

Draft Archaeological Wade and Metal Detection Survey on the Morell River, Kerdiffstown, Co. Kildare



Prepared for Kildare County Council/RPS
By Colum Hardy & Pawel Rudzinski
January 2019

Licence Ref. 18D0126 & 18R0238
Planning Ref. PL 09.JA0041

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Document Title: Draft Archaeological Wade and Metal Detection Survey on the Morell River, Kerdiffstown, Co. Kildare

Prepared For: Kildare County Council/RPS

Revision: 1.3

Revision Date: 22 January 2019

Document Authors: Colum Hardy & Pawel Rudzinski

Document Reviewer: Fintan Walsh

Approved By: Ed Danaher

File Name: Kerdiffstown Wade Survey Report_v1.3.docx

Archaeological Management Solutions Limited

**Unit 1,
Hector Street Mills, Kilrush,
Co. Clare.**

T +353 (0)65 810 3001

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data has been collated, the authors and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

Summary

This report details the results of a non-intrusive Archaeological Wade Survey and use of a Detection Device (underwater metal detector) for the proposed redevelopment of a landfill site at Kerdiffstown Co. Kildare. This survey was undertaken on behalf of Kildare County Council in advanced of remedial works that aim to develop the landfill site into a multi-use public park. Permission for the proposed works was granted by An Bord Pleanála (Case Reference PL09. JA0041) in May 2018.

The Wade Survey was conducted at the proposed location of a surface water outfall point (Field Location 3) into the Morell River (the wade survey location is centred at ITM 691586, 722164), which flows in a northerly direction close to Kerdiffstown church and graveyard (KD019006001–2), at the eastern site boundary.

The survey was carried out along a 30m stretch of the Morell River and investigated both the riverbed and banks. The survey was carried out by Pawel Rudzinski of AMS on 7 December 2018 under licence numbers 18D0126 and 18R0238. The river and the river banks were assessed by visual inspection and metal detector survey over the course of one day. This accounted for 100% of the total survey area.

No structures, artefacts or features of archaeological or architectural significance were discovered as a result of this wade and metal detection survey. Despite this it is recommended that archaeological monitoring and metal detection of any removed riverine material is undertaken at this location during the construction stage of the project.

The above recommendations are subject to the approval of the National Monuments Service and the Director of the National Museum of Ireland. Proposed mitigation measures should comply with the National Monuments Act 1930 (as amended). Monitoring and metal detection should be undertaken under excavation licence issued under Section 26 of the National Monuments Act 1930 (as amended) and be in accordance with the Framework and Principles for the Protection of the Archaeological Heritage (DAHGI 1999).

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Abbreviations and Definitions

Term	Definition
AMS	Archaeological Management Solutions Ltd
EIAR	Environmental Impact Assessment Report
ITM	Irish Transverse Mercator
KCC	Kildare County Council
NMS	National Monuments Service
RMP	Record of Monuments and Places
SMR	Sites and Monuments Record

Coordinate System

All GPS coordinates given in this report are in Irish Transverse Mercator (ITM).

Introduction

This report details the results of an Archaeological Wade Survey, with a metal detector, along part of the Morell River at the former landfill site at Kerdiffstown, near Naas, Co. Kildare. The proposed works were undertaken on behalf of Kildare County Council in advance of remedial works that aim to develop the site into a multi-use public park. The Remediation Project was granted planning permission in May 2018 (An Bord Pleanála Case Reference PL09.JA0041).

As part of the planning application, an archaeological, cultural heritage and architectural heritage assessment, forming part of an overall Environmental Impact Assessment Report (EIAR) for the site, was undertaken by Jacobs in 2017 (Jacobs 2017). A Scope Document relating to archaeological services for the Project was also prepared by RPS Group in 2018 and select locations at the site were targeted for geophysical investigation (Leigh 2017; 2018).

In line with recommendations set out in the EIAR, it was necessary to conduct a Wade Survey at the proposed location of the surface water outfall point into the Morell River. The survey was undertaken in conjunction with a programme of archaeological test investigations at the site by Archaeological Management Solutions Ltd (Licence ref: 18E0665; see Ó Maoldúin 2018).

Site Location

Kerdiffstown landfill is located in the townland of Kerdiffstown (parish of Kerdiffstown, barony of Naas North: ITM 691347, 722104), about 1km northeast of Naas, Co. Kildare. The site is situated immediately north of the N7 National Primary Route and comprises a former quarry, landfill and waste processing facility that encompass lands of some 27ha in total. It has been progressively backfilled with waste by a variety of operators since the 1950s and now contains a large (unused) recycling facility and a lined landfill cell, which is partially filled with waste. Substantial quantities of waste have also been deposited across extensive (unlined) areas of the site, with further smaller quantities of waste stockpiled at other locations around the site. The wade survey location is centred at ITM 691586, 722164.

