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Gifford

GRAVESEND PIER PONTOONS

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

Report for:
Gravesham Borough Council

REGISTERED ORGANISATION IfA

Commercial-in-Confidence

GRAVESEND PIER PONTOONS

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

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GRAVESEND PIER PONTOONS

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

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Front cover: View of the Town Pier from the river, 2003 (N. Cohen)

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1. INTRODUCTION

1.1 This archaeological Desk-Based Assessment (DBA) has been prepared to inform the proposed addition of a pontoon and canting brow to the Town Pier at Gravesend in the County of Kent (Figure 1). The report has been commissioned by Thomas Ford and Partners on behalf of Gravesham Borough Council to support applications for a Riverworks licence under Section 66 of the Port of London Act 1968 (as amended) and a DEFRA Food and Environment Protection Act (FEPA) licence. The aim of the DBA is to determine the archaeological potential of the area affected by the proposed construction, and to ascertain the potential impacts on any surviving below-ground archaeological remains arising from the works. This report describes the findings of a review of publicly available sources of information and initial consultation with the archaeological advisor to the Local Planning Authority.

1.2 The pier (centred at National Grid Reference TQ 6479 7449) extends north into the River Thames, on the projected alignment of High Street (Figure 2). The description of the site visit (Section 7) provides further detail of the site layout.

1.3 At the time of writing, the development proposals for the site comprise the construction of a new pontoon, access brows and approach jetty. Construction of the pontoon will involve the installation of three large mooring piles and two dolphin piles and the brow and jetty structure will have eight small piles.

1.4 This report has been prepared solely for the use of the Client, and should not be relied upon by, or transferred to, any party without the prior written authorisation of Gifford. The findings and opinions in the report are based upon information derived from a variety of information sources, which Gifford believe are reliable. Gifford, however, cannot accept any liability for the accuracy or otherwise of any information derived from Envirocheck, the Kent CC HER, or any other source.

2. METHODOLOGY

2.1 This DBA collates written and graphic evidence to identify the likely character, extent, quality and significance of the known or potential archaeological resource. The purpose of this DBA is to gain information about the potential archaeological resource on the site, in order to be able to assess the likely impact of a proposed development and enable strategies for the mitigation of any impact on the archaeological resource to be formulated. English Heritage (1999, 12) state that the objective of an assessment is to make full and effective use of existing information in establishing the archaeological significance of a site and the impact of any development proposals. An assessment is based upon and serves to inform professional judgements, relying upon interpretation through experience and expertise of indicators relating to the defined states of the resource (Darvill et al 1995, 7).

2.2 This document does not purport to be a full desk-based assessment as recognised by IFA since detailed research into the history of the construction, alteration and repair of the pier itself was excluded from the brief by the client.

2.3 This report will provide evidence of the geological and topographical background, plus the cartographic, historical and archaeological background to the proposed development site.

In compiling this information it is possible to make an assessment of the archaeological potential of the site.

2.4 The sources of information consulted in the preparation of this report include:

- A site visit undertaken on 14th September 2009;
- 1000m radius search for archaeological sites and listed buildings on the Kent County Council HER.
- examination of available historic maps relevant to the site;
- research in published works relevant to the history of the area;
- research conducted at Gravesend Library
- research in local and national archaeological journals;
- research of archaeological site reports for adjacent sites, and;
- examination of photographs and other images held at Gravesend Library

2.5 Abbreviations

The following abbreviations are used in this report:

ASE	Archaeology South East (South Eastern Archaeological Services)
CAT	Canterbury Archaeological Trust
DBA	Desk-Based Assessment
EH	English Heritage
IFA	Institute for Archaeologists
KARU	Kent Archaeological Rescue Unit
LPA	Local Planning Authority
MoLA	Museum of London Archaeology (Service)
NA	National Archives
OD	Ordnance Datum
OS	Ordnance Survey
PCA	Pre-Construct Archaeology
PPG	Planning Policy Guidance
RCHME	Royal Commission on the Historical Monuments of England
UDP	Unitary Development Plan
VCHK	Victoria County History of Kent
WA	Wessex Archaeology

