sink hole. The trackway was composed of 19 horizontal timbers and five vertical posts/stakes. The horizontal timbers consisted mostly of roundwoods and at least three</p>

Location	Licence	Summary
		<p>split timbers in a poor to moderate condition. The posts and stake were located at the corners of the surviving horizontals.</p> <p>A post-and-stake structure formed a distinct square, 1.9m by 1.41m, adjacent to the trackway. Three of the four posts were supported by a stake. The posts and stakes were roundwoods, were wholly converted and had numerous facet marks. The posts were uniform in size being between 0.12-0.15m in diameter. The stakes were worked into pencil points and had a diameter of 0.06m and 0.08m.</p> <p>To the east of the wooden structures was a burnt stone spread, composed of loose mid greyish black peaty silt with frequent heat-shattered stone and charcoal, measured 10m by 5.02m and was 0.17m thick.</p> <p>The burnt stone spread located over the clay may be an ex situ deposit. The spread was blackish dark grey silty peat with frequent heat-shattered stone and charcoal flecks measuring 4.84m by 3.42m and 0.18m thick.</p> <p>Area D contained a single burnt stone spread of moderately compact dark brownish black sandy silt with frequent burnt stone and charcoal flecking. The spread measured 7.9m by 6.1m and was between 0.7-0.8m thick.</p> <p>There was a single pit in Area E, ovoid in plan, concave with a flattish base, measuring 1.9m by 1m and 0.27m deep. The single fill was soft black peaty silt with frequent charcoal and heat-shattered stone.</p> <p>Area F contained a large burnt stone spread, c. 23m in diameter. The spread was made up of two in situ manmade burnt stone deposits, redeposited natural, an up-casted burnt stone material, a collapsed/washed down burnt stone deposit, disturbance from a probable drain cutting and a layer of burnt stone mixed with topsoil.</p> <p>No cut features were uncovered under the main body of the burnt stone spread, however two pits were recorded to the north of the spread. The only feature recorded under the spread was a natural depression that appeared to have been modified as a fire pit. The base of the depression was filled with a charcoal-rich deposit. Both pits were oval and flat based containing a single fill of dark brownish black peaty silt with frequent charcoal and heat-shattered stone. The pits measured 1.8m by 1.3m and 0.24m deep and 1.52m by 1.03m and 0.23m deep.</p>
Clonconane, County Limerick	E4456	<p>Clonconane 2 was located on the proposed Coonagh – Knockalisheen Distributor Road. A charcoal production pit and a deposit were identified at the site. The pit measured 1.8m by 1.4m with a depth of 0.4m. The base of the pit was fire reddened and contained a basal deposit of charcoal 0.13m thick which was sealed by a deposit of dark brown silty clay. A furrow cut through the pit. The deposit was located close to the pit and measured 5.25m by 1.5-2.9m and 0.05m thick. The deposit is likely to be a by-product of the</p>

Location	Licence	Summary
		charcoal production. The charcoal production pit extended beyond the limit of the road scheme.
Clonconane/ Ballynanty More/ Monabraher, County Limerick	E4502	Following the main phase of testing in 2012 (E4440), test trenching took place in several previously inaccessible areas on the route of the proposed Coonagh – Knockalisheen Distributor Road in County Limerick. No additional archaeological features, deposits or artefacts were revealed.
Clondrinagh and Clonconane, Limerick	17E0392	<p>Monitoring was requested by Limerick City and County Council during the advance works stage of the construction of the new northern distributor road in Limerick city. A full archaeological presence was maintained during the initial phase of the peat and topsoil removal on a section of the road scheme extending from the Coonagh roundabout on the Ennis road terminating at the Cratloe road, in Clonconane townland. The route travels through part of the River Shannon flood plain and the Crampaun River lies to the west of the road scheme. Pre-development testing of the entire route was undertaken by TVAS (Ireland) over 2012-2013 and several archaeological sites were identified and excavated. The nearest archaeological monument is a burial cairn (L1005-005) located 190m to the west of the road scheme. Groundworks were mostly undertaken in wet low-lying marshy ground where the peat deposits had an average depth of 2m and reached a maximum depth of 3.5m in the central portion of the wayleave. Monitoring was also undertaken on higher ground close to the Cratloe Road. The topsoil here varied from 0.35-0.42m in depth and two pits were exposed and excavated close to where this section of the road scheme terminated at the Cratloe road. They appeared on the surface as localised spreads of dark sediment containing occasional charcoal. Pit(C2) measured 0.45m north-south by 0.49m and was 0.2m deep. The sides of the pit were steep and straight, and the base was flat and uneven. It was filled with dark brown/black moderately compacted silt with frequent charcoal flecks and clay inclusions. The entire contents of the pit were sieved but no further finds or organic matter were recovered.</p> <p>Pit (C5) was located 0.5m north of the previously described pit. It was oval in plan measuring 0.84m north-south by 0.7m with a maximum depth of 0.37m. The pit contained two fills: a lower fill of black charcoal-enriched silt with some clay (C4) measuring 0.18m in depth and an upper layer of clay (C3), measuring 0.1m in depth which sealed the lower fill. A single cow tooth was recovered from the base of the pit. This was submitted to Queen's University Radiocarbon laboratory in Belfast but there was insufficient collagen in the tooth to enable a date to be obtained. No further features or finds of archaeological significance were uncovered.</p>