The landfill (approx. 90m above sea level) occupies fairly level terrain directly west of a small, northerly-flowing stream known as the Morell River. The survey was carried out along a 30m stretch of the Morell River at the proposed location of a surface water outfall point into the river and investigated both the riverbed and banks. The surrounding landscape comprises suburban housing and light industrial-type buildings to the south, farmland to the west and a golf course to the north and east. The local geology is dominated by Viséan limestone and calcareous mudstone, overlain by complex mineral soils ('Straffan Complex') primarily derived from of limestone till.

Proposed Works

The presence of large quantities of (uncapped) waste and the lack of appropriate infrastructure to manage pollution arising from this waste means that the former landfill at Kerdiffstown may pose an environmental pollution risk. The upstanding buildings and structures at the site also present potential dangers. As such, Kildare County Council (KCC) intends to fully remediate the site in order to reduce the risks posed by its current condition to public health and safety and the environment.

The project – the ‘Kerdiffstown Landfill Remediation Project’ – aims to transform the site into a public amenity, comprising a multi-use public park (sport pitches, changing rooms, playgrounds, etc.). Following this Remediation Phase, the site will continue to be managed by Kildare County Council, and regulated by the Environmental Protection Agency (EPA) as a remediated landfill whilst operating as a multi-use public park.

KCC applied for planning permission for the Remediation Project in August 2017. The application was accompanied by an Environmental Impact Assessment Report (Jacobs 2017) and planning permission was granted An Bord Pleanála (Case Reference: PL 09.JA0041) in May 2018. An Industrial Emissions Activities Licence (IEAL) application has also been submitted. It is anticipated that the project will take approximately five to seven years to complete.

Proposed remedial works will involve:

1. Construction of new site entrance and realignment of the L2005 Kerdiffstown Road;
2. Demolition of 3 properties (REC010, REC011 and REC016) and concrete structures in Zone 2A, Zone 2B and Zone 4;
3. Installation of new foul and leachate pipeline connections to Johnstown Pumping Station;
4. Construction of a new Landfill Infrastructure Compound;
5. Removal of stockpiles of materials;
6. Temporary stockpiling;
7. Re-profiling and filling;
8. Installation of capping systems;
9. Installation of new or supplementary gas wells and gas venting measures;
10. Construction, cleaning and commissioning of surface water management infrastructure;
11. Removal of the existing flare stack in Zone 1 and the second back-up flare, commencing use of new flare stack in the new Landfill Infrastructure Compound supported by a back-up flare;
12. Inspection and repair of concrete hard standings in Zone 2A and Zone 2B;
13. Removal of existing perimeter screening bund in Zone 1;
14. Construction of park infrastructure, including multi-use sports pitches, a building with changing rooms, public toilets and stores, car parking, a children’s playground, informal trails and defined viewpoints;

15. Planting and landscaping; and
16. Ecological enhancement and mitigation features such as hibernacula, nesting boxes and log piles.

Aims of the Wade and Metal Detection Survey

The aim of the Archaeological Wade and Metal Detector Survey was to ascertain the character, condition and extent of any archaeological areas, features or objects within or adjacent to the Morell River likely to be affected by the proposed works, including any associated temporary works, and the likely impact of the proposed works on these remains. The survey and metal detection strategy comprised:

- A visual inspection and survey of the riverbed, banks and attendant grounds to ensure that any upstanding and slightly submerged archaeological and architectural material were identified and recorded.
- Setting out appropriate measures for the avoidance of any identified remains where applicable, and where this could not be achieved, setting out measures to mitigate the impact of the works.
- Recovery of all items of metalwork that may be of historical or archaeological significance through systematic detection and recording of the riverbed where water depth is less than 0.75m.
- Preparing an Archaeological Wade & Metal Detector Survey Report.

The Morell River

The Morell River (Irish: *An Mhoiréil*, Plates 2–5) is a tributary of the River Liffey and gets its name from William Morrell, formerly a landowner in the area. It first appears (spelled *Morrel*) in the *Statistical Survey of the County of Kildare* (Rawson, 1807).

The Morell rises in Slieveroe, a few kilometres west of Blessington Lake. It flows south-to-north through Punchestown Racecourse, passing Craddockstown Golf Club and Naas Industrial Estate. It meets with a tributary stream outside Johnstown and is bridged by the N7 road. It continues northwards and unites with another tributary south of Palmerstown House Golf Club. The Morell then passes under the Grand Canal via an aqueduct and under the Dublin–Cork Railway Line. It then meets the Painstown River and passes under the Morell Bridge, where there is an Environmental Protection Agency monitoring station. The Morell drains into the Liffey about 1 km south of Straffan and about 470m downstream from the Straffan weir.

The wildlife is represented by substantial canopy cover provided by maple sycamore (*Acer pseudoplatanus*) and European alder (*Alnus glutinosa*), which allows spawning by the resident population of brown trout and migratory populations of sea trout (*Salmo trutta*) and Atlantic salmon (*Salmo salar*).

A study by the Water Framework Directive Ireland awarded the Morell "Moderate" status for its suitability for macroinvertebrates.