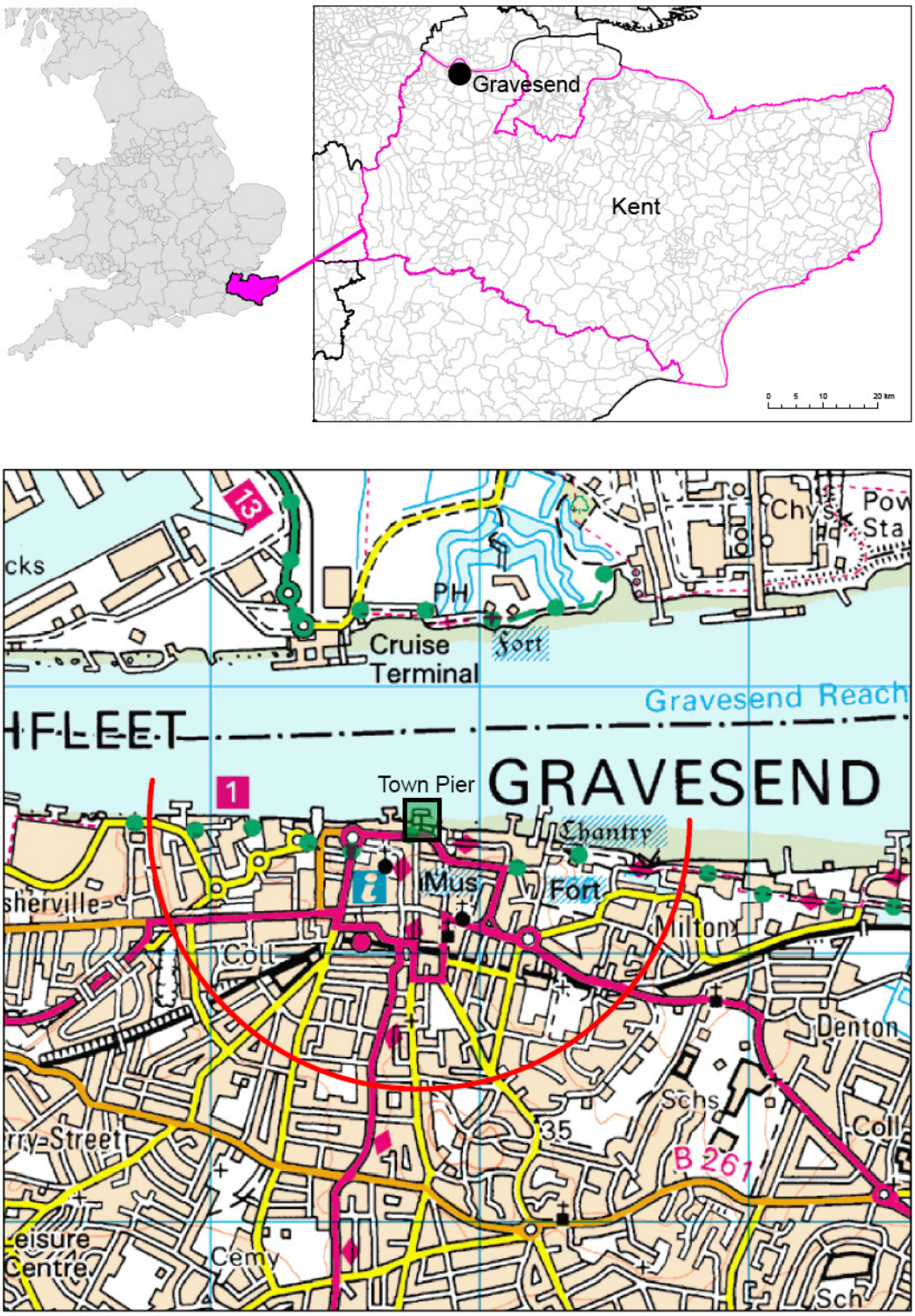

Figure 1: Site Location

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3. PLANNING BACKGROUND

3.1 National Planning Guidance:

3.1.1 Archaeology and Planning (PPG16)

The commissioning of an archaeological desk-based assessment is often the first step in the process of consultation between developers and local authorities. Archaeology is, as a result of the publication of *Archaeology and Planning, Planning Policy Guidance 16* (PPG 16, Department of Environment 1990), a material consideration in the granting of planning consent. PPG 16 provides planning authorities with a staged approach to the consideration of archaeological remains that may survive on a proposed development site and states that where there are *nationally important archaeological remains … that are affected by a proposed development there should be a presumption in favour of their physical preservation (ibid.*, A8). Where preservation *in-situ* is considered to be necessary, *the result of the desk-based assessment should* (whether sites are scheduled or not) *influence the design of the development in order to preserve or protect a monument or remains* (English Heritage 1999, 12). *In their own interests, therefore, prospective developers should include as part of their research into the development potential of a site, which they undertake before making a planning application, an initial assessment of whether the site is known or likely to contain archaeological remains* (Department of Environment 1990, B19).

PPG 16 identifies the need for early consultation in the planning process with the aim of determining the impact of construction schemes upon buried archaeological strata. Where archaeological features are likely to be encountered, strategies should be developed to deal with them. The results of desk-based assessment, combined with on-site archaeological evaluation, can form the basis upon which an informed decision on the necessity or otherwise for further archaeological mitigation strategies to be developed. These may include preservation *in situ*, by limiting development impact or preservation by record (by excavation).

3.1.2 Planning and the Historic Environment (PPG15)

This contains advice for developers and local planning authorities in the consideration of planning proposals that might affect conservation areas, listed buildings, locally-listed buildings, other buildings of historic or architectural interest, or their settings. Paragraph 2.14 deals with the design of new buildings to stand alongside historic buildings. Paragraphs 2.16 to 2.17 identify the importance that Government attaches to a consideration of any potential effects by development on the setting of listed buildings. Paragraphs 3.22-3.24 discuss the recording of the buildings, in the event of alteration or demolition, to create a record of the original nature of the structures, prior to change. Paragraphs 4.1-4.8 address the creation and protection of conservation areas. Paragraph 4.14 addresses the consideration of planning proposals outside a conservation area that might affect its setting and paragraphs 4.17-4.20 address development on gap sites in conservation areas and criteria for planning decisions.

3.1.3 The Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990

Section 7 refers to works affecting listed buildings. Section 16 addresses decision-making of applications affecting listed buildings. Section 66 similarly addresses these issues. Section 69 of the Act requires local planning authorities to designate conservation areas to protect areas of special architectural or historic interest. Section 72 requires local authorities to pay special attention to the desirability of preserving or enhancing the character or appearance of conservation areas.

3.1.4 Guidance on the Management of Conservation Areas, English Heritage 2006

This provides guidance on the assessment of special interest which includes consideration of matters such as: conservation area policy, special architectural or historic interest, management of conservation areas, regeneration and enhancement.

3.2 Regional Planning Policy:

3.2.1 The South East Plan (SEERA, deposited September 2008)

Policy BE7: Management of the Historic Environment addresses the creation and adoption of policies by local authorities to support the conservation of and where possible enhance the historic environment.

3.2.2 The Kent and Medway Structure Plan (adopted 2006)

This contains the following policy on archaeological sites:

Policy QL6: Conservation Areas requires developments to preserve or enhance the character and appearance of conservation areas.

Policy QL7: Archaeological Sites:

The archaeological and historic integrity of scheduled ancient monuments and other important archaeological sites, together with their settings, will be protected and, where possible, enhanced. Development which would adversely affect them will not be permitted.

Where important or potentially important archaeological remains may exist, developers will be required to arrange for archaeological assessment and/or field evaluation to be carried out in advance of the determination of planning applications.

Where the case for development affecting an archaeological site is accepted, the archaeological remains should be preserved *in situ*. Where preservation *in situ* is not possible or justified, appropriate provision for preservation by record will be required.

Policy QL8: Developments must preserve or enhance the architectural and historic integrity of listed buildings and the character of their settings.

Policy QL9: Development must preserve or enhance the historic and archaeological importance, landscape character and physical appearance of historic landscapes, parks and gardens.

Policy QL10: Development will be permitted only where this is the sole means of protecting and securing the long-term future of a heritage asset.

3.3 Local Planning Policy:

3.3.1 Gravesham Local Plan First Review (1994) and Second Review (2000) Saved Policies and the Gravesend Heritage Quarter Development Brief (2005)

In the review of policy system as part of the Planning and Compulsory Purchase Act 2004, the local policies were saved between 2004-2007, while compilation of an LDF was undertaken. However, it seems that the LDF is not yet complete and in the interim, a 'Second Review' of the Gravesham Local Plan holds existing policies to be used for planning applications. Policies BE2 – BE6 address Conservation Areas, while policy BE7 addresses listed buildings, policy BE8 addresses locally-listed buildings and policy BE11 addresses historic parks and gardens. Policy BE9 addresses Scheduled Ancient Monuments and policy BE10 addresses locally important archaeological sites. Policy BE12 addresses new development, alterations and extensions, policy BE16 addresses vacant sites and buildings at risk and policy BE 17 addresses enabling developments. Relevant extracts are below:

Policy BE4 New Development within or adjacent to Conservation Areas
Development, including change of use, within or adjacent to a conservation area will normallyonly be permitted if all of the following criteria are met:
i. the scale, form, materials and detailing of the proposal respect the characteristics of buildings in the conservation area;
ii. where on existing buildings, local or regional architectural features are maintained;
iii. the proposal incorporates a high standard of quality and design;
iv. historically significant boundaries and other elements contributing to the established pattern and 'grain' of development in the area are retained and respected in new development proposals;
v. the position of the building on its site relates well to that of surrounding buildings;
vi. the development does not adversely affect important open spaces, the streetscape, roofscape, skyline, and setting of the conservation area, or significant views within, into or out of it;
vii. the development either makes a positive contribution to the character or appearance of the conservation area or leaves its character or appearance unharmed; and
viii. trees and other landscape features contributing to the character or appearance of the conservation area are retained and protected.
The Borough Council will expect applications for development in or adjacent to a conservation area to contain sufficient details to enable the impact of the proposal upon the conservation area to be assessed and will not normally grant outline planning permission for such proposals.
Within conservation areas the Borough Council will, wherever possible, encourage the highway authority to undertake highway improvements and maintenance in a manner sensitive to the character and appearance of the area and will seek the implementation of environmental enhancement schemes in appropriate locations.
The Borough Council will encourage proposals to preserve or enhance the character or appearance of conservation areas, including the removal of buildings, structures and features which detract from those areas.