Location	Licence	Summary
Clondrinagh, County Limerick	03E1078	<p>Monitoring of topsoil-stripping in the vicinity of an enclosure (SMR 5:5) was requested by Dúchas. The monument is near the northern edge of a large site being developed as a shopping complex at Clondrinagh, on the Ennis Road in Limerick. As virtually all the site is low-lying, the levels are being raised by approximately 2-3m across the site using imported soil, rubble and stone. Large-scale earthmoving and topsoil-stripping had been carried out on most of the site over the previous two years, with limited archaeological involvement.</p> <p>Monitoring was requested for the small amount of topsoil-stripping remaining. This was in the field containing the monument, in the northern part of the site. An examination of some of the areas already stripped was also requested, to determine if any archaeological remains were present. No archaeological remains were noted.</p>
Clondrinagh, County Limerick	03E1144	<p>Testing of an 'enclosure' was requested by the developer. The monument, which lies near the northern edge of a large site being developed as a shopping complex, is on the route of one of the main distributor roads, which will give access to the complex and will also allow the development of lands to the north of the site. Both the developer and Dúchas sought further information on the nature of the monument, in order to develop a suitable mitigation strategy. The possibility of rerouting the road was limited by the location of the monument on the edge of the site and the design and financial implications of routing the distributor road further south into the site.</p> <p>The monument is listed as an enclosure in the RMP, based on cartographic evidence. It is in fact a circular mound, c. 23m in diameter and standing 1.5m above the surrounding field. Small bushes and trees are present along its northern, eastern and southern edges.</p> <p>Testing was carried out, with the excavation of two hand-dug trenches, one on the western edge of the mound (7m by 1m) and one on the top, in the centre of the mound (2m by 2m). These found that the mound, or cairn, is made up of small and medium-sized stones to a depth of 1m. On the western side of the cairn, a combination of larger stones and the natural bedrock acted as revetting for the cairn material. On the old ground surface beneath the cairn, fragments of cremated human bone were found in a discrete deposit. No evidence for any cists or deposits of bone within the cairn was found in the limited area examined. There was no external ditch.</p> <p>The nature of the site and the presence of cremated bone indicate that the monument is a prehistoric burial cairn. This appears to utilise a small area of higher ground caused by an outcrop of bedrock in an otherwise low-lying boggy area. A mitigation strategy has not yet been finalised.</p>

Location	Licence	Summary
Clondrinagh, Ennis Road, County Limerick	05E0304	Four test-trenches were excavated in advance of the redevelopment of a halting site. No features or finds of archaeological significance were revealed.
Clondrinagh, County Limerick	93E0085	Four cuttings were made on the site of a proposed warehouse adjacent to the monument. The site was found to have been infilled with c. 1m of modern rubble which overlay a "blue mud", presumably of estuarine origin. Nothing of archaeological interest noted.
Clondrinagh, County Limerick	01E1000	The digging of foundation trenches for two industrial units was monitored because of proximity to SMR 5:45, a possible medieval settlement to the north of the area. Nothing of archaeological significance was uncovered in the monitoring of this development.
Gortgarraun, County Clare	E4457	Gortgarraun 1 was located on the proposed Coonagh – Knockalisheen Distributor Road. The excavation revealed a fulacht fiadh with two trough pits and three smaller burnt stone spreads. A Palaeolithic channel was also recorded across the site. The fulacht fiadh measured 7.2m by 5.8m with a depth between 0.08m to 0.1m. The first trough pit measured 1.3m by 0.88m and 0.14-0.17m deep, was sub-rectangular in shape and contained a basal fill that was more charcoal-rich than the fulacht fiadh material. Two flat stones were located in the base of the pit. The second trough pit was 1.48m by 1m and 0.1-0.28m deep, also sub-rectangular in shape and contained a single deposit of charcoal-rich silty sand with occasional heat-shattered stone. The three smaller burnt stone spreads were much degraded and measured 2.6m by 2.1m and 0.02m deep; 4m by 1.5-2m and 0.03-0.06m deep and 4.38m by 2.67m and 0.06-0.24m deep.
Ballygrennan 1 County Limerick	E4452	Ballygrennan 1 was located on the proposed Coonagh – Knockalisheen Distributor Road. The excavation revealed a burnt stone spread, c. 20m in diameter, with a trough pit and pit. The burnt stone spread was subsequently cut by a field drain before being inundated with between 1-2m of construction rubble. The trough pit was centrally located under the burnt stone spread. The pit was sub-rectangular in plan and measured 3.5m by 1.4m and was 0.36m deep. The single fill was black silty clay with frequent large angular heat-shattered stones and charcoal. A very black charcoal-rich deposit may represent burning adjacent to the south-eastern side of the trough. The south-western edge of the trough was cut by a pit. This pit was sub-circular with near vertical sides and measured 2.8m by 1.88m and 0.88m deep. The pit naturally filled with water and contained charcoal-rich fill with a high density of heat-shattered stone. The trough pit was centrally located under the burnt stone spread. The pit was sub-rectangular in plan and measured 3.5m by 1.4m and was 0.36m deep. The single fill was black silty clay with frequent large

Location	Licence	Summary
		<p>angular heat-shattered stones and charcoal. A very black charcoal-rich deposit may represent burning adjacent to the south-eastern side of the trough. The south-western edge of the trough was cut by a pit. This pit was sub-circular with near vertical sides and measured 2.8m by 1.88m and 0.88m deep. The pit naturally filled with water and contained charcoal-rich fill with a high density of heat-shattered stone.</p>
<p>Ballygrennan 2 County Limerick</p>	<p>E4453</p>	<p>Ballygrennan 2 was located on the proposed Coonagh – Knockalisheen Distributor Road. The excavation revealed a burnt stone spread with two pit troughs, a shallow burnt stone spread and pit, an enclosure ditch, 29m in diameter, and post-medieval ditches/drains.</p> <p>The burnt stone spread was an obviously truncated, likely by modern ploughing, 'horse shoe'-shaped fulacht fiadh. The spread extended an area of 6.47m by 5.66m, the larger side of the 'horse shoe' being 3.39m wide, and 0.11m at its deepest.</p> <p>Two trough pits were located beneath the spread; Pit 1 was under the north 'arm' of the spread and Pit 2 was centrally located. Pit 1 was an irregular oval shape; it sloped in from the eastern side, had a concave base and measured 2.3m by 1.4m and was 0.95m deep. The basal fill was sticky light grey sandy silt with occasional heat-affected stone and charcoal. The main fill was soft greyish black sandy silt containing heat-shattered stone and charcoal and was 0.4m thick. A deposit of brownish grey silty clay sealed the pit. Pit 2 was a sub-rectangular in plan, with steeply sloped sides and a flat base, measuring 1.95m by 1.2m and 0.6m deep. The basal fill was moderately compacted brownish black clayey silt with much charcoal. The main fill was the same as that of Pit 1 but contained many heat-shattered stones and was 0.45m thick.</p> <p>Two trough pits were located beneath the spread; Pit 1 was under the north 'arm' of the spread and Pit 2 was centrally located. Pit 1 was an irregular oval shape; it sloped in from the eastern side, had a concave base and measured 2.3m by 1.4m and was 0.95m deep. The basal fill was sticky light grey sandy silt with occasional heat-affected stone and charcoal. The main fill was soft greyish black sandy silt containing heat-shattered stone and charcoal and was 0.4m thick. A deposit of brownish grey silty clay sealed the pit. Pit 2 was a sub-rectangular in plan, with steeply sloped sides and a flat base, measuring 1.95m by 1.2m and 0.6m deep. The basal fill was moderately compacted brownish black clayey silt with much charcoal. The main fill was the same as that of Pit 1 but contained many heat-shattered stones and was 0.45m thick.</p> <p>The enclosure ditch was dug into the brow of a slope in the field, following the natural inclination of the ground from east to west. The majority of the enclosure was located within the road take. The circular ditch had an internal diameter (north-south) of 29m, enclosing an</p>