Archaeological Background

Much of the landfill site has been disturbed by waste disposal activities over several decades and nothing of archaeological potential is recorded there today. However, a number of sites and features are located within its immediate environs and fall within the proposed project area. These comprise the site of a mound (KD019-018----) and the remains of Kerdiffstown church (KD019-006001-), which has an associated graveyard (KD019-006002-) that contains two early graveslabs (KD019-006003–4). The church and graveyard lie immediately south of the Morrell River.

Other sites within a 500m radius of the landfill comprise the find-spot of an architectural fragment (KD019-067) and a nineteenth-century sawmill (KD019-064----). Kerdiffstown House (National Inventory of Architectural Heritage Ref. No. 11812025; Record of Protected Structures No. B19-23) is an impressive, three-storey Georgian residence dating from c.1860, which lies a short distance to the north.

Table 1: Recorded monuments within 500m of the development site

SMR No	Site Type	Townland	Easting (ITM)	Northing (ITM)
KD019:018	Mound	Kerdiffstown	691404	722156
KD019:006001	Church	Kerdiffstown	691449	722277
KD019:006002	Graveyard	Kerdiffstown	691436	722269
KD019:006003	Graveslab	Kerdiffstown	691436	722269
KD019:006004	Graveslab	Kerdiffstown	691436	722269
KD019:0167	Architectural fragment	Palmerstown Demense	691418	722773
KD019:064	Mill - sawmill	Palmerstown Demense	691421	722768

An archaeological, cultural heritage and architectural heritage assessment, forming part of an overall EIAR for the Kerdiffstown Landfill Remediation Project, was completed by Jacobs in 2017 (Jacobs 2017). This included a field inspection of the proposed development site and a geophysical (magnetic gradiometry) survey of the site of the mound (KD019-018----). No new features of archaeological interest were identified during the course of the field inspection (Jacobs 2017: 254–57) and geophysical prospection did not identify any magnetic responses indicative of an archaeological mound (Leigh 2017; licence number 17R0027). A further geophysical survey was undertaken in the vicinity of Kerdiffstown church and graveyard (KD019:006001–2) (Leigh 2018; licence number 18R0161) in 2018. The survey, which was focused on a long irregular strip of pasture

to either side of the church and graveyard, identified several anomalies of potential archaeological interest, most notably in the area directly south of the church (KD019:006001).

In highlighting the potential impact of ground disturbances associated with the proposed remediation works on the site of the mound (KD019-018---) and Kerdiffstown church and graveyard (KD019-006001-2), the assessment also noted that the insertion of a surface water outfall pipeline into the Morell River, and the insertion of pipeline routes through the southern part of the Kerdiffstown demesne, may impact upon previously unrecorded archaeological features, deposits or artefacts. As such, chapter 10 of the EIAR recommended a number of mitigation measures (Jacobs 2017: 265–67) which, in addition to archaeological test investigations, included an Archaeological Wade Survey. This relevant recommendation (Number 3) stated:

An archaeological wade survey shall be carried out at the proposed location of the surface water outfall point into the Morell River. This investigation will be carried out under licence to the DoAHRRGA (now the Department of Culture, Heritage and the Gaeltacht). Full provision shall be made available for the preservation by record of any features or deposits that may be discovered, if that is deemed the most appropriate manner in which to proceed (following consultation with the DoAHRRGA).

A more recent Scope Document relating to archaeological services for the Remediation Project was prepared by RPS Group in July 2018 and this reiterated the recommendations set out in the 2017 EIAR.

A programme of archaeological testing (Licence ref: 18E0665) carried out by AMS in November 2018 at the proposed site identified significant levels of medieval archaeological remains in the southern part of the site, concentrated near the medieval church (KD019:006001) and associated graveyard (KD019:006002-4). Butchered animal bone and medieval pottery were also found to extend the entire length of the 200m long area tested to the southeast of the church. Pits and ditches were also recorded cutting the surface of the site (Ó Maoldúin 2018).

Survey Methodology

The underwater visual wade survey was carried out in tandem with a metal detector survey at the proposed location of the surface water outfall point into the Morell River (Field Location 3). This targeted area stretched for 30m along the length of the Morell River (the wade survey location is centred at ITM 691586, 722164). All works were carried out in accordance with Health and Safety regulations and safety guidelines in accordance with the Health and Safety Authority's Safety in Industry (Diving Operations) Regulations 1981, SI 422. The metal detecting device used was a Fisher F22 with the 9-inch elliptical search waterproof coil, which operates at a 7.69 kHz frequency.

This was a non-disturbance visual survey, so no excavations were undertaken. The locations of any finds were to be recorded using a differential GPS and a full photographic survey carried out. The wade survey was carried out using a baseline for accuracy. A digital stills camera and bathyscope were used to record underwater photographs. The river depth, flow and direction was recorded along with the visibility, bottom type and height of banks.

Any potential archaeology identified was to be recorded. Consultation was to be undertaken with the National Monuments Service, in order to mitigate for resolution of any such archaeology.