Policy BE5 Alterations and Extensions to Buildings in Conservation Areas
Proposals to alter or extend a building in a conservation area which require planning permission will be permitted only if all of the following criteria are met:-
i. the design, scale, proportions, colour, materials and landscaping are sympathetic to the rest of the building;
ii. the alteration will help to keep the building in use and will not prevent the use of the upper floors;
iii. traditional features are retained and, where necessary, restored; and
iv. the alteration or extension will preserve or enhance the character and appearance of the conservation area.
The removal of traditional shopfronts in conservation areas will be resisted and the design of new shopfronts and advertisements will be expected to comply with and will be judged against the criteria set out in the Borough Council's Shopfront Design Guide which forms supplementary planning guidance. The installation of solid metal external security roller shutters will be resisted. The Borough Council has published supplementary planning guidance on Security Measures for Shopfronts and Commercial Premises.
Alterations and extensions will be expected to reflect the advice contained in design guidance issued by the Borough Council which will form supplementary guidance to this Plan.
The Borough Council will introduce Article 4(1) and 4(2) Directions, subject to the necessary confirmation, where it is evident that conservation areas are being adversely affected by changes taking place as a result of permitted development rights.
The Borough Council will resist minor alterations to buildings in conservation areas which do not have permitted development rights (for example the replacement of original traditional joinery with modern equivalents such as plastic or aluminium) where these would have a negative impact on the character or appearance of the conservation area. All proposals for alterations to buildings which contribute to the character and appearance of the conservation area will be expected to preserve or enhance them.

Policy BE6 Vacant or Underused Sites in Conservation Areas
The Borough Council will prepare development briefs as resources allow and encourage the sympathetic redevelopment of sites which currently detract from the character or appearance of a conservation area.

Policy BE7 Statutorily Listed Buildings
Proposals will not be permitted for the following:
i. the demolition or partial demolition of a listed building, except the removal of later modern additions which are of no historic or architectural interest, where there is no overall damage to the listed building or its setting and where no harm is caused to the setting of any other listed building, the character of a street-scene or the character of a conservation area. In those few cases where the Borough Council is satisfied that there is no alternative but to grant consent for demolition, all available means will be used to secure early and appropriate redevelopment of the site;
ii. the internal or external alteration or extension or change of use of a listed building, if this would in any way adversely affect its architectural and historic interest, character, or setting. The primary consideration will be the maintenance of the integrity of the original listed building. Proposals will be expected to be sympathetic to the listed building in terms of massing, scale, appearance and materials. Applications for the change of use of listed buildings will be considered on their merits, in relation to the land use policies set out in this Local Plan Review. A major consideration will be whether the character or appearance of the listed building will suffer as a result;
iii. the erection of a new building or other structure, or the use of land, where this would adversely affect the character or setting of a listed building;
iv. the installation of UPVC, aluminium, or any other unsympathetic doors or windows, satellite or other antennae, advertisements, security shutters or other fitments, on a listed building, where they would adversely affect its architectural or historic interest, or its character;
v. the removal of natural roofing materials from the roof of a listed building, and their replacement with alternative modern materials; or

vi. the introduction of architectural features or materials removed and imported from another building, unless information is produced on the source of the feature or material.
The Borough Council will act to halt the further decay of listed buildings at risk and to encourage their sympathetic repair and re-use.
In cases where the demolition or partial demolition of a listed building is permitted, the proper recording of the building will be required before any changes take place.
Proposals for alterations or changes of use to listed buildings will not be permitted unless they are accompanied by sufficient information to enable a full and proper consideration of their effect. This will always include full survey drawings and, in some cases, photographs of the affected areas. In most cases, applications must be supported by a full justification for the works and further information on the economics of the proposals may be required.

Policy BE9 Scheduled Ancient Monuments, Sites of Archaeological Interest and other Historic Sites
Development which would adversely affect a Scheduled Ancient Monument or other nationally important monument, historic landscape or archaeological site or its setting will not be permitted.

Policy BE10 Locally Important Archaeological Sites
Development on locally important archaeological sites will not normally be permitted. On archaeological sites where permanent preservation is not warranted, applications will normally be refused unless arrangements have been made by the developer to ensure that time and resources are available to allow satisfactory archaeological investigation and recording of the site by an approved archaeological body, to take place in advance of or during development.
The specification and programme of work for the archaeological investigation, including its relationship to the programme of development, are to be submitted to and approved by the Borough Council. In order to determine a planning application, the Borough Council may require the developer to provide additional information, in the form of an assessment of the archaeological or historic importance of the site in question and the likely impact of development.
In certain cases, such an assessment may involve an evaluation excavation. Preservation in situ will be favoured by the Borough Council in most cases.

Policy BE12 Design of New Development, Extensions and Alterations
A high standard of layout, design and materials will be expected for all new development. The Borough Council will not normally permit proposals for new developments which cause harm to interests of acknowledged importance. Applications will be considered in accordance with the following design principles:
i. the scale, massing, height, and proportions of the building should normally be in keeping with their surroundings;
ii. the design of new developments should accord with the principles of the Kent Design
Guide and, in the case of residential development, with Policies H3, H4 and H5 of this
Plan and with the Borough Council's Residential Layout Guidelines, unless this can be shown to contradict (1) above (for high, medium and low density developments);
iii. the design of any alteration or extension shall respect the character and appearance of the existing building and should normally be subservient to it in terms of scale, massing and height. The proposal should not adversely affect the privacy and amenity of adjoining residents or have a detrimental effect on the street-scene. In pursuance of this policy the following criteria will apply:-
a. extensions should not cause undue overshadowing of neighbouring property and
should allow adequate light and ventilation to existing habitable rooms within the building; single storey extensions should be designed so as to fall within a 45 degree angle from the centre of the nearest ground floor window of a habitable room or the kitchen of a neighbouring property. In the case of two storey extensions, the 45 degree angle will be taken from the closest quarter point of the nearest ground floor window of a habitable room or kitchen;