Location	Licence	Summary
		<p>approximate area of 790m², and a north-facing break in the ditch. The sides of the cut were very steep, particularly around the edge of the natural slope, the base was very gently rounded, and was between 1-1.5m wide on average and was deepest along the western side at 0.9m and shallowest at the southern and northern sides at 0.5m. Evidence of a possible internal bank was noted in a single fill recorded in the base and internal side of the cut. There were two drains opened contemporarily with the ditch.</p> <p>Extensive ploughing was also noted meaning that no internal features survived. Two linear features cut the top of the enclosure to the north and south.</p>
Ballygrennan 3 County Limerick	E4454	<p>Ballygrennan 3 was located on the proposed Coonagh – Knockalisheen Distributor Road.</p> <p>A burnt stone spread with a trough pit and a second trough pit were identified at the site. The burnt stone spread measured 7.8m by 4.5m with a depth between 0.05-0.3m. The centrally located pit measured 2.5m by 1.1m and 0.45m deep, was oblong in shape and contained a basal fill that was darker than the main spread material. The second trough pit was 2.6m by 1.1m and 0.47m deep, also oblong in shape, and contained a single deposit of burnt stone.</p>
Ballygrennan County Limerick	98E0321	<p>The site, on the north-eastern side of the Old Cratloe Road, was bordered to the south-east by Galtee Avenue, originally a road leading to a farm, now defining the western limits of a housing estate. To the north-western side it was defined by the townland boundary, and to the north-eastern by a field boundary. On the earlier maps there was a north-east by south-west subdivision of the field. The eastern field was slightly elevated; the western one, low-lying and prone to flooding, was, along the western and northern boundaries, permanently marshy. A possible settlement (Down Survey maps) was marked partly on this side of the western boundary.</p> <p>The topsoil-stripping of the area of the proposed development was monitored. With the exception of a localised spread of burnt stone and a pit/ditch, which it was not possible to date, there was no trace of any activity pre-19th century, and this consisted mainly of attempts to drain the land. The area where the 'possible settlement' was allegedly situated was particularly prone to flooding. The level ground on this part of the site, together with the high level of the impermeable clay, has resulted in a total lack of natural soakage. If there had been a settlement it is more likely that it was either on the higher ground to the east or outside the area of the proposed development, i.e. to the west or south.</p>
Phase 1 Housing Development,	22E0664	<p>A programme of archaeological test trenching was undertaken for Phase 1 Housing Development at Old Cratloe Road, Clonconane, County Limerick under Excavation Licence 22E0664. The works were carried out over a period of four days between Thursday 1st and</p>

Location	Licence	Summary
Clonconane, County Limerick		Tuesday 6 th September 2022. A total of 40 no. linear trenches (T1 - T40) were excavated under archaeological supervision across the footprint of the area proposed for development and within the boundaries of the subject site. All trenches were located within agricultural land which is currently used as pasture. A total of 1335 linear metres were excavated at different locations within the area proposed for development using a tracked 360° mechanical excavator fitted with a toothless grading bucket operating under strict supervision by the licensee. The excavated spoil from all trenches was also systematically inspected to assist with artefact retrieval. Nothing archaeological was identified.

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CHAPTER SIXTEEN THE LANDSCAPE

16.1. INTRODUCTION

This chapter should be read in conjunction with the site layout plans for the proposed development and the proposed overall masterplan and project description provided in Chapter 2.0. The purpose of this chapter is to analyse the existing landscape and to assess the likely potential visual impacts arising from the Phase 3 proposed development and overall masterplan on the existing landscape and any mitigation measures proposed.

The proposed scheme is to create a new residential community in an existing urban setting, close to the amenities of the city. It is proposed to deliver the overall scheme in seven phases with the proposed development comprising Phase 3 of an overall development. The indicative masterplan for the overall site covers 28.13 hectares, However, the proposed Phase 3 development comprises an application for 98 no. units only on a gross site area of 9.37 hectares gross with 2.8 hectares of net residential area located on the northern side of the Cratloe Road. The 'Receiving Environment' section of this study assesses the full study area which comprises the 28.13 hectare masterplan site. In the assessment of the landscape and visual impacts the full masterplan development is assessed with reference to this specific development, Phase 3.

16.2. ASSESSMENT METHODOLOGY

The criteria as set out in the current EPA Guidelines on Information to be contained in Environmental Impact Assessment Reports (Published May 2022) are used in the assessment of the likely impacts. Chapter 1.0 of this EIAR sets out the methodology used in the assessment in detail.

The assessment was carried out by visiting the site and its surroundings in February 2022 and by analysis of the relevant documents as listed below:

- Limerick Development plan 2000-2024
- Assessment of the accurately surveyed and modelled photomontages of the proposed development
- Current and historic aerial photographs,
- Historic maps of the site and surrounds using the Ordnance Survey Ireland's National Historic Maps Archive

Through analysis of the above, the subject lands were assessed in relation to their surrounding environment to identify a study area in which both visual and landscape character impacts would be perceivable. Important landscape features on subject lands and in the wider area were identified as part of this process.

The proposed viewpoints for the verified views were selected to represent points in the local landscape from which the development would potentially be visible and are relate to views from potential visual receptors. Various viewpoints have been selected to provide a well-rounded and realistic representation of how the development will look from different aspects and demonstrate views from sensitive receptors.

Views are located, North, South, East and West of the subject lands, both at close-range and long-range, and have been selected from specific locations where more expansive views are possible.

The buildings roads and landscape are modelled in three-dimensional AutoCAD software by the CGI consultant (Digital Dimensions Ltd). Two-dimensional AutoCAD drawings are provided by the design team for the CGI consultant to accurately model the external parts of the development. Liaison between the CGI consultant and the project Architect, Engineer and Landscape Architect on their respective designs informs the final appearance of the verified views. For details on methodology in relation to the surveying of photo view locations, lenses and specifics on the development of the verified views, refer to the accompanying Appendix completed by Digital Dimensions Ltd. (EIAR Volume II – Appendix 16.1).

