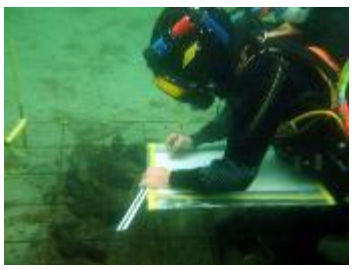
Cultural Heritage Assessment
Greenore Port, Berth 2
Greenore, Co. Louth
17D0032, 17R0051





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ADCO	The Archaeological Diving Company Ltd
CD	Chart Datum
DAHRRGA	Department of Arts, Heritage, Rural, Regional and Gaeltacht Affairs
E	Easting
EIS	Environmental Impact Statement
N	Northing
NGR	National Grid Reference
NMS	National Monuments Service
SMR	Sites and Monuments Record
UAIA	Underwater Archaeological Impact Assessment

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Executive Summary

The Archaeological Diving Company Ltd (ADCO) was appointed by McCutcheon Halley planning consultants on behalf of Greenore Port to carry out a Cultural Heritage Assessment in advance of the proposed reclamation project to upgrade Berth 2, at Greenore, Co. Louth. A site inspection comprising an underwater assessment was completed on 26 April 2017 by a team of maritime archaeologists.

The reclamation works proposed are located within the existing port area and comprise the addition of a new quay wall and deck in front of the existing quay. The work will include dredging of the adjacent seabed to facilitate access to the upgraded berth, and the burial of the existing quayside. The proposal also includes for the removal of the existing quay deck and construction of a new reinforced concrete deck with associated services.

A series of known cultural heritage assets are recorded in proximity to Greenore Port, including three protected structures on lands owned by Greenore Port as shown on Planning Drawings, however there are no recorded sites or features within the development footprint.

Ordnance Survey mapping from the early twentieth century records an active quayside and associated railway yard that is known to be built at Greenore in the late 1800s.

Archaeological assessment for the present project included an intertidal and sub-tidal inspection across the development area where access was possible. In-water work extended out 40m from the quayside, after which strong flow conditions inhibited further access. Site work was completed on an ebb tide, to maximise access to the footprint area considered for reclamation.

Elements of the late nineteenth-century quayside are preserved ***in situ*** below the modern quay deck that is made from reinforced concrete slab. A stone-built quay wall extends below the modern slab to seabed level. The base of the quay wall is covered in silt and cobble for the most part, but the most southerly 30m or so retains a series of vertically-set timber uprights that form a line of shuttering located some 10m out from the quay wall. It is understood that this timberwork would have served as part of the quay's construction.

Proceeding seaward from the quay wall, towards the 'breakwater' feature to the west, the seabed is scoured by ebb-flow conditions. Modern debris associated with discard

from shipping and quayside (e.g. fenders) lies on the surface, but there is no indication of material of archaeological interest.

The deployment of a metal detector here proved to be impractical, both because of the high water current velocity present at the site and because of the presence of modern metallic debris.

The surveyed area was inspected comprehensively. Record was made of the nineteenth-century quay wall and the shuttering associated with it. No material of archaeological significance was observed on the seabed. The seabed westwards towards the Breakwater is scoured deeply and is a zone of erosion.

The proposed impacts from the development include:

- Quay wall will be constructed by a steel combi-wall system.
- A reinforced concrete capping beam will be constructed on top of the combi-wall.
- The void between the existing quay wall and the proposed quay wall will be filled with suitable dredged material and imported engineering fill material.
- It is proposed to dredge the sea bed to -7.5m Chart Datum. The dredge pocket shall be 40m wide and 90m long. Suitable excavated material will be re-used behind the new quay wall. Material which does not comply with the required engineering properties will be disposed of in a suitably licenced facility.

The report finds no archaeological constraint to the project proceeding.

No further archaeological measures are required prior construction commencing.

As part of the construction stage works, the following mitigation measures are recommended:

- Subject to impact proposals, archaeological observation and recording is recommended of the construction of the old quay wall. Such inspection work should be conducted by an experienced maritime archaeologist.
- Archaeological monitoring of the dredge works is recommended, with the proviso to resolve fully any material of archaeological interest recovered at that point.