b. side extensions may be added to detached or semi-detached dwellings where space is available unless this will cause a “terracing” effect. A minimum distance of 1 metre should normally be maintained from the boundary and any part of the extension above single storey level;
c. planning permission will not be granted for flat-roofed single storey extensions, unless the proposed extension would not be generally visible from a public place.
Planning permission will not normally be granted for flat-roofed extensions at first floor level or above, unless the main roof of the building is also flat or the extension is to an historic building and is consistent with the style, age and character of the main building; and
d. planning permission will not normally be granted for loft conversions requiring dormer extensions which are large in proportion to the existing roof. Planning applications for extensions in roof spaces which front the highway will normally be refused where the proposed structure would damage the character of the existing building or the street scene.
iv. materials used should be of good quality, sympathetic to the area and, wherever possible, should be from sustainable sources;
v. planning applications for new buildings or extensions should demonstrate the use of sustainable design principles, consistent with an acceptable standard of external appearance, and shall indicate how the privacy and amenity of future occupiers and neighbouring residents is to be respected in terms of both overlooking and loss of daylight/ sunlight;
vi. details of landscaping shall be submitted with the planning application, and should be of a high quality, incorporating native tree species wherever possible. Existing trees of amenity value should be retained;
vii. adequate access should be provided to and into the building and areas accessible to the general public for wheelchair users, other people with disabilities, elderly people and those with young children; and
viii. the proposal should have regard to Circular 5/94 (Planning Out Crime) or other subsequent Government advice on this subject.

Policy BE16 Vacant Sites and Buildings at Risk
The Borough Council will encourage the environmental improvement and re-use of vacant and underused buildings and sites. It will also seek to have vacant buildings and sites maintained in a condition where they make a positive contribution to the appearance of the area.
In cases of severe or deliberate dereliction, the Borough Council will also consider the use of statutory enforcement powers to improve the condition and appearance of such sites and buildings.
The Borough Council will maintain a register of historic “buildings at risk” in respect of listed buildings, local interest buildings and conservation areas, in order to co-ordinate action.

Policy BE17 Enabling Development
There will be a general presumption against enabling development which affects the heritage asset’ and which does not meet all of the following criteria:
i. the enabling development will not materially detract from the archaeological, architectural, historic or landscape interest of the asset, or materially harm its setting;
ii. the proposal avoids detrimental fragmentation of management of the heritage asset;
iii. the enabling development will secure the long term future of the heritage asset, and, where applicable, its continued use for a sympathetic purpose;
iv. the problem arises from the inherent needs of the heritage asset, rather than the circumstances of the present owner or the purchase price paid;
v. financial assistance is not available from any other source;
vi. it is demonstrated that the amount of enabling development is the minimum necessary to secure the future of the heritage asset, and that its form minimises disbenefits; and
vii. the value or benefit of the survival or enhancement of the heritage asset outweighs the long-term cost to the community (that is the disbenefits) of providing the enabling development.
If the above criteria are satisfied the Borough Council will only grant planning permission if:-
viii. the planning application is in full rather than outline form and the impact of the development is precisely defined at the outset;

ix. the achievement of the heritage objective is securely and enforceably linked to it, for example by a Planning Obligation; and
x. the heritage asset is repaired to an agreed standard, or the funds to do so made available as early as possible and at least before completion.
The Borough Council will closely monitor implementation and, if necessary, act promptly to ensure a satisfactory outcome.

3.4 Known Cultural Heritage Constraints

The Town Pier is Grade II* listed.

It is within High Street Conservation Area – designated in 1992. The pier forms a group with No's 2 to 5 (consecutive), Town Pier and the Three Daws Public House, High Street.

It is 228m west of Gravesend Block House SAM (KE379), 495m west of New Tavern Fort / Milton Chantry SAM (24358) and 610m south of Tilbury Fort SAM (26309) on opposite bank.

4. GEOLOGICAL AND TOPOGRAPHICAL BACKGROUND

4.1 The coastline of Kent is under constant change but dramatic changes occurred due to rising sea levels, since the end of the last Ice Age, c.10,000 years BP. As the Thames estuary filled, valleys were lost beneath the waters (Lawson and Killingray, 2004, 1-3). Gravesend lies in the north of the county of Kent, to the east of the town of Northfleet, close to the south bank of the river Thames, on land which rises from the Thames foreshore to 20m OD at the south end of the High Street. The settlement stands on a bed of upper chalk, with outcrops of brickearth, and alluvial deposits to the east, and a band of the Thanet beds to the south (Figure 2) (KCC/EH, 2004, 1).