16.2.1 Assessment of Landscape and Visual Effects

The GLVIA 3rd Edition (Landscape Inst. + IEMA 2013) gives specific guidelines for landscape and visual impact assessment. The GLVIA advises that effects on views and visual amenity be assessed separately from the effects on landscape, however acknowledging the two topics are fundamentally linked.

'Landscape' results from the interaction of the physical, social, and natural components of our surroundings. How these elements interact creates the intrinsic landscape character of a place. Landscape impact assessment identifies the changes to this character which would result from the proposed development and assesses the significance of those effects on the landscape. Visual impact assessment is concerned with changes that arise in the composition of available views (primarily public views), the response of people to these changes and the overall effects on visual amenity.

16.3. RECEIVING ENVIRONMENT

16.3.1 Site Area Description

The Masterplan Site (MS) is situated on the northwest fringe of Limerick city in the townland of Clonconane. It is located 475 to 500m to the east of the Crompaun River, a small tributary of the Shannon and 180m to the south of the County Clare Boundary. The MS measures approximately 28.13 hectares and is divided by several public roads into four distinct sections.

The main section (Map ref. A) to the north of the Old Cratloe road is over 9.1 hectares in size and measures approximately 400m on its longest north-south axis and approximately 400m on its longest east-west axis. A large portion of the study area (Map ref. B) lies to the south of the Old Cratloe Road and is located between the existing residential development and the new ring road (Condell road extension, under construction). This area is 8.6 hectares and measures approximately 490m on its longest north-south axis and approximately 400m on its longest east-west axis. A smaller section of the lands lies to the east of Pass Road (Map ref. C) and bounds the new link road to the east. This section is 1.79 hectares and in triangular form with its longest north-south axis approximately 180m and the east-west axis varies between 50m in the south and 150m in the north. The fourth section of the MS lands is a small section (Map ref. C) nestled between the Pass Road, the new roundabout and spur connecting to the Old Cratloe rd. This section measures 50 x 70m on its longest axes and measures approximately 0.25 hectares. This section bounds the Country Club to the south.

The ground levels generally fall from land in the very north of the MS towards the south, east and west. There are some notable level areas in the main sections of the study area (A+D), however generally the land has a slope of approximately 1:20. The general surrounding landscape would be a very softly undulating landscape with some large level sections. This changes in the northwest where the levels rise to the hills at Woodcock Hill and Ballycar. At the lower levels of the site in the very south of the MS the vegetation changes to a wet meadow. In the northern section of the lands there are some notable trees and small groves of trees scattered throughout the fields. Most of these trees are non-native species that were planted when this area was used as a golf course. A visually prominent clump of vegetation just north of the Old Cratloe Rd is growing in a historic graveyard. This is recorded in the County Development plan as a historic site and is noted on the historic maps as Crag Graveyard.



Figure 16.1 Site Context.

16.3.2 Site Area Context

To the north, west and north-east the landscape is mostly agricultural land as well with some rural residential settlement located mostly along the side of the public roads. The field patterns and boundary hedgerows are typical for that region. To the east, the site is bordered by new ring road which is currently under construction. This local link road connects the northern parts of the city to the west of the city and main arterial route to the N18 going west, the R445. The subject lands bound existing residential properties along Pass Road and the Old Cratloe Road with the roads forming parts of the perimeter of the study area. All other boundaries are traditional field boundary hedgerows.

The study area lies 3.5km from the centre of Limerick city. The land to the east and south of the study area is the western fringe of the city and is primarily residential developments. These residential areas are mostly low-rise developments from the 1960s. There are also a number of educational facilities nearby and associated student housing at Cratloe Wood Student Village and Thomond Student Village.

To the south of the study area the built development is characterised by large commercial buildings and car parking, most notable at the 'Tesco Superstore' and the Westlink Business Park.

16.3.3 Character of the Site

Within the Limerick County Development Plan, the subject lands fall under the Urban Character Area 5, where it is classed as part of the city landscape and the gateway from the west.

The landscape character of the study site and its environs has largely been determined by the following:

- gentle undulating topography on the site and its surrounding environs
- landscape history of agricultural use with grassland and traditional hedgerow field boundaries and drainage ditch
- landscape history of use as a golf course with remnant scattered non native tree planting in parts.
- historic remnants of Crag Graveyard
- wetland meadow area in the south of the subject lands
- recent removal of mature roadside hedgerow to facilitate road improvements and installation of timber post and rail fencing
- new road infrastructure recently built and currently under construction.
- number of large industrial and commercial buildings and associated infrastructure in the local landscape.
- urban residential landscape to the east and a number of individual residences and small groups of houses located in the area



Figure 16.2 View from Old Cratloe Road to north. Crag graveyard and scattered trees visible. Recently installed timber fence where roadside hedgerow has been removed.



Figure 16.3 View from Pass Road to north. Scattered trees and hedgerows visible. Recently installed timber fence where roadside hedgerow has been removed.



Figure 16.4 View from Old Cratloe Road at Shannonvale to the west. Subject lands are visible in the background beyond the road construction works

Most of the subject lands would be considered to have the character of an 'agricultural field' typified by traditional hedgerow boundaries both around and within the site. The main area of the subject lands (Map ref A) has a different character due to the scattered individual and small groups of trees. This is due to the recent history of this area where it was used as a golf course. The subject lands are primarily bounded by robust and healthy field boundary hedgerows, while hedgerows and drainage ditches also traverse the site. The boundary of area A and the Old Cratloe and Pass Roads is now defined by a new timber post and rail fence. The hedgerows in this area have been recently removed to facilitate the road upgrades. Subsequently the character of this area has more of a peri-urban feel than the rural feel of other parts of the subject lands. The new road to the east of the site (under construction) will extend the urban landscape of the city to the edge of the subject lands. Through a comparison of the historical Ordnance Survey maps and aerial photography with the current site and through analysis by site visits it is evident that there has been little change to the study area until recent times. The subject lands were open farmland through both sets of historic maps, 6-inch maps (1837-1842) and 25-inch maps (1888-1913). The field boundaries and patterns in the historic maps are much the same as would have been visible until the most recent road works. There is some more sub-division of fields visible today than historically Crag Graveyard is marked on all the historic maps and the roads appear to have remained mostly on the same alignment until the most recent changes.

16.3.4 Landscape Sensitivity and Planning

Within the Limerick County Development Plan, the subject lands fall under the Urban Character Area 5, where it is classed as part of the city landscape and the gateway from the west. The lands are not

included in any of the Landscape Character Areas. The land is not located within or adjoining any Natura 2000 designated sites or nationally designated NHA or pHNA. There are no Tree Preservation Orders, listed views or prospects or any other landscape designation applied to the subject lands or its immediate surrounds.