Recommendations are subject to the approval of the Depart of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAHRRGA).

1.0 Introduction

The Archaeological Diving Company Ltd (ADCO) was appointed by McCutcheon Halley planning consultants on behalf of Greenore Port to carry out a Cultural Heritage Assessment in advance of the proposed reclamation project to upgrade Berth 2, at Greenore, Co. Louth (Figure 1). Greenore Port is located in Greenore townland, Co. Louth. The location of Berth 2 occupies the south side of the existing berths, centered at ITM 722226E 811012N.

A site inspection comprising an underwater assessment was completed on 26 April 2017 by a team of maritime archaeologists, using Surface Supplied Diving Equipment and under licence for archaeological work from the National Monuments Service, Licence numbers 17D0032, 17R0051. Site work was led by the licence holder and report author, Dr Niall Brady FSA, and included archaeologist Rex Bangerter MA, diver/tender, Feargal Morrissey and dive supervisor Brian MacAllister.

2.0 Proposed Development

The reclamation works proposed are located within the existing port area and aim to rehabilitate an existing berth to improve health and safety on site (Figure 2). The works include the addition of a new quay wall and deck over an existing quay. The works will dredge the adjacent seabed to a depth of –7.5m Chart Datum (CD), to facilitate access to the upgraded berth and to align it with the existing Berth No. 1. Current bed levels vary between 0m and –7.5m CD. The dredged spoil, if suitable, will be re-used between the existing and proposed combi-wall.

3.0 Receiving Environment

The port at Greenore is located on the south side of Carlingford Lough, a location well known for its rich cultural heritage. There are no recorded features within the footprint of the development, but the wider landscape setting highlights Greenore as a location that can retain archaeological potential, and the Port itself retains elements of its nineteenth-century narrative, when it was a rail head.

The Ordnance Survey First Edition six-inch maps of the 1840s show only a small development at Greenore Point, comprising a Light House and some cottages running down the eastern shore of the Point. The location of the present-day port is recorded

as an area of undeveloped land leading to a shingle/sand shoreline. There is no indication of relict shoreline features in the area that subsequently became the Port, such as fish traps, oyster beds, shipwrecks or other features of cultural heritage interest.

The Topographical Files in the National Museum of Ireland (NMI) include reference to a collection of prehistoric-period flint flakes that are provenanced to Greenore townland (reference NMI 1975:307-583). The collection includes flint scrapers, blades, bar forms, cores and awls as well as generic flakes; the sum representing a classic range of stone tools dating most probably to the Neolithic period. There is no clear indication of where they were collected from within the townland, so a specific provenance is not known, although the Sites and Monuments Record (SMR) has identified one location as a possible source area (SMR LH0090-012), some 500m southeast of and outside the port. Inspection of the location in 2007 did not reveal any indication of lithics here.[1] The flint pieces are part of a collection made by Dr Liversage and was given to the Ulster Museum by Queen's University Belfast, and from there to the NMI in Dublin. A note in the NMI records dated 2002 calls the Greenore provenance into question, suggesting that the material may well be from Greencastle rather than Greenore, since the rest of Liversage's material (NMI 1975279-598) is from Donegal sites.

In terms of known archaeological sites, there are no recorded SMR sites within the development area, and the closest site is that of the supposed flint scatter, located outside the port, on the beach to the southeast (Figure 3).

There are some forty-three recorded historic shipwreck events within Carlingford Lough, based on the Historic Shipwreck Inventory maintained by the NMS, but there are none associated directly with the Port. There is however a single recorded wreck associated with Greenore, and that is the vessel Kilkeel, which was lost in 1892 at Greenore. The event is described as a steamship that was in a derelict state when she was noted by the lighthouse keeper at Carlingford; the vessel was driven ashore but was got off. The position was not recorded.