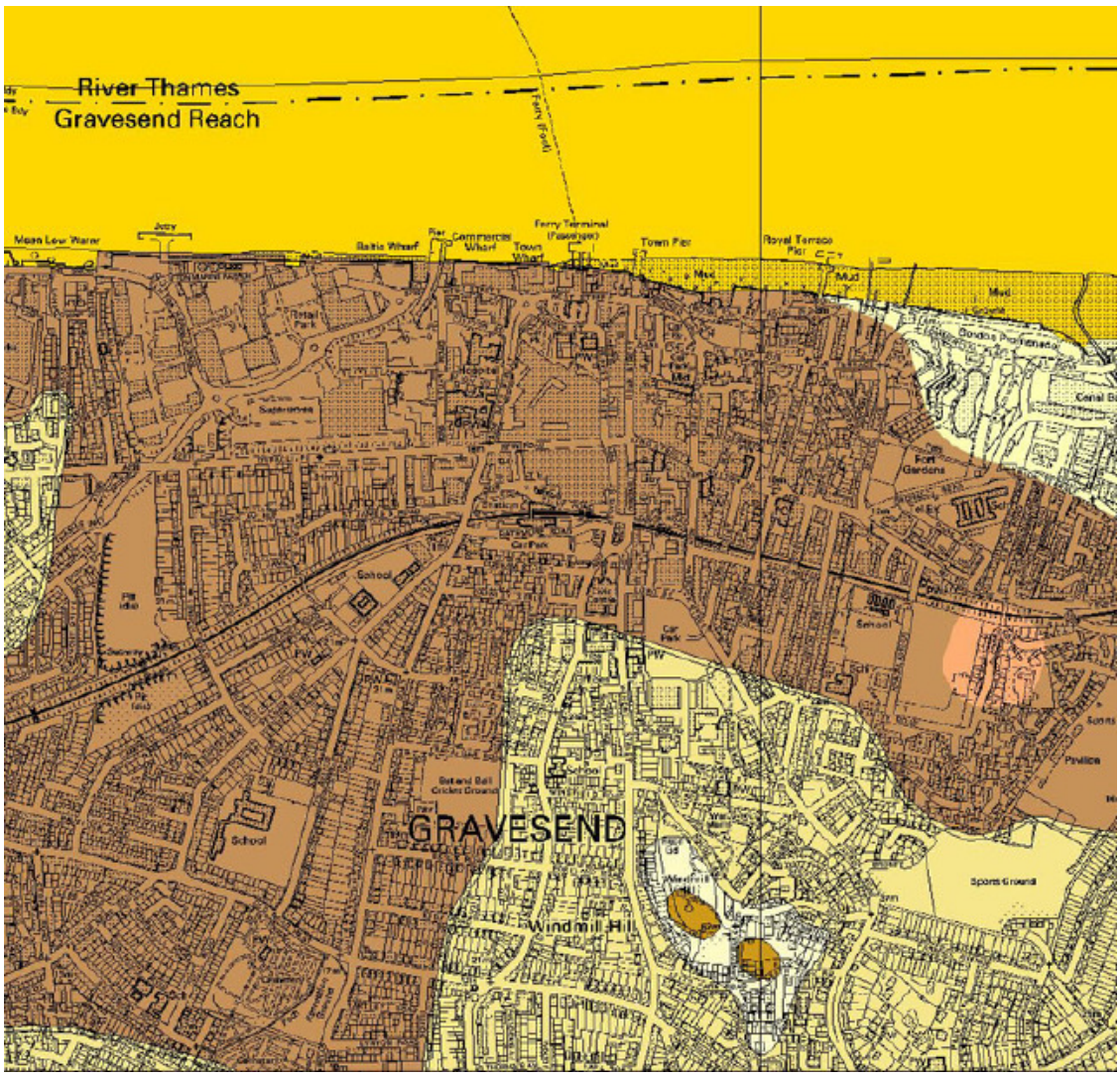

Figure 2: Geology (from KCC/EH, 2004, Fig 2)

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5. CARTOGRAPHIC RESEARCH

5.1 Introduction

This section investigates the development of the site and its immediate surrounding area through study of cartographic evidence. The methodology used entails tracing the extent and alignment of the existing site boundaries and buildings and comparing these with earlier published maps. The evidence is presented below as a chronological progression in order to trace changes to the site.

5.2 Medieval

The medieval settlement appears originally to have had two components: the parish church and manor at a road junction *c.* 1km south of the present town (beyond the extent shown on Figure 3), and a group of dwellings and wharves on the coast. After 1066, the riverside settlement developed, with wharves lining the bank and probably a street running parallel to it (present day West Street, Crooked Lane and Royal Terrace). The High Street ran down to the Thames at right angles and was probably flanked by tenement plots. The medieval plan of Gravesend conforms to that of many ports, with its waterside lined by wharves and backed by a slightly sinuous street reflecting the original waterfront (marked as No 2 on Figure 3). Other numbers on Figure 3 refer to components of the medieval settlement layout, as defined by the English Heritage / Kent County Council assessment of the historic town (2004). Further streets ran at right angles away from river. Important features such as the later manor, market and church (or chapel in the case of Gravesend) stood within easy access to the riverfront but away from any possibility of flooding (KCC/EH, 2004, 17). Thus it is likely that the 19th-century Town Pier structure lies to the north of the medieval and earlier waterfront i.e. within the river channel. Medieval West Street is first mentioned in documentary sources in 1418, while High Street is recorded as the 'Kings Way' in 1456 (Towncentric, 2000, 6).

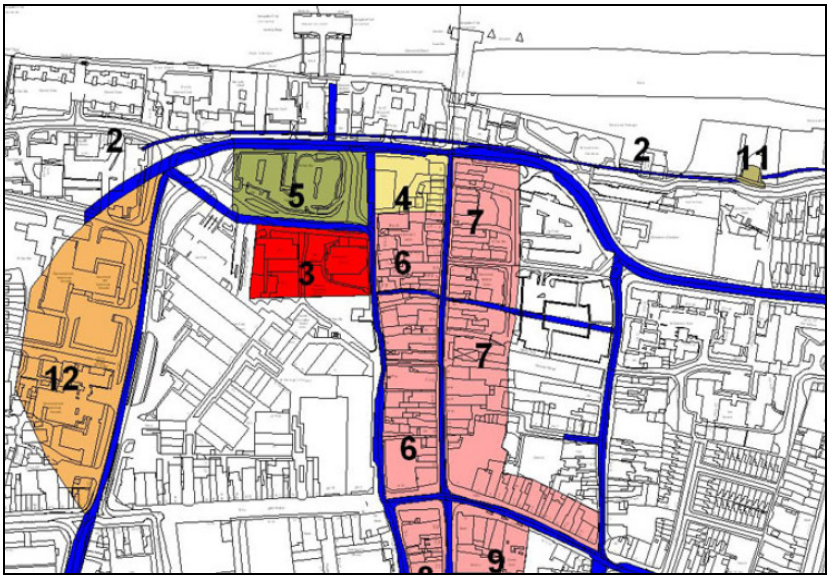

Figure 3: Medieval Gravesend (from KCC/EH, 2004, Fig 13)

5.3 Post-medieval

During the 16th to early 19th centuries the essential medieval plan form of Gravesend was largely retained although virtually all the medieval and early post-medieval buildings were destroyed by fire. Land reclamation pushed the riverbank further north to provide a new waterfront with piers, quays, wharves, hotels, gardens etc. This process of reclamation probably began as early as the late 15th century in the immediate vicinity of the Town Pier / Quay as the two public houses flanking the access to the pier are recorded from this date (see Section 6.4). Hasted's map of 1797 shows the closely set street pattern of the riverside settlement (Figure 4); no structures are clearly visible on the foreshore itself, however, the alignment of the High Street clearly marks the routeway from land to river. The grid layout of the town core is noteworthy, possibly indicating some degree of settlement planning during the preceding period.