Sensitivity	Description
Very High	Areas where the landscape exhibits a very strong, positive character with valued elements, features and characteristics that combine to give an experience of unity, richness, and harmony. These attributes are recognised in landscape policy or designations. In such areas the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park).
High	Areas where the landscape exhibits strong, positive character with valued elements, features and characteristics. These attributes are recognised in landscape policy or designations as being of national, regional, or county. In such areas the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty).
Medium	Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong. The character of the landscape is such that there is some capacity for change in the form of development. These areas may be recognised in landscape policy at local or county level and the principal management objective may be to consolidate landscape character or facilitate appropriate, necessary change
Low	The character of the landscape is such that it has capacity for change; where development would make no significant change or would make a positive change. Such landscapes are generally unrecognised in policy and where the principal management objective is to facilitate change through development, repair, restoration, or enhancement.
Negligible	Areas where the landscape exhibits negative character, with no valued elements, features or characteristics. The character of the landscape is such that its capacity for accommodating change is high; where development would make no significant change or would make a positive change. Such landscapes include derelict industrial lands or extraction sites, as well as sites or areas that are designated for a particular type of development. The principal management objective for the area is to facilitate change in the landscape through development, repair, or restoration.

Table 16.1 Categories of Landscape Sensitivity
Categories of Landscape Sensitivity, Developed by KFLA Ltd for this study based on GLVIA (Guidelines for Landscape and Visual Impact Assessment) 3rd Edition (Landscape Inst. + IEMA 2013)

The MS is covered by three different land use zonings, with the primary land use comprising 'New Residential Use'. This land use is described in the development plan as "to provide for new residential development in tandem with the provision of social and physical infrastructure". The area in proximity to the archaeological monument is designated as 'Open Space Use'. The objective of the open space use is "to protect, provide for and improve open space, active and passive recreational amenities" A small area of the lands is designated as 'local centre use' which is described as "to protect and provide local centre facilities to serve the needs of new/existing neighbourhoods and residential areas". The application site is located wholly on lands zoned for 'New Residential Use'. The purpose of this zoning is intended primarily for new high quality housing development.

With the above considered the sensitivity of the landscape to built development would be low to medium. The lands have the capacity to accommodate built development with minimal risks to the landscape in terms of character or visual amenity.

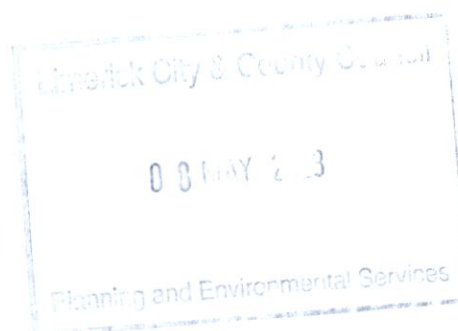


Figure 16.5 Location of Potential Sensitive Visual Receptors as listed in table 16.3.

16.3.4 Sensitivity of Local Visual Receptors

The sensitivity of a receptor is determined by a combination of several factors, the type of viewer, the viewer's relationship with the locality and how direct and regular the view is, the quality of the view and the quality of the existing environment from where the development will be viewed.

For this study the sensitivity of receptors is divided in 5 categories based on the criteria in Table 5.0 below.



Sensitivity Rating	Visual Receptor
Very high	Designated views, viewpoints, and vistas. Areas containing protected views as outlined in Development Plans or landscape policies. Very highly aesthetic views and vistas.
High	Local residences and local facilities with a direct and prolonged view of the development. High quality views from public open spaces Non-designated views of distinctive or characteristic landscapes from general road network. Views to and from local ridges, hills, high-points, buildings of note. Views to and from sites of regional ecological and / or cultural interest.
Medium	Viewers with a moderate interest in their environment such as recreational travelers and less frequent users of recreational facilities, e.g. walkers along canal, users of any adjacent parks, Viewers within a landscape dominated by traffic. Visual condition of the landscape is degraded. Views to and from open spaces, local parks. Views from sports and recreational facilities. Views to and from sites of local ecological and / or cultural interest. Views from general community, schools, institutional buildings, and associated outdoor areas.
Low	Viewers with a passing interest in their surroundings or whose interest is not specifically focused on the landscape, e.g. workers. Viewers within an exclusively trafficked landscape (i.e. a major roadway or adjacent to one with no mitigation) Views of unremarkable landscapes from general road network. Views of unremarkable landscapes from residences where significant road infrastructure exists in the vicinity. Views to and from industrial/commercial landscapes of little or no cultural heritage antiquity or aesthetic merit.
Negligible	Views to and from degraded or abandoned urban or peri-urban landscapes or areas of dereliction with very low aesthetics value and little or no elements of interest. Views dominated by transportation and other infrastructure of no aesthetics merit.

Table 16.2 Sensitivity Categories for Visual Receptors

Rating of Visual Sensitivity of Receptors (Developed by KFLA Ltd for this study based on Transport Infrastructure Ireland Publication, Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document, Document No. PE-ENV-01101)

Receptor	Description	Sensitivity
VR 1	Single detached house with house on opposite side of Pass Rd with significant vegetation screening	Medium
VR 2	Line of 6 single storey houses on Pass Road with rear gardens bounding the study lands. A dense vegetated boundary exists for most of the boundary.	Medium
VR 3	Line of 5 houses (9 no. single storey and 2 no. two storey) on Pass Road with rear gardens separated by agricultural field from the study lands. A dense vegetated boundary exists along this boundary.	Medium
VR 4	Line of 3 single storey houses on Old Cratloe Road with rear gardens separated by agricultural fields and hedgerows from the study lands.	Medium

VR 5	Line of 5 houses (4 no. single storey dormers and 1 no. two storey) on Old Cratloe Road with rear gardens separated by agricultural fields and hedgerows from the study lands.	Medium
VR 6	Group of 10 single storey units in a cul-de-sac style development on the opposite site of Old Cratloe Road.	Low
VR 7	Line of 4 houses (2 no. single storey and 2 no. two storey) on Old Cratloe Road with front and side gardens fronting road with a combination of walls and hedges as boundaries.	Low
VR 8	'The Country Club' sports and social club fronting on to Old Cratloe Road. The club and car park are substantially screened from the site by dense vegetation.	Low
VR 9	Low density semi-detached housing at Shannnonvale on opposite side of new road infrastructure.	Low
VR 10	Low density semi-detached housing at Clonile on opposite side of new road infrastructure. The residences are substantially screened from the site by dense vegetation.	Low
VR11	Medium density student housing at Thomond Village on opposite side of new road infrastructure. The residences are moderately screened from the site by dense vegetation.	Low

Table 16.4 Sensitive Visual Receptors

16.4. DESCRIPTION OF EFFECTS

This section describes the effects that the overall masterplan development inclusive of the proposed Phase 3 development could have without consideration of ameliorative landscape and visual mitigation measures. Incorporated design mitigation measures have been considered.