The cultural heritage of the Port, which includes three protected structures on its estate, is best represented by the remains from the nineteenth century, when Greenore was a railhead (Figure 3, Plate 1). An hotel was associated with the rail and is entered into the National Inventory of Architectural Heritage (NIAH), reference 13831026 (Plate 2). A breakwater was constructed to the west of the quayside and parallel with it.

[1] Rex Bangerter, 'Underwater archaeological assessment: Phase 2 development at Greenore Port, Carlingford Lough, Co. Louth. 07D0016, 07R0067', unpublished report of the Archaeological Diving Company Ltd, 2007, p. 6.

4.0 Methodology

To record and qualify the observation of sites and features of archaeological or cultural heritage interest that might be identified in the course of the site work, the present assessment is based on non-disturbance visual recording. Site work was carried out with a view to completing an ***in situ*** record of any features observed to a level that would enable an archaeologist who has not seen the site to comprehend its components, layout and sequences, based on a detailed record of selected elements of the site.

The site work was completed as an intertidal walkover inspection and an underwater dive inspection within the development footprint. Site work was carried out on an ebb tide and at Low Water to maximise access to the footprint area considered for reclamation. The diver operation was run from the quayside, with the diver swimming out from the quay wall to the extent of his umbilical, returning to the quayside and proceeding out again (Plate 3). In-water work extended out 40m from the quayside, after which strong flow conditions inhibited further access. The process was completed systematically, moving from North to South. The Port crane assisted the diver and dive-station transfer as the work progressed south. A metal detector was employed to assist in the identification of material of significance.

Attention was paid to recording the intertidal and sub-tidal topography and any features of archaeological and cultural heritage interest. Record was made in writing and supported by photography. A handheld GPS unit was available to record the locations of any features of interest.

5.0 Site Description

The Port is dominated by the current reinforced concrete deck of the quayside (Plate 4). Upstanding structural elements are largely present to service the modern port. The north side of the quay, Berth 1, services vessels as the principal active berth. The area to its south, which includes Berth 2, has noticeably shallower water. Proceeding south again, the port has been extended by reclamation, and a series of concrete caissons line the foreshore (Plate 5). At Low Water, a shingle beach is evident, with the shallower water of the Lough exposing a wide area of intertidal sands on which oyster beds are set (Plate 6).

6.0 Observations

6.1 Hotel and Railway Station

The hotel does not survive above ground today, and the railhead is largely disappeared. There is little of the nineteenth-century fabric visible across the port area, but there is a length of standing wall at a remove from the current quayside (Plate 7). The wall is built using red brick for the most part, and retains elegant granite arches. It is a surviving element of the former railway station that is shown on the early twentieth-century Ordnance Survey maps.

The wall runs along the very eastern boundary of the development area. There is no indication that the wall will be impacted by the development, and it should be left intact as it is the only surviving element above ground of this early history of the Port. Precautionary measures may be required to ensure that it is not damaged during the development.

6.2 Breakwater

The feature referred to as a 'Breakwater' appears to serve less as a breakwater and more as a tidal aid. The structure has a solid rock armour base that is exposed at Low Water but above this the structure is an openwork array of concrete members (Plate 8). While these may have supported a deck in the past, today the elements are upstanding and do not offer protection from northerly or easterly airflows. It is apparent, however, that the feature helps the ebb tide to scour the seabed in front of the quayside, and this scouring activity creates a very dynamic rip tide that runs in front of Berths 1 and 2.

The breakwater lies outside the development area and will not be impacted by the works.

6.3 Berth 2, quayside and seabed

The principal focus of interest is the existing quayside of Berth 2 and the seabed beneath. Berth 2 is currently recessed back from the façade of Berth 1 (Plate 9). The deck area of Berth 2 is a modern reinforced concrete surface that has been placed directly on top of an older stone-built quay, which survives underneath and whose façade is exposed fully as the working quayside (Plates 10-11).

The stone-built quay is a well-constructed feature (Plates 12-13). It is made up of cut stone blocks, laid in courses where the stones mask the formal courses by being of different sizes. At regular intervals, there are pairs of projecting jamb stones to capture and secure in place vertical timber fenders.