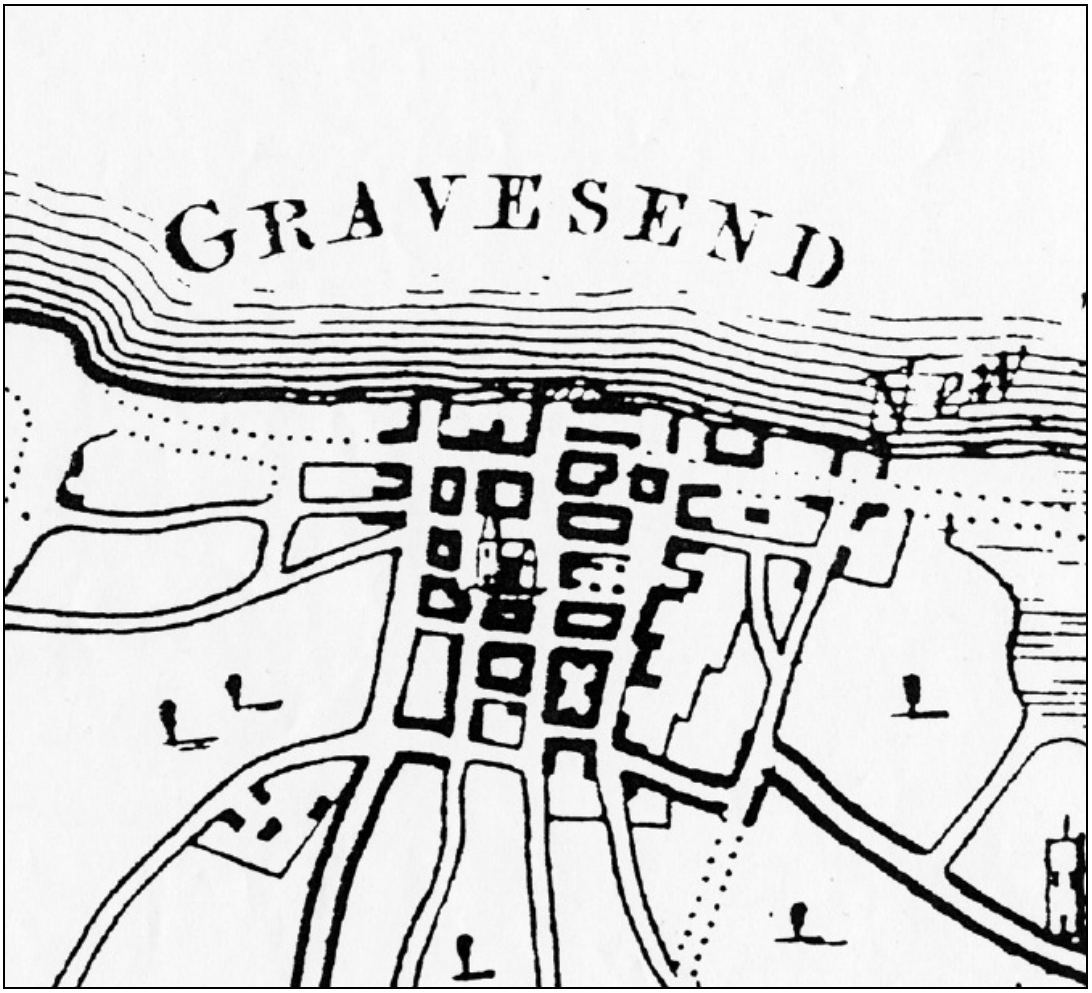

Figure 4: Detail from Hasted's plan of 1797

Gradual urban growth in the 18th and early decades of the 19th century accelerated after 1840, to cater for both the influx of visitors and the town's own population. A map of *c.* 1826 (Figure 5) shows that the town was then confined mainly to the area bounded by Bath Street in the west, New Tavern Fort in the east, and New Road and King Street to the south. The small settlement was surrounded by orchards, market gardens and open countryside, and differed little from the town of the previous century (Figure 4). For the first time, the structures along the foreshore are shown, giving an indication of the density of waterfront activity associated with the maritime settlement. The development of these structures is likely to relate to a range of industries including fishing (particularly associated with Bawley Bay), brewing and the loading / unloading and trans-shipment of freight and passengers.

Figure 5: Extract from 1826 map

In 1835, the size of the settlement was still largely unchanged but thereafter the growing popularity of Gravesend as a resort led to an economic boom and the 1874 Ordnance Survey map (Figure 6) shows increasing urbanization of the hinterland beyond the original town boundaries, together with increasingly dense construction within the historic core. The Town Pier is clearly shown; this was constructed by 1834, in response to increasing demand for embarkation / disembarkation facilities for Long Ferry passengers (see Sections 6.5 and 7.1).

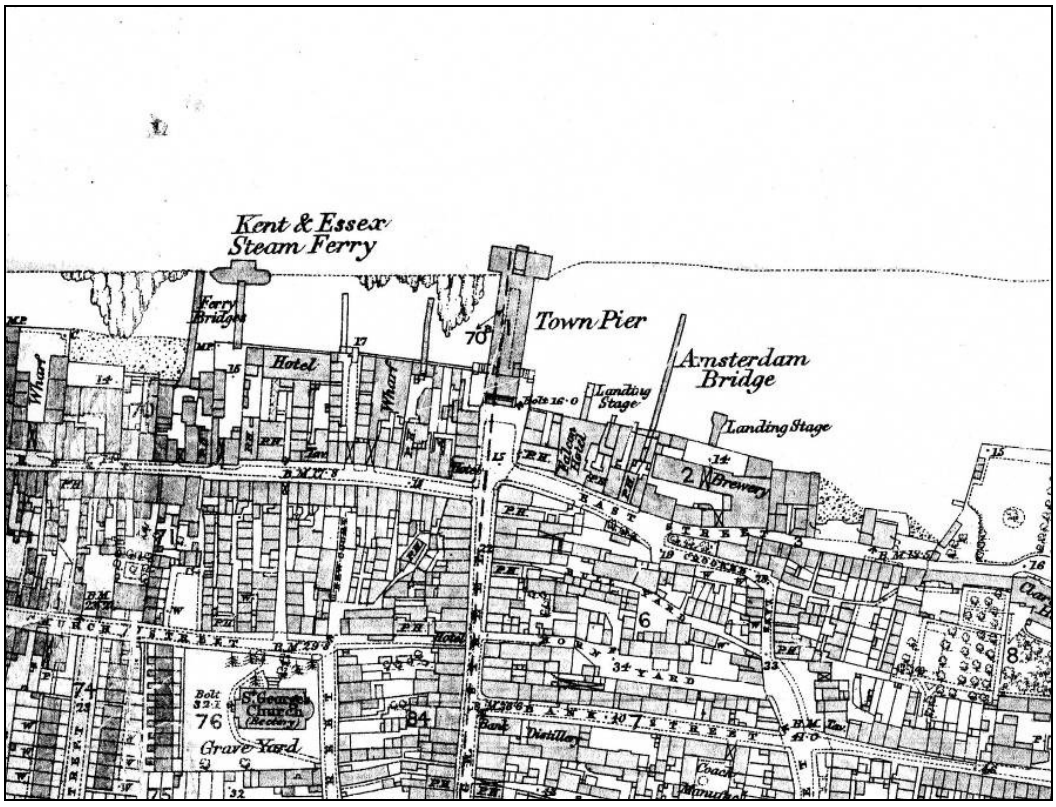

Figure 6: Extract from the 1874 Ordnance Survey map

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6. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Palaeolithic	400,000 – 10,000 BC
Mesolithic	10,000 – 4,000 BC
Neolithic	4,000 – 2,000 BC
Bronze Age	2,000 – 700 BC
Iron Age	700 BC – AD 43
Roman	AD 43 – 510
Early Medieval	AD 510 – 1066
Late Medieval	AD 1066 – 1485
Post Medieval	AD 1485 – 1900
Modern	1900 – present

Table 1: Archaeological periods in Britain

6.1 Prehistoric (c. 520,000BC - AD43)

During the Lower Palaeolithic, early hominids were present at Swanscombe, c.4km west of Gravesend, with three pieces of skull found dating to c.423,000 BP. Middle Palaeolithic finds have been located between Northfleet and Gravesend, including Levallois flint flakes (Lawson and Killingray, 2004, 7). A group of Palaeolithic handaxes and debitage has also been recorded from the vicinity of Gravesend (HER No TQ 67 SW 436). Neolithic, Bronze Age and Iron activity is attested by antiquarian finds of a polished flint axe (HER No TQ 67 SE 26), a bronze age looped and socketed bronze axe (HER No TQ 67 SE 4) and a group of 15 coins respectively (HER No TQ 67 SE 5) from Gravesend town centre. The imprecise finds spots of this material indicate activity located some 500m from the modern day shoreline, however more recent archaeological investigations have demonstrated possible settlement from the Bronze Age c 400m southwest of the Town Pier (AA **7** and **AA 8**).