16.4.1 Construction Effects

The change of use of the site from its current state to that of a construction site has the potential to result in the following impacts:

- Visual impacts due to the introduction of new structures, access roads, machinery, materials storage, associated earthworks, car parking, lighting and hoarding.
- Change of character due to the change in use.
- Visual impacts due change in ground levels and earthworks.
- Visual and landscape character impacts due to the removal of existing vegetation.

16.4.2 Operational Effects

The proposed development has the potential to result in the following impacts:

- Visual impacts due to the introduction of new buildings and built structures.
- Visual impacts due to the introduction of new roads, parking, mechanical plant and lighting.
- Visual impacts due to the introduction of services and waste handling areas and litter.
- Change of character due to the change in use.
- Visual impact of landscape proposals – planting, lighting, hard surfaces etc.
- Landscape and visual impacts due to the removal of existing vegetation
- Landscape and visual impacts due to the installation of trees and vegetation

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16.5. LIKELIHOOD OF SIGNIFICANT EFFECTS

Landscape assessments measure the sensitivity of specific landscape types and features and describe the nature and significance of changes to that landscape occurring because of a proposed development. In general it can be assumed that landscape and visual impacts are intrinsically linked however both types of impacts are assessed separately in this study where a development characteristic may result in a starkly different type, quality or magnitude of impact in landscape or visual terms. The assessment of likely significant impacts has been made on the basis that all incorporated design mitigation measures are included.

Character, for the purposes of this assessment refers to the interaction of elements in the landscape that combine to give the area its identity. In this context, impacts on character include the effect on existing land uses and responses that are felt towards the combined effects of the new development.

These effects have been compiled to identify any areas where the proposed development may impact the landscape character and visual amenity of the local area and represents the potential impact rather than the eventual long-term effect. This section identifies potential, rather than actual, impacts which facilitates the identification of further landscape mitigation measures beyond incorporated design mitigation. Potential impacts from the proposed Phase 3 development and overall masterplan development are included with the effects listed separately where they are not the same.

16.5.4 'Do-Nothing' Effects

In the event of this scenario, the majority of the site would likely continue to be used for agricultural purposes. Existing woodland and hedgerow on the site would continue to mature, while some of the site would continue to be left in the 'transition state' as it is currently for a period. The existing areas of scrub and grassland would continue to grow wild and eventually scrub vegetation would start to dominate. As the area has a specific zoning for development it is likely that the site would be developed in the future in a similar scale and type as is currently proposed.

16.5.1 Construction Effects

Landscape Character

As described under 16.4.1 above, the initial construction operations created by the clearance of the site and the construction of the buildings and roads will give rise to temporary or short-term impacts on the landscape character, through the introduction of new structures, machinery etc. and the removal of a small amount of vegetation. The conversion of parts of the site from a greenfield landscape type to a building site, is likely to be perceived in the short term as a significant, negative 'loss' of landscape character, particularly by sections of the local community closest to it.

The removal of existing vegetation will also cause a negative impact on the landscape character, however a large portion of the existing vegetation on the site is to be retained and incorporated into the landscape design.

With the above considered the negative visual impact on the landscape character during construction would be considered moderate in magnitude. However, these impacts would only be short-term in duration.

Visual

The introduction of the visual elements associated with the activities listed under 16.4.1 will give rise to negative visual impacts for the users of the public realm and the sensitive visual receptors listed in table 16.2. Visual impacts during construction will affect all sensitive receptors identified with the magnitude of that effect changing over the course of the construction period.

Proposed Development

The proposed development itself will mostly negatively impact sensitive visual receptors 1, 2 and 3. The visual impact on VR 2 is likely to be significant however only short-term in duration.

Masterplan Development

The proposed masterplan development will negatively impact sensitive visual receptors 1, 2, 3, 5, 6 and 7. The visual impact on VR 2, 6 and 7 is likely to be significant however only short-term in duration.

16.5.2 Operational Effects***Landscape Character***

The landscape character of the subject lands will be notably changed from its current largely undeveloped character to that of built environment. As described in section 16.3.3 of this report the sections of the current landscape has the character of a traditional agricultural landscape that is common in the wider environment and some sections have a peri-urban character. The lands are zoned for this type of development, and it is unlikely that the land will remain as they are currently. Therefore, its current state is temporary.

The proposed development and the overall masterplan include a landscape scheme which includes the retention and enhancement of the hedgerows around the perimeter, and the creation of a network of landscape spaces. This landscape scheme will improve the local biodiversity, provide a range of high-quality amenity options to both the new residents and the current residents. The typology of the housing proposed is consistent with the existing typologies in the surrounding area in terms of layout, form, mass and materiality. These design measures will mitigate the level of impact.

The initial change to a new landscape that includes built development may be perceived negatively by some people, however due to the surrounding suburban and peri-urban environment this would be only moderate in significance and long term in duration.

Visual

The extent of potential visual impact of the proposed development on the built environment from seven representative view locations around the proposed development is assessed in the following section. The view locations are representative of locations from which it was suggested by mapping analysis and review in the field, that the proposed development might be visible. Photomontages from these locations are submitted as part of the application, as a separate A3 document by Digital Dimensions Ltd.

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Views from specific locations



Figure 16.6 Location of Viewpoints in relation to subject lands and the Sensitive Visual Receptors as listed in Table 16.3.

View 01	190m from edge of masterplan lands
Existing View :	
A medium-range view taken on the Pass road to the north of the proposed development. The viewpoint is located on Pass road in the vicinity of the group of residences listed as VR 3 in this study. The foreground of the view is mostly taken up by the roadside hedgerow and back garden hedges and trees of the houses. Beyond this, some of the trees on the site are visible where they form a small part of the background of the view. .	
Proposed View Year 5 :	
Due to the distance between the viewpoint and the proposed development and intervening features in the local landscape, the proposed development is mostly hidden from view. The roofs of the most northern units are visible, however they are mostly screened by vegetation and do not abstract any part of the view. The View is a small glimpsed view through a section break in the roadside hedgerow reducing the impact further	
Predicted impact of the development	A not significant and long-term negative visual impact.
Predicted impact of the full masterplan	A not significant and long-term negative visual impact.