Survey Results

The wade and metal detection survey examined a targeted 30m stretch of the Morell River (Plates 2–14). The survey was carried out on 7 December 2018 and on the day of survey there was a moderate high water level depth of 0.7m and a slow stream current. This allowed for a safe access into and out of the river. The river had a depth that varied from 0.4–0.7m along the 30m stretch of survey. Though the water levels were deep enough to undertake a snorkel survey, a wade survey was carried out in reasonably good visibility, thus allowing the surveyor to determine if any possible structures or features of archaeological potential were present.

The 30m length of the southwestern bank of the river was comprised of 3–4 layers of modern, large limestone and concrete boulders. This composition was a result of the foundation for the adjacent road during its construction and thus heavily influenced the shape of the riverbank. After such an intrusive amount of activity so close to the river, it is almost impossible for any in-water structures to survive *in situ*. The northeastern edge of the riverbank was much less structured and had an uneven natural shape, most likely the result of naturally undercutting riverine water activity (due to periodical changes of water level and possible floods) with a variety of trees and bushes overgrowing. This side also showed no evidence of any structures of archaeological or historical importance.

Metal detecting was confined to the entire river channel, the riverbanks, underwater and in the stream bed (Plates 7–13). There were two positive signals detected but later investigation showed modern garbage waste finds (Aluminium beer cans). Within the 30m targeted area of the river there were no other finds of historical or archaeological significance recorded.

Conclusions

The wade and metal detection survey was carried out along a 30m stretch of the Morell River and investigated both the riverbed and banks. The survey was conducted at the proposed location of a

surface water outfall point into the Morell River, which flows in a northerly direction close to Kerdiffstown church and graveyard (KDO19006001–2).

No structures, artefacts or features of archaeological or architectural significance were discovered as a result of this wade and detection survey.

Recommendations

It is recommended that archaeological monitoring and metal detection of any removed riverine material is undertaken at this location during the construction stage of the project.

The above recommendations are subject to the approval of the National Monuments Service and the Director of the National Museum of Ireland. Proposed mitigation measures should comply with the National Monuments Act 1930 (as amended). Monitoring and metal detection should be undertaken under excavation licence issued under Section 26 of the National Monuments Act 1930 (as amended) and be in accordance with the Framework and Principles for the Protection of the Archaeological Heritage (DAHGI 1999).

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<http://www.pleanala.ie/documents/reports/JA0/RJA0041.pdf>