The base of the quay wall is covered in silt and cobble for the most part, but the most southerly section features a glacis embrasure built at its base to act as a rock armoured defence against erosion (Plates 12, 14). The feature is curved in plan view and serves to deflect scour from the base of the quay wall.

The sub-tidal element is covered for the most part in a loose shingle and cobble (Plate 15). There is frequent modern debris lying on its surface (including fenders and metallic debris), and there are some patches of silt. The only feature observed is a line of vertically-set timber uprights that form a line of shuttering located some 10m out from the quay wall (Plate 16). The feature is first apparent approximately 30m north of the southern limit of Berth 2, and it continues to where the stone-built rock armour toe buries the timberwork. It is understood that the timberwork would have served as part of the quay's construction. The timbers are set edge-to-edge and many feature eroded tops, where the top surface is sheared off at an acute angle, perhaps from previous cutting action.

Proceeding seaward from the quay wall, towards the breakwater feature to the west, the seabed is scoured by ebb-flow conditions. Modern debris associated with discard from shipping and quayside lies on the surface, but there is no indication of material of archaeological interest.

The deployment of a metal detector here proved to be impractical, both because of the high water current velocity present at the site and because of the presence of modern metallic debris.

The quay wall and its adjacent area of seabed will be impacted directly by the development. The concrete deck will be upgraded and a new façade will be constructed seawards, to bring Berth 2 flush with that of Berth 1. The work will bury the stone quayside. The shuttering at the foot of the quay will likely be destroyed. The sea pocket in front of the quay will be dredged to a level depth of –7.5m CD.

6.4 Conclusions

The surveyed area was inspected comprehensively. Record observed the upstanding element of the railway station wall. Record was made of the nineteenth-century quay wall and the shuttering associated with it. No material of archaeological significance was observed on the seabed. The seabed westwards towards the Breakwater is scoured deeply and is a zone of erosion.

7.0 Impacts

The proposed impacts from the development include:

- Quay wall will be constructed by a steel combi-wall system.
- A reinforced concrete capping beam will be constructed on top of the combi-wall.
- The void between the existing quay wall and the proposed quay wall will be filled with suitable dredged material and imported engineering fill material.
- It is proposed to dredge the sea bed to -7.5m Chart Datum. The dredge pocket shall be 40m wide and 90m long. Suitable excavated material will be re-used behind the new quay wall. Material which does not comply with the required engineering properties will be disposed of in a suitably licenced facility.

The proposed impacts from the development on the existing features of potential interest are summarized in Table 1:

Feature	Impact	Mitigation
Hotel	None	None.
Railway Station wall	None	Protect from impacts.
Breakwater	None	None.
Quay wall	To be buried	Archaeological observation and recording during construction phase to record the construction details of the stone quay.
Seabed	Dredging	Archaeological monitoring

Table 1: Impacts and mitigations at features of cultural heritage interest.

8.0 Recommendations

The report finds no archaeological constraint to the project proceeding.

8.1 Pre-construction recommendations

No further archaeological measures are required prior to construction commencing.

8.2 Construction phase recommendations

As part of the construction stage works, the following mitigation measures are recommended:

- The standing wall remains of the former railway station lies just outside the site boundary. It should be protected from the danger of accidental impact during construction works.

- Subject to impact proposals, archaeological observation and recording is recommended of the construction of the old quay wall. Such inspection work should be conducted by an experienced maritime archaeologist.

- Archaeological monitoring of the dredge works is recommended, with the proviso to resolve fully any material of archaeological interest recovered at that point.

8.3 Management recommendations

Appoint an experienced maritime archaeologist to advise the project team on archaeological and cultural heritage matters during construction; to acquire any consents required to conduct the work; to supervise and direct the archaeological measures outlined above in Section 8.2.

THE TIME SCALE for the construction phase should be made available to the archaeologist, with information on where and when the various elements and ground disturbances and dredging will take place.

SUFFICIENT NOTICE. It is essential for the developer to give sufficient notice to the archaeologist/s in advance of the construction works commencing. This will allow for prompt arrival on site to undertake additional surveys and to monitor ground disturbances. As often happens, intervals may occur during the construction phase. In this case, it is also necessary to inform the archaeologist/s as to when ground disturbance works will recommence.