View 02		280m from edge of masterplan lands
Existing View : A medium-range view taken to the west of the proposed development. The viewpoint is located on Old Cratloe Road in the vicinity of the group of residences listed as VR 4 in this study. The foreground of the view is mostly taken up by the roadside hedgerow and the roofs of the residences. Beyond this, some of the larger trees on the site are visible where they form a small part of the background of the view.		
Proposed View Year 5 : Due to the distance between the viewpoint and the proposed development and intervening features in the local landscape, the proposed development is mostly hidden from view. The uppermost sections of the buildings on the western edge of the masterplan lands are barely visible above the horizon line. The visible elements do not cause any visual obstruction.		
Predicted impact of the development	The development is not visible in views from this location	
Predicted impact of the full masterplan	An imperceptible and long-term negative visual impact.	

View 03		38m from edge of masterplan lands
Existing View : A short-range view taken to the west of the proposed masterplan lands. The viewpoint is located on Old Cratloe Road in the vicinity of the group of residences listed as VR 5 and 6 in this study. The subject lands are visible in the centre of the view with the trees and scrub at Crag Graveyard visible on the right side of the view. The scattered trees and some of the hedgerows are also visible. The roadside hedgerow has recently been removed and replaced with a timber fence making this view more expansive than previously.		
Proposed View Year 5 : The proposed masterplan development will result in a notable change to this view. The housing along the western perimeter will be prominent and change the character of the existing view. Crag Graveyard and the trees in the 'Open Space' lands will be visible and unchanged in the view. Due to the removal of the roadside hedgerow during the recent road works this view is quite expansive and residences and public realm users in this area would be impacted.		
Predicted impact of the development	Due to the other phases of the masterplan proposals the proposed development is not visible in views from this location	
Predicted impact of the full masterplan	A significant and long-term negative visual impact.	

View 04		120m from edge of masterplan lands
Existing View : A medium-range view taken from the road adjacent to 'The Country Club' (VR8) and the residences listed as VR7 in this study. The viewpoint is located on Old Cratloe Road where the large belt of conifers at the sports and social club is dominant creating a significant visual screen. The trees in the 'Open Space' zoned lands and the new boundary fence on the site are visible in this view. The ridgeline of the view is formed by the higher lands at Woodcock Hill		

Proposed View Year 5 :	
The new community centre building is clearly visible in the centre of the however no other built development is visible due to the screening provided by the existing vegetation. The development would be consistent in scale and typology to the existing development directly to the east.	
Predicted impact of the development	The development is not visible in views from this location
Predicted impact of the full masterplan	A moderate and long-term negative visual impact.

View 05	80m from edge of masterplan lands
Existing View :	
A medium-range view taken from the public road adjacent to the residences listed as VR9 and VR10 in this study. The viewpoint is located on Old Cratloe Road at the future junction with the new ring road. The construction works for this road are visible in the foreground. The trees in the southern section of the masterplan lands are visible in this view. Woodcock Hill forms a distant background of part of the view.	
Proposed View Year 5 :	
The housing in the southern section of the masterplan lands is quite prominent in this view. The development would be consistent in scale and typology to the existing development in the vicinity of the viewer. The new proposed development read as an extension of the existing built landscape.	
Predicted impact of the development	The development is not visible in views from this location
Predicted impact of the full masterplan	A moderate and long-term negative visual impact.

View 06	15m from edge of masterplan lands
Existing View :	
A short-range view taken from the public road at the junction of the new public road and the upgraded section of Pass road. The viewpoint is located on the edge of the masterplan lands with the new road infrastructure and fencing dominant in the foreground. The subject lands are visible in the centre of the view with the scattered trees of the old golf course quite prominent. The roadside hedgerow has recently been removed and replaced with a timber fence making this view more expansive than previously.	
Proposed View Year 5 :	
The housing in the permitted phase of the masterplan lands are prominent in this view. The development would be consistent in scale and typology to the existing development directly to the east. The impact of the development on this view is reduced due to the significant alterations to this area by the building of the new road infrastructure and removal of vegetation.	
Predicted impact of the development	The development is not visible in views from this location

Predicted impact of the full masterplan	A moderate and long-term negative visual impact.
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View 07	15m from edge of masterplan lands
Existing View : A short-range view taken from the public road at the junction of the new public road and the upgraded section of Pass road. The viewpoint is located on the edge of the masterplan lands with the new road infrastructure and fencing dominant in the foreground. The subject lands are visible in the centre of the view with the scattered trees of the old golf course quite prominent. The roadside hedgerow has recently been removed and replaced with a timber fence making this view more expansive than previously.	
Proposed View Year 5 : The housing in the permitted phase of the masterplan lands is prominent in this view. The development would be consistent in scale and typology to the existing development directly to the east. The housing will read visually as a continuation of the built environment between the existing housing on Pass road and Old Cratloe Road. The impact of the development on this view is reduced due to the significant alterations to this area by the building of the new road infrastructure and removal of vegetation.	
Predicted impact of the development	The development is not visible in views from this location
Predicted impact of the full masterplan	A moderate and long-term negative visual impact.

View	Relevant Receptors	Receptor Sensitivity	Quality	Significance	Probability	Duration
01	VR3	Medium	Negative	Not significant	Likely	Long term
02	VR4	Medium	Negative	Imperceptible	Likely	Long term
03	VR 5+6	Low/ Medium	Negative	Significant	Likely	Long term
04	VR 7+8	Low/ Medium	Negative	Moderate	Likely	Long term
05	VR 9+10	Low	Negative	Moderate	Likely	Long term
06	VR 1	Medium	Negative	Moderate	Likely	Long term
07	VR 1+2	Medium	Negative	Moderate	Likely	Long term

Table 16.4 Summary of Effects of the Overall Masterplan Proposal on Sensitive Visual Receptors before mitigation (assessment takes account of integrated design mitigation measures only)

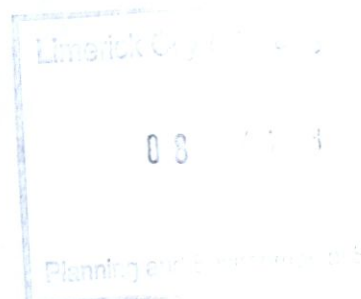




Figure 16.7 Landscape and Visual Mitigation Diagram

Landscape and Visual Mitigation Diagram
KF1a | Kennedy Fitzpatrick
landscape architecture