Figures

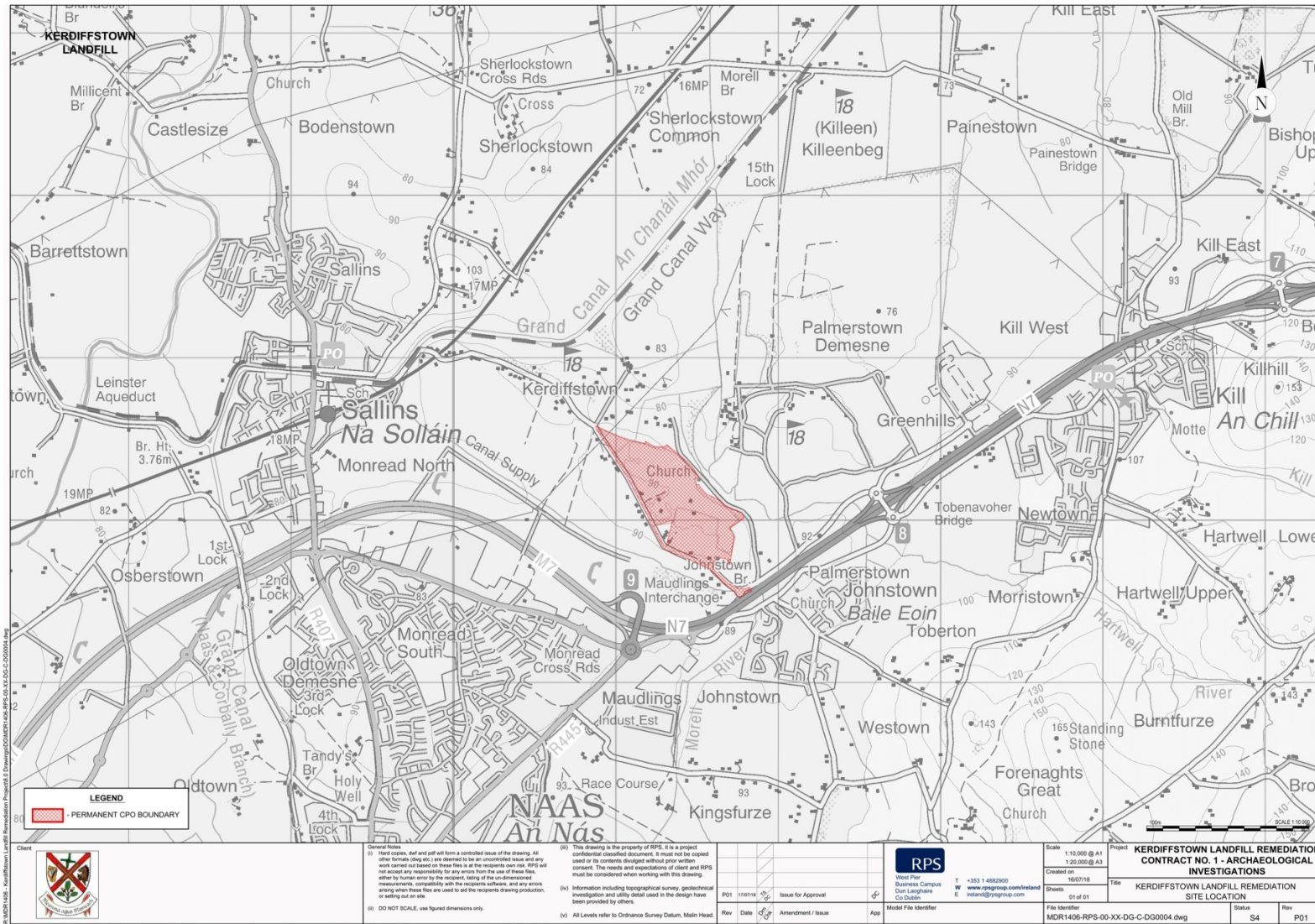


Figure 1: Scheme location (image supplied by client)

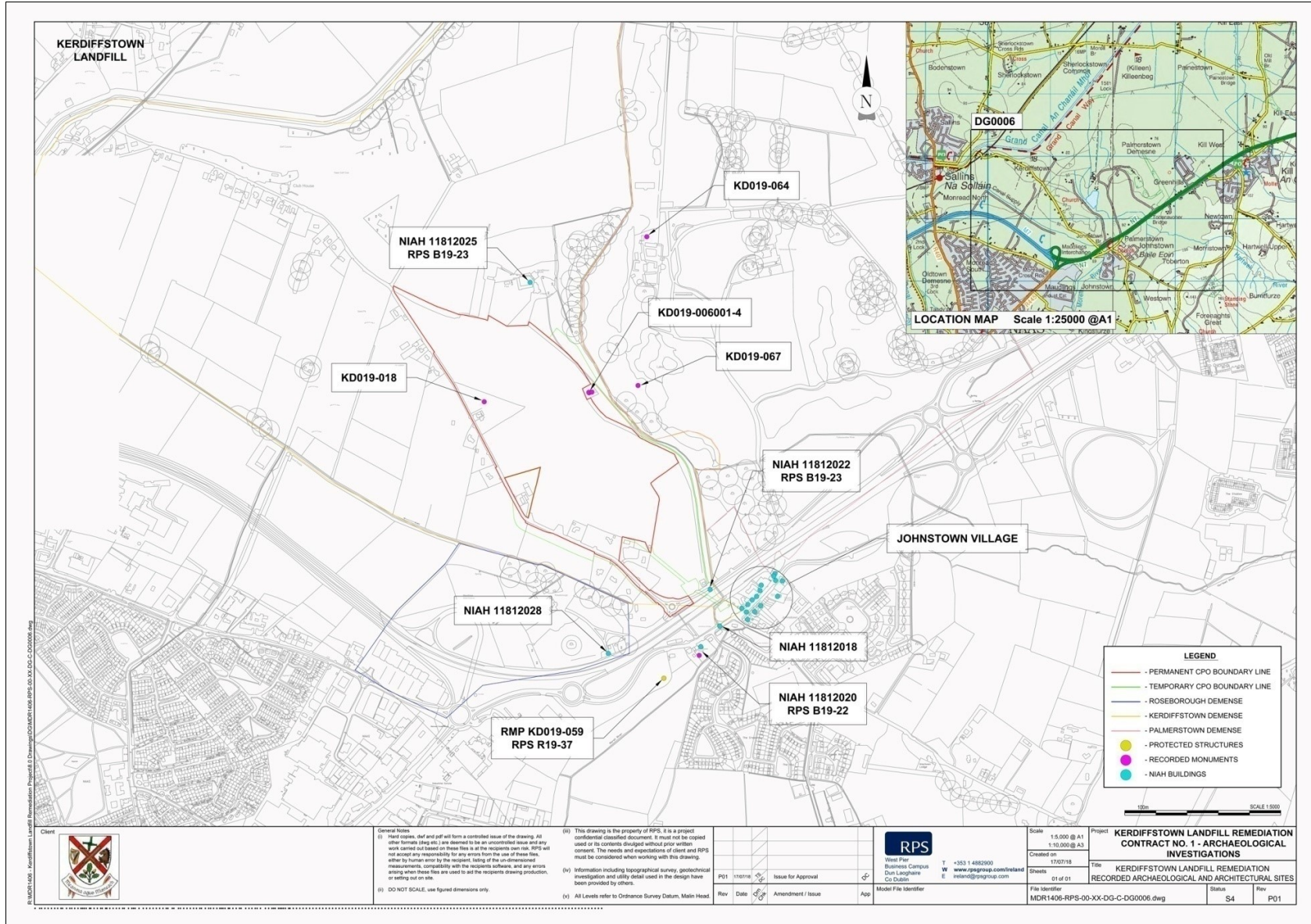


Figure 2: Recorded archaeological and architectural heritage sites in the vicinity of the development site (image supplied by client)