6.2 Roman (AD43 - AD450)

An extensive Romano-British occupation site was discovered south and west of St George's parish church, in 1979 (HER No TQ 67 SW 110) c 170m southwest of the Town Pier. Numerous ditches crossing the *c.* hectare area are thought to have been boundaries defining enclosures containing wooden structures. Evidence of timber buildings and fragments of roof tiles covered much of the area, and the discovery of *opus signinum* suggested that there had been at least one masonry building. A well-metalled Roman road was traced for at least 100m running north-south across the site, possibly leading from a riverside landing-place to the Roman town of *Vagniacae* (Springhead) to the south-west. Finds include quantities of local Romano-British and imported Roman pottery ranging in date from the 1st to 4th century AD. A Roman military origin must be considered for this important site. A 2nd-century Samian ware *patera* and other Romano-British remains were found near Gravesend town-centre in 1844 (HER No TQ 67 SE 3). The settlement at Gravesend may have functioned as an agricultural estate comparable with that at Northfleet 1.6km to the west (EH, KCC, 2004, 2).

Archaeological investigations at Gravesend and North Kent Hospital and Stuart Road (**AA 7** and **AA 8**) have provided more information regarding the possible extent of this

settlement – the excavations revealed boundary ditches and an inhumation (dating to the late Iron Age / Early Roman period) and evidence for a probable Roman field system.

6.3 Early Medieval (AD450 - AD1066)

The focus of early-mid Saxon activity (5th – 10th century) in the vicinity would appear to be around the western extent of the modern town, and towards Northfleet. Fire pits, and groups of pits and stakeholes, indicating settlement activity have been discovered during the PCA excavations (**AA 7** and **AA 8**) and 5th-century Saxon pottery has also been recorded further west at Perry Street (KCC/EH, 2004, 2). Documentary evidence provides evidence of estate management during the late 8th century when land at Northfleet came into the possession of the Archbishop of Canterbury, and a 9th-century coin hoard was found near the Pelham Arms in 1838. In 1975, the estate at Northfleet was more valuable than that of Gravesend or Milton, again indicating a focus further to the west (Towncentric, 2000, 5).

The origins of the place name probably date to the late Saxon period. It is first recorded as *Gravesham* in 1086, and could either derive from from the Saxon word *Gerefa* (the head man) and *ham* (settlement), ie. *Gerefa's settlement* (KCC / EH, 2004, 4) or from a derivation of the Old English *Graf* (grove) and *ende* (end) meaning at the *grove's end* (Ekwall, 1936, 194; Glover, 1976, 83).

Sometime during the late Saxon period a church, the original parish church of St Mary the Virgin, recorded in *Domesday,* was established immediately north of the junction of what are now Pelham Road and Old Dover Road, a significant location for east-west land communications; there is now no evidence for a settlement near to the church, and it has been suggested that St Mary's may have originally have been a chapel located at the old manorial centre. Around 1km south of the Thames there was, according to *Domesday,* one hythe. A further four hythes were located in Milton, and it is likely that there was a riverside settlement straddling the boundary between the two adjacent manors (KCC/ EH, 2004, 5). The Town Pier stands at the junction of the parishes of Gravesend and Milton, and it's identification as the location of the common hythe of the two parishes is significant; it has also been suggested that both the Cross and Long Ferry services were established at this time (Hiscock, 2006, 20).

6.4 Late Medieval (AD1066 - AD1550)

The riverside settlement continued to grow throughout the medieval period. Significant developments in the area include the foundation of the hospital of St Mary the Virgin before 1170 (HER No TQ 67 SE 1). This site has been referred to as a leper hospital but it may have functioned as a hostel for pilgrims en route to Canterbury from London (KCC/EH, 2004, 7). In 1321, the hospital was replaced by a Chantry chapel, (which also had its own wharf) eventually dissolved during the 16th century. The importance of the Town Hythe or Quay site is highlighted by documentary references of the 13th and 14th century: for example, in 1286 and 1293 to the damage caused to the 'chalk causeway' (Hiscock, 2006, 20) by flood water during a violent storm and its subsequent repair with the costs being met by the Lord of the Manor and the men of Milton. In 1293 the watermen were fined for charging one penny fare to London instead of halfpenny. In 1356 John Page of Gravesend was appointed by the king to the office of 'Searcher of the Thames 'responsible for 'counterfeit money, silver plate, gold and silver vessels coming into London and all places

along the sea coast on both sides of the Thames to Gravesend and in the town' (Towncentric, 2000, 5), and in 1360 a manorial record mentions '128 pieces of elm timber to make piles for the new wharf' (Hiscock, 2006, 21).

As mentioned above, the first manor house probably stood near to the church of St Mary, but in 1362 Edward III ordered a new manor house to be built (HER No TQ 67 SW 233) and in 1376 Gravesend manor was one of several given as endowments to the newly founded Cistercian abbey of St Mary Graces in London in whose possession it remained until the Dissolution when it reverted to the Crown. The first record of a market for Gravesend is also during the 14th century when a charter of Edward III granted the right to hold a weekly market on Thursdays and an annual fair on the 20th June, perhaps held over several days. Its position is unknown, but by 1366 the riverside settlement had probably outstripped its inland core and left the parish church in isolation; the market was almost certainly held near to the river bank. A likely site is at the corner of West Street and the High Street, less than 50m from the Town Pier, and just north-east of the present church of St George (founded c 1452) whose origins stem from a chapel of ease to St Mary's (HER No TQ 67 SW 234). It is probable that the site of the chapel was chosen for its then central position, near dwellings, the quayside and hythes, and perhaps the market. The original entrance to the chapel was from the north, another possible indicator of the site of the market. By 1544, St George's had replaced St Mary's as the parish church of Gravesend (KCC/EH, 2004, 5-7).

The importance of Gravesend's riverside location is also highlighted by the establishment of opposing beacons (at Farnedon in Essex and on Windmill Hill in Gravesend) as part of the late 14th-century defensive network. Gravesend's and Milton's importance in relation with London was acknowledged in 1401 when Henry IV confirmed their sole privilege and right to carry passengers by water from Gravesend to the capital (the 'Long Ferry'), on condition that they provide boats for that purpose. The landing place for the Long Ferry was at the bottom of High Street, roughly where the present day Town Pier still stands, and that of the Cross Ferry may be perpetuated in the modern terminal of the ferry to Tilbury (KCC/EH, 2004, 8). No medieval inns survive but the thriving maritime settlement would undoubtedly have supported a number of hostelries; documentary evidence suggests that the Three Cornish Choughs (now the Three Daws PH) and the Christopher Inn (on the site of the present day Pier Hotel) were both established by the late 15th century.