16.5.3 Cumulative Effects

The proposed development is one of a series of proposed developments on the subject lands. It is proposed to deliver the overall scheme in seven phases with the proposed development comprising Phase 3 of an overall development. The indicative masterplan for the overall site covers 28.13 hectares, However, the proposed Phase 3 development comprises an application for 98 no. units only on a gross site area of 9.37 hectares and a net site area of 2.8 hectares in the northern section of the study area. In the assessment of the landscape and visual impacts the full masterplan development is assessed with reference to this specific development, Phase 3. The visual impact of the proposed development is reduced when the overall masterplan is factored into the assessment. Due to the arrangement of the proposed built environment of the masterplan the proposed development is screened by other phases of the masterplan development in some views. When the overall masterplan is considered the effects on landscape character are increased slightly as the area of character change is larger. The increased effect is mitigated by landscape and visual mitigation measures contained within the overall masterplan.

The new road currently under construction and the recent road upgrades would have impacted on the same sensitive receptors as identified for this development. This could potentially lead to potential impacts of a slightly higher level of significance on the identified receptors when assessed cumulatively. The most significant impact of these developments is the loss of vegetation and an impact on views. The proposed development reverses much that vegetation loss. Any increase in impact of the proposed scheme by the cumulative impact of the road developments would be balanced by the restoration of the roadside vegetation as part of the proposed masterplan development.

16.6. REMEDIAL & MITIGATION MEASURES

16.6.1 Construction Phase

16.6.1.1 Mitigation by Avoidance / Design

LVA CONST 1 – A site planning design strategy to retain boundary hedgerows and tree protection measures was designed and is to be implemented on site as detailed in Figure 16.7 Landscape and Mitigation Diagram.

16.6.1.2 Mitigation by Prevention

LVA CONST 2 – Site hoarding shall be erected to screen views of construction activities.

LVA CONST 3 - Tree protection measures shall be installed to ensure vegetation to be retained is fully protected during the construction process.

16.6.2 Operational Phase

16.6.2.1 Mitigation by Avoidance / Design

LVA OPER 1 - The architectural design of the buildings as proposed shall be delivered as per the planning drawings as they aim to reduce the visual mass through its form and choice of materials.

LVA OPER 2 - The retention of existing native hedgerows as detailed in the Landscape and Visual Mitigation Diagram shall assist the visual integration of the building into the landscape and mitigate the visual impact.

LVA OPER 3 - The landscape proposals as detailed on the Landscaping Plan inclusive of green links, trees, hedgerows, wetlands, SUDS features, woodland blocks and wildflower meadow shall be implemented in full. These elements will assist the visual integration of the building into the landscape and mitigate the visual impact.

16.6.2.2 Mitigation by Prevention

LVA OPER 4 - The visual screening provided by the proposed hedgerows and tree belts indicated on the KFLA Landscape and Visual Mitigation Diagram shall be implemented during the first planting season following construction of the houses.

16.6.2.3 Mitigation by Reduction

LVA OPER 5 - Periodic tree surveys and implementation of a tree management plan for the mature trees on site to ensure their continued sustainability shall be undertaken.

LVA OPER 6 - The implementation and monitoring of the landscape management plan shall be undertaken for the full duration of the defects liability period to ensure successful establishment of the proposed planting scheme and trees.

16.7. RESIDUAL EFFECTS

16.7.1 Construction Phase

The predicted residual effects will be as set out in section 16.5.1. The preventative and reduction mitigation measures listed will ensure the integrated design mitigation measures are successful. The integrated design mitigation measures are considered in the assessment section 16.5.1.

16.7.2 Operational Phase

The ameliorative mitigation measures as listed in section 16.6.2.2 will reduce the effects of the masterplan development on several of the listed visual receptors, as below.

View 3 – The creation of a new robust hedgerow on the western perimeter and along the Old Cratloe road will reduce the visual impact of the built development. This measure will also reverse the effect of the recent roadside hedgerow removal on this stretch of road. The impact on this view from the road and visual receptors 5 + 6 will be reduced from significant and negative to moderate and negative.

View 6 – The creation of a new robust hedgerow on the edge of the new road infrastructure will reduce the visual impact of the built development. This measure will also reverse the effect of the recent roadside hedgerow removal on this stretch of road. The impact on this view from the road and visual receptor 1 will be reduced however remain moderate and negative.

View 7 – The creation of a new robust hedgerow on the edge of the new road infrastructure will reduce the visual impact of the built development. This measure will also reverse the effect of the recent roadside hedgerow removal on this stretch of road. The impact on this view from the road and visual receptors 1+2 will be reduced however remain moderate and negative.

View	Relevant Receptors	Receptor Sensitivity	Quality	Significance	Probability	Duration
01	VR3	Medium	Negative	Not significant	Likely	Long term
02	VR4	Medium	Negative	Imperceptible	Likely	Long term
03	VR 5+6	Low/ Medium	Negative	Moderate	Likely	Long term
04	VR 7+8	Low/ Medium	Negative	Moderate	Likely	Long term
05	VR 9+10	Low	Negative	Moderate	Likely	Long term
06	VR 1	Medium	Negative	Moderate	Likely	Long term
07	VR 1+2	Medium	Negative	Moderate	Likely	Long term

Table 16.4 Summary of Residual Effects Overall Masterplan Proposal on Sensitive Visual Receptors (after prevention and reduction mitigation measures)

16.8. MONITORING

16.8.1 Construction Phase

Contracts will ensure good working practices to reduce any negative impacts arising from construction to the lowest possible level and to ensure that all machinery operates within clearly defined construction areas. Storage areas will be located to avoid impacting on sensitive views, trees, hedgerows, drainage patterns etc. and such areas will be fully re-instated prior to, and at the end of the construction contract. The works will also have continuous monitoring to ensure adequate protection of areas outside of the construction works. All tree protection measures will be monitored by a qualified Arborist throughout the construction period.

16.8.2 Operational Phase

A landscape management plan will form part of the works contract and include for ongoing maintenance of the planting scheme. A qualified landscape architect will monitor the post installation management and maintenance of the scheme by a suitable qualified landscape contractor. The landscape works and maintenance contracts will include a requirement for replacement planting to ensure the full design intent is realised.