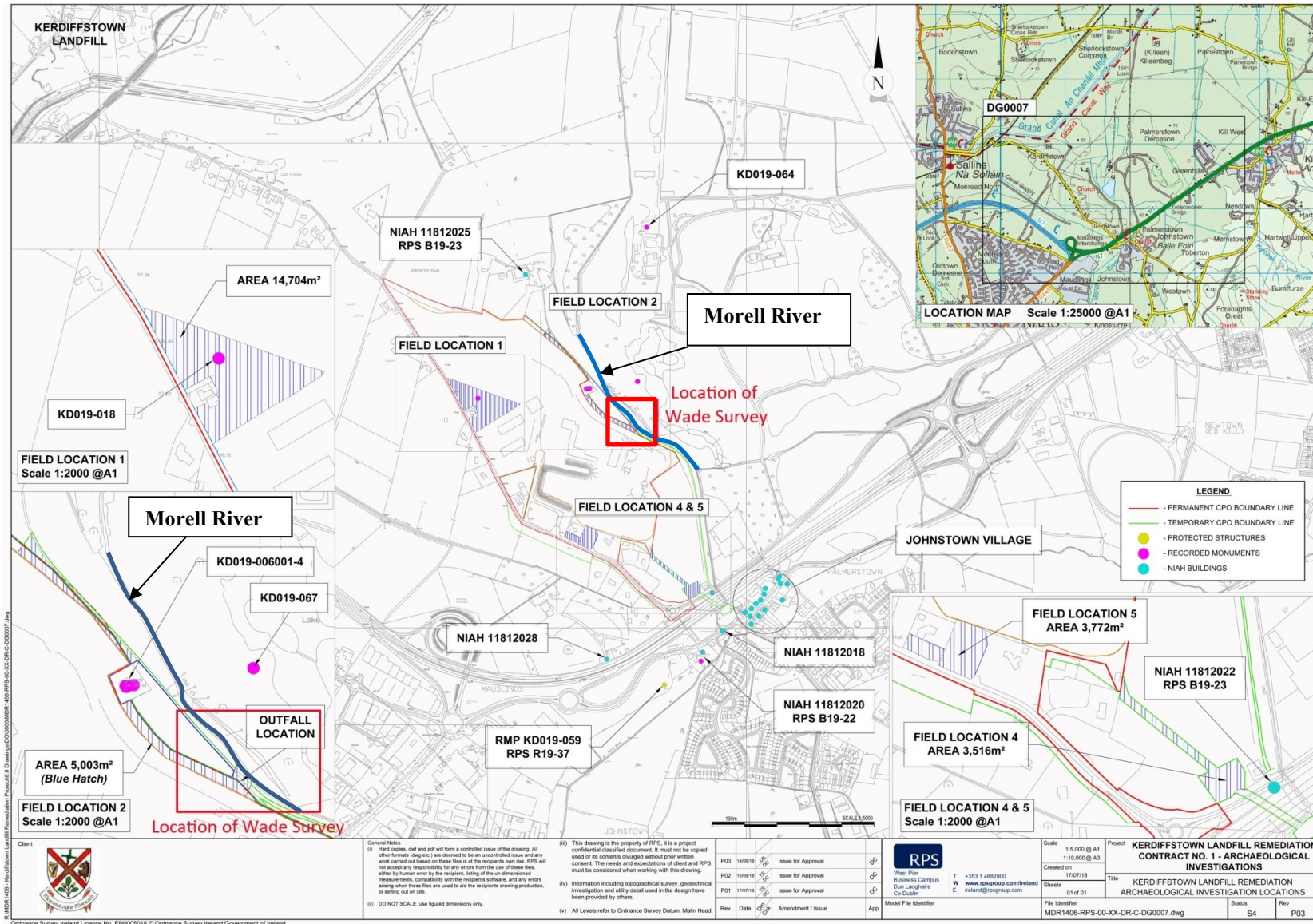


Figure 3: Location of the proposed Wade Survey (Field Location 3) and the proposed archaeological testing areas, Field Locations 1–2; 4–5 (image supplied by client, with additions)