DISCOVERY OF ARCHAEOLOGICAL MATERIAL. In the event of archaeological features or material being uncovered during the construction phase, it is crucial that any machine work cease in the immediate area to allow the archaeologist/s to inspect any such material.

ARCHAEOLOGICAL MATERIAL. Once the presence of archaeologically significant material is established, full archaeological recording of such material is recommended. If it is not possible for the construction works to avoid the material, full excavation would

be recommended. The extent and duration of excavation would be a matter for discussion between the client and the licensing authorities.

ARCHAEOLOGICAL TEAM. It is recommended that the core of a suitable archaeological team be on standby to deal with any such rescue excavation. This would be complimented in the event of a full excavation. The team should include provision for an archaeological dive team, in the event that discoveries are made underwater during dreding.

SECURE SITE OFFICES and facilities should be provided on or near those sites where excavation is required.

SECURE WET AND DRY STORAGE for artefacts recovered during the course of the monitoring and related work should be provided on or near those sites where excavation is required.

ADEQUATE FUNDS to cover excavation, post-excavation analysis, and any testing or conservation work required should be made available.

MACHINERY TRAFFIC during construction must be restricted as to avoid any of the selected sites and their environs.

SPOIL should not be dumped on any of the selected sites or their environs.

PLEASE NOTE: All of the above observations and conclusions are based on the archaeological information and information supplied for the Greenore Port Berth 2 project provided. Should any alteration occur, further assessment would be required.

Recommendations are subject to the approval of the National Monuments Service at the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

9.0 Acknowledgements

ADCO acknowledges the assistance of Paula Galvin of McCutcheon Halley, and Niall McCarthy and his staff at Greenore Port for facilitating site access. Site work was conducted by Niall Brady, Rex Bangerter, Feargal Morrissey and Brian MacAllister. The report was prepared by Brady.

Plate 1: Historic photograph of Greenore quayside looking north, showing the railhead. Source: National Library of Ireland, Robert French, 1841-1917.

Plate 2: Historic photograph of the Hotel at Greenore.

Source: National Library of Ireland, James Green, 1990-91.

Plate 3: View showing diver being lowered in steel cage from quayside, with tender.

Plate 4: View looking North along deck of current quayside.

Plate 5: View looking East across intertidal foreshore at south end of the Port, showing the concrete caissons placed along the former beach area to facilitate reclamation for the Port.

Plate 6: View looking southwest from the south end of the Port, looking towards the oyster beds at Low Water. The oyster bed in the near-ground appears to be disused and abandoned.

Plate 7: View looking northeast over stacks of steel to the standing remnant of the railway building.

Plate 8: View looking north-northwest across central portion of the Breakwater feature to the west of the quayside, at Low Water. The solid rock-armoured base supports an open-work lattice of concrete members that are exposed at High Water, and may have held a deck in former times.

Plate 9: View looking towards the north end of Berth 2, showing it is recessed from the façade of Berth 1. In the proposed development, the new façade of Berth 2 will be flush with that of Berth 1, offering a continuous quay wall.

Plate 10: View from Berth 1 looking south along the façade of Berth 2.

Plate 11: View at the south end of Berth 2, showing the base of the concrete deck than is placed on top of the stone-built quay. The picture also shows the scour that has developed at this junction, producing a large cavity.

Plate 12: View at south end of Berth 2, showing the façade of the stone-built quay.

Plate 13: View along the façade of the stone-built quay, showing the cut stone blocks and the projecting jamb stones in the upper level spaced at regular intervals to secure the vertically-set timbers used as fenders.

Plate 14: View looking down from quayside at the embrasure feature built in front of the stone quay at its southern end, to act as an armoured protection.

Plate 15: Underwater image showing the nature of the seabed within the dredge footprint.

Plate 16: View showing example of the eroded tips of timbers associated with the timber shuttering observed at the south end of Berth 2.

Figure 1: Location of Greenore, highlighted in red.
Source: OSi 1:50,000 series

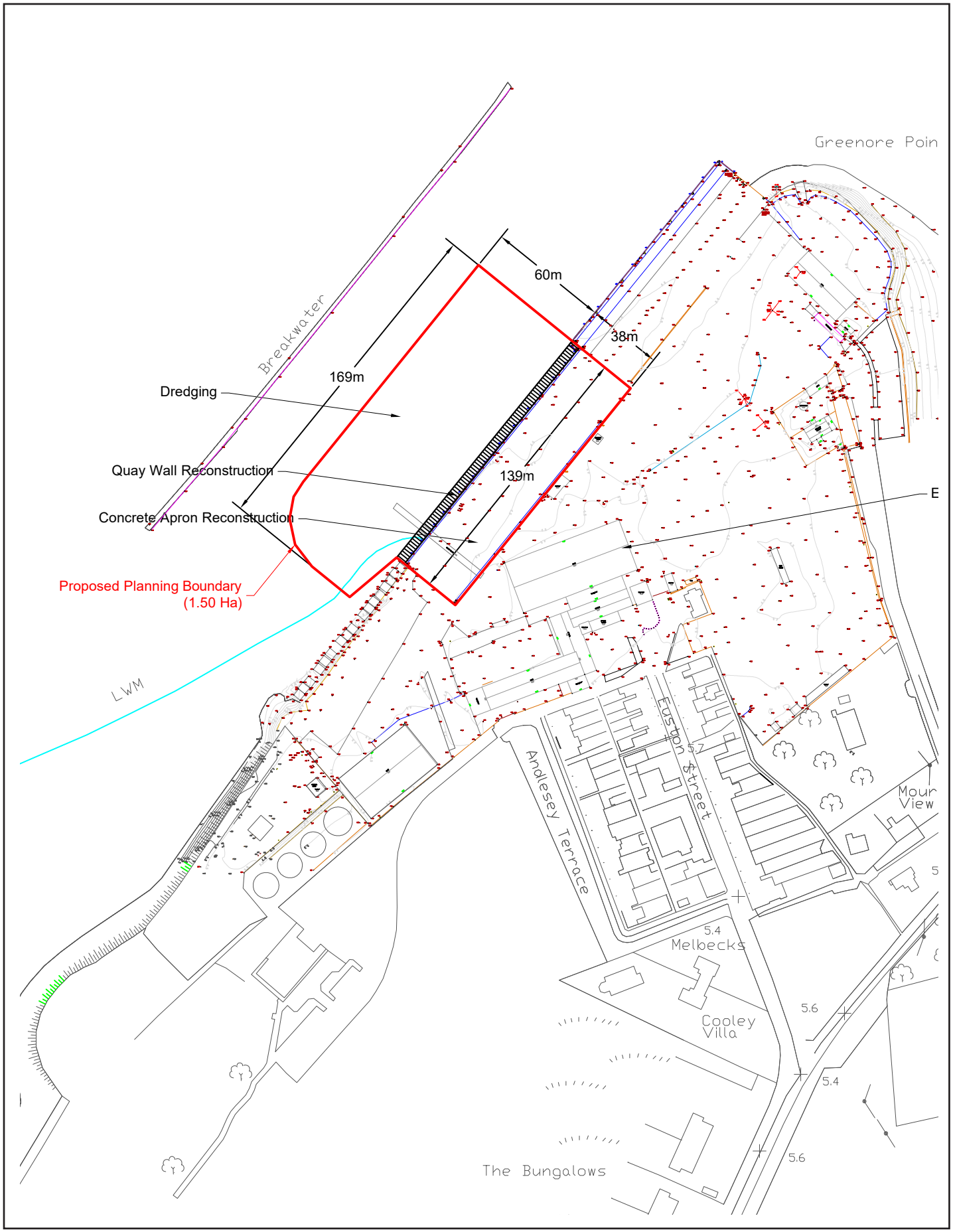

Figure 2: Detail from Project Drawing C983/PP/1 Layout Plan, showing proposed development.

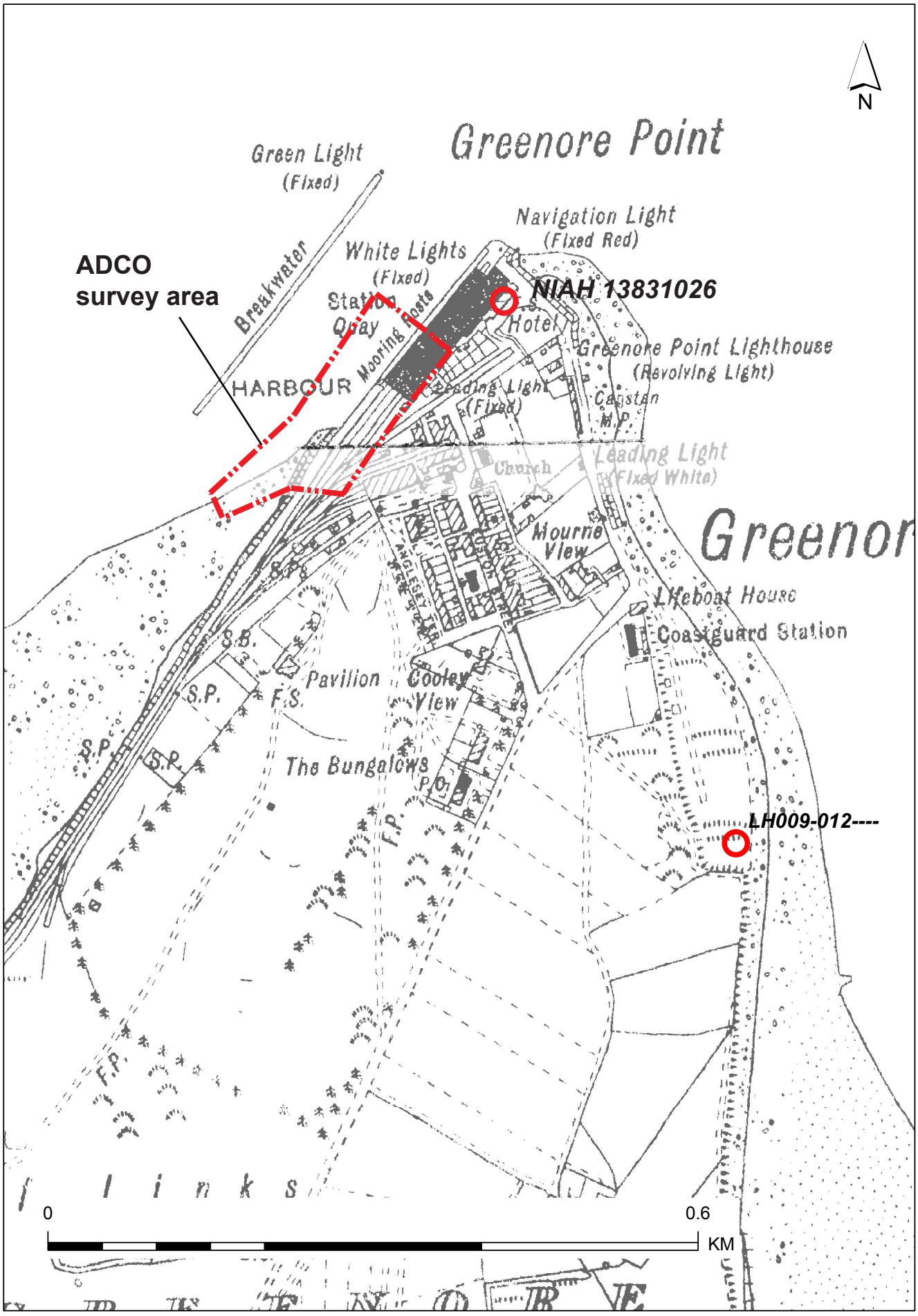

Figure 3: Distribution of archaeological sites at Greenore, with ADCO survey area and NIAH site within the port area indicated.