Archaeological investigations have excavated pits, probably representing backyard activity along the High Street (**AA 6** and HER No TQ 67 SW 131) and the remains of a medieval tie-back revetment structure were recorded on the Old Sea School site (**AA 4**), around 450m east of the site.

6.5 Post-Medieval and Modern (AD1550 - present day)

Tudor period activity in the area is largely concerned with the development of defensive sites along the river channel, as part of a plan of national defence. In 1539-40 two blockhouses were built at Gravesend (HER No TQ 67 SW 5) and Milton (HER No TQ 67 SE 32). Both were built of brick, were D-shaped in plan, probably stood within a defensive enclosure formed by an earth rampart, and were small in comparison with the contemporaneous castles of Walmer and Deal. Although the two parishes of Gravesend and Milton maintained differences in jurisdiction during the medieval period, they were

economically a single entity. This was recognised in 1562 when a Charter of Incorporation described them as 'one body corporate' and the office of Portreeve was established. In 1568 Elizabeth I granted the right to a common market on Wednesdays and the first Town Hall was constructed in 1573. In 1588, the defences were again strengthened in response to the threat of Spanish invasion, and an attempt was made to construct a pontoon bridge of barges across the Thames from Gravesend to Tilbury (KCC/EH, 2004, 8; Towncentric, 2000, 7). In 1778 the supposed threat from allied American and French forces led to the upgrading of defences, including the construction of New Tavern Fort (HER No TQ 67 SE 37).

During the 18th and early 19th centuries, a sizeable town grew up by the river, centred on the High Street, West Street, East Street and the riverside where quays and wharves had developed close to the landing stage. The Long Ferry played a major role in this development, encouraging the growth of inns, stables, lodging houses and shops for travellers. As the number of seagoing vessels increased the town became a focus for embarkation and disembarkation of seamen, merchants and passengers, the control and searching of ships (early customs and excise) and a victualling point. However, due to very destructive fires during this period (the most notable being the Great Fire of 1727 which destroyed a large area across East, West and lower High Streets) few buildings of this date have survived. Listed buildings from this period are noted on Table 5. Archaeological investigations centred on the High Street have uncovered cesspits and cellars associated with this period of development (**AA 2, AA 3, AA 6**, HER No's TQ 67 SW 131, TQ 67 SW 132).

Gravesend flourished as a leading seaside resort during the 1830s and 1840s due to the popularity of sea bathing and the introduction of steam services. The construction of the Town Pier (completed 1834) and the Terrace Pier (1842) are an integral part of this development (see Section 7). By the early 1830s steamboats were bringing almost 300,000 visitors to the town annually; by the 1840s this figure exceeded one million. New houses, new streets, hotels, reading rooms, public baths, and pleasure gardens were built, Gravesend's success largely stemming from its accessibility by steam packet. The Town Hall was rebuilt in 1836 on the site of the Town Hall of 1764. The rebuilding cost £3,000 and was designed by Amon Henry Wilds, the Brighton architect, in imitation of the Parthenon. By the 1860s, however, Gravesend's popularity as a sea-bathing resort started to decline, largely because of competition from other Kentish seaside resorts which could be reached both by fast steamboats and the new and efficient railways. Also, the river was becoming increasingly polluted with sewage and industrial discharge from further upstream and by the 1880s Gravesend's role as a holiday resort had come to an end.

Prior to the construction of Gravesend Town Pier in 1834, at low tide visitors had been obliged to disembark from ferries via skiffs operated by local watermen. The purpose of the pier was to enable visitors to embark and disembark directly from vessels at all stages of the tide. The original arrangement of the pier was an open 'T' shaped structure. At the north end were small plan open sided pavilions and steps leading down into the river. (Thomas Ford & Partners 2009 *Design and Access Statement*)

During the late 19th century relatively small industries such as ship-repair yards, boatbuilding yards, and small workshops grew up at Clifton Parade and by the canal. A chemical works, a timber wharf, coal-wharfs, breweries and soap and ice works all developed. Today the main area of industrial development lies to the west of Gravesend,

largely in Northfleet where chalk quarries have been turned into shipbuilding yards and cement factories. International cement manufacturing plants, cable production works, steelworks, paper mills, cargo storage installations, other factories and warehouses and a power station were to follow. They now dominate Gravesend's skyline to the west.

6.6 Archaeological investigations

This section lists archaeological field investigations which have taken place in the vicinity of the proposed development site, in chronological order. It is principally based on information received from the Kent CC HER and the online resources of commercial archaeological units. AA numbers listed below are shown on Figure 7.

AA 1: PLA Offices, Gravesend TQ 64989 74405
Evaluation by Kent Archaeological Rescue Unit 1990
No further details available.

AA 2: 77-83 High St Gravesend TQ 64721 74367
Evaluation by Archaeology South East 1996
Remains of cellar, possibly 18th or 19th century. Small scale excavation area made detailed examination difficult. Wall construction of ragstone and chalk. No dateable evidence recovered. (HER No: TQ 67 SW 227).

AA 3: 24 Bank St. And 16-19 High St, Gravesend TQ 64780 74320
Watching brief by Canterbury Archaeological Trust 1998
Observation on geotechnical test pits and boreholes recorded the presence of two cellars of 18th/19th -century date. Both were around 2.9m in depth and one still retained its barrel vaulted ceiling aligned east to west. A distillery is shown on the 1st Ed OS map of the area. (HER No's: TQ 67 SW 228 / 231)

AA 4: KT-CPL98 The Old Sea School Site, Commercial Place TQ 6526 7440
Evaluation by Dick Bluer, MoLAS 1998
Three trenches were excavated, which revealed the presence of a geological spur of chalk at the southern extremity of the site; otherwise the earliest deposits were alluvial silts. A tie-back was observed, relating to an unseen revetment of probable medieval date. Closer to the river, a slipway of pine construction and post-medieval date was recorded, with two north-south revetments representing small-scale inlets or jetties. Numerous walls, drains, and wells of 18th/19th-century date were also observed. (HER no's: TQ 67 SE 1038 – 9; TQ 67 SE 216)

AA 5: Commercial Wharf, West Street TQ 64499 74460
Desk based assessment by CgMs Consulting 1999
No further details available

AA 6: 65-83 High Street and 40 Princes Street TQ 64750 74360
Watching brief by Canterbury Archaeological Trust 1999-2000
During development work footing walls and a probable brick-lined basement were recorded immediately north of Church Lane and fronting Princes Street. The basement was filled with rubble. The red brick wall footings representing the south and east wall of the building had been built directly upon earlier foundations of mortared flint nodules and early brick fragments. This unknown structure was