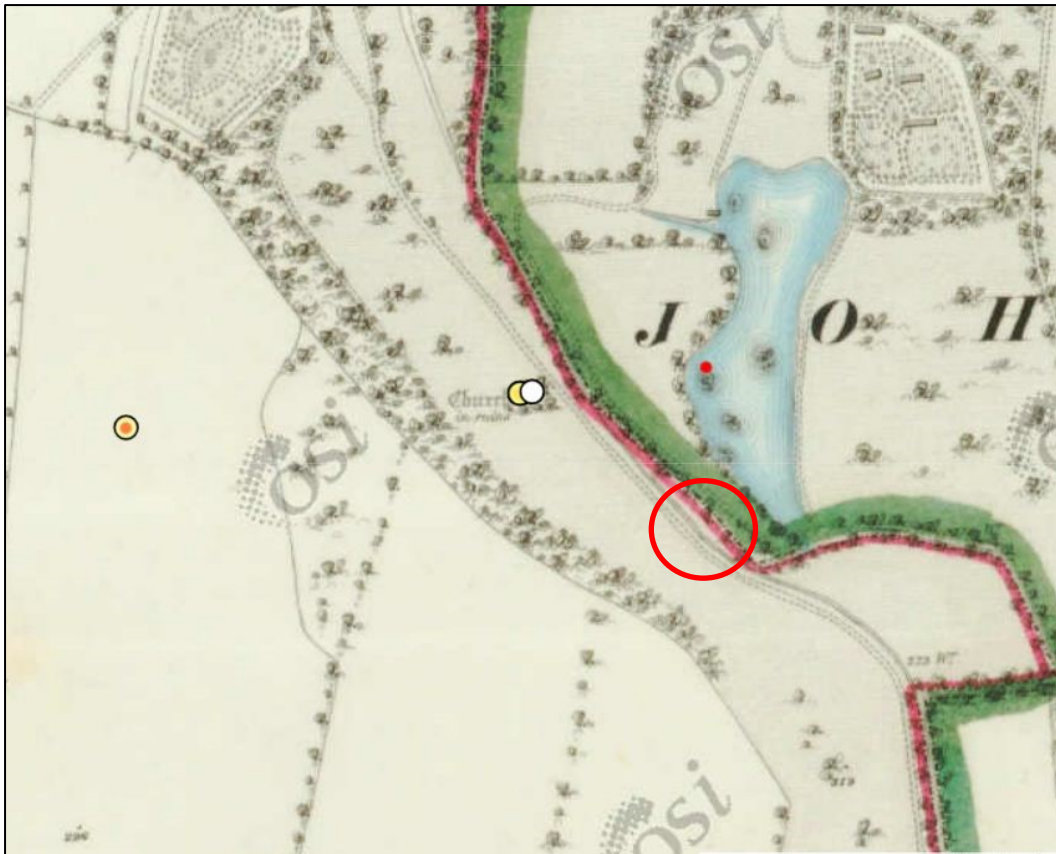


Figure 4: Extract from first-edition six-inch OS map (1841–42) showing location of wade survey (red circle)

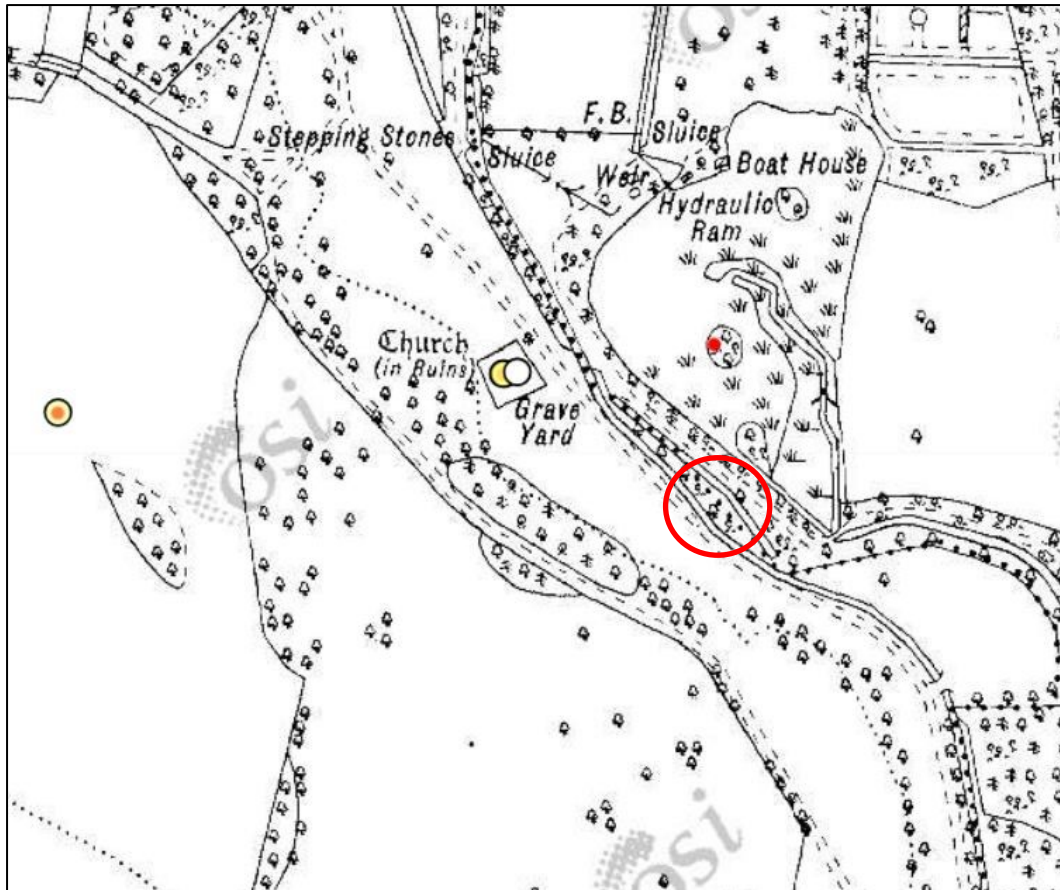


Figure 5: Extract from 25-inch OS map (1914–15) showing location of wade survey (red circle)

Plates



Plate 1: Proposed site of development at Kerdiffstown, Co. Kildare



Plate 2: General view of the Morell River and survey area, facing northwest



Plate 3: General view of the Morell River and survey area, facing southeast



Plate 4: View from within the Morell River, facing southeast



Plate 5: View from within the Morell River, facing northwest



Plate 6: View of the Morell river bed (scale 0.2m)



Plate 7: Metal Detection Survey in progress

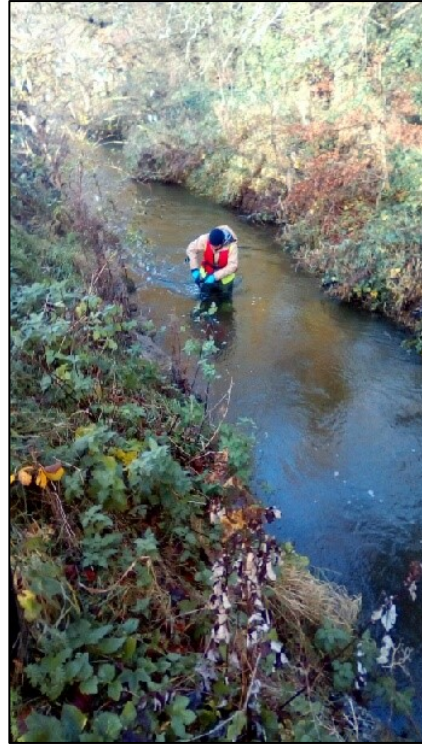


Plate 8: Metal Detection Survey in progress



Plate 9: Metal Detection Survey in progress

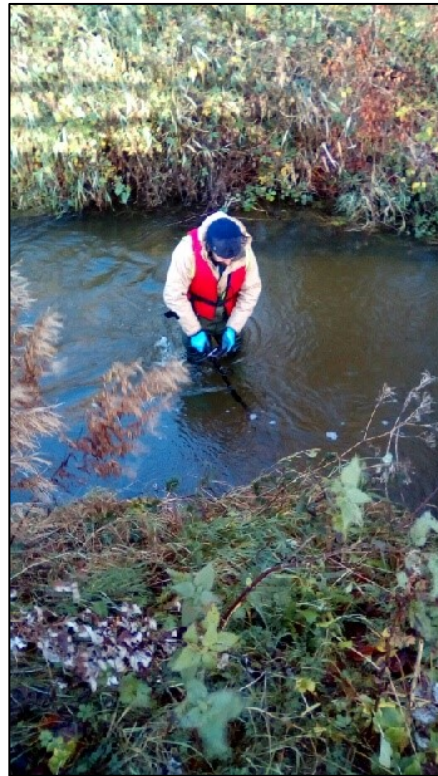


Plate 10: Metal Detection Survey in progress



Plate 11: Metal Detection Survey in progress



Plate 12: Metal Detection Survey in progress



Plate 13: Metal Detection Survey in progress

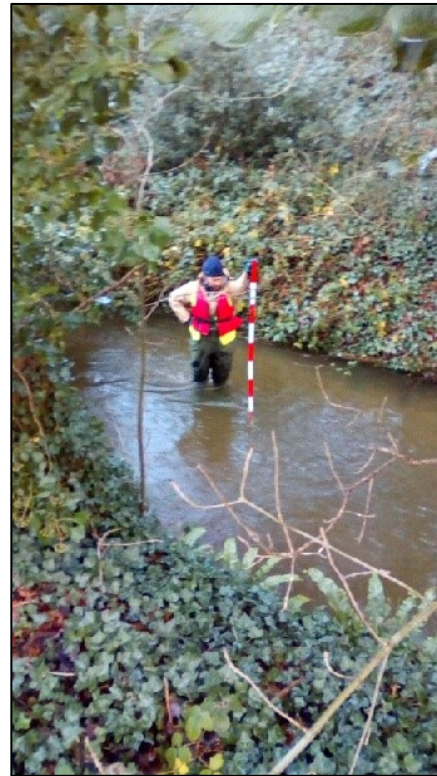


Plate 14: Wade Survey in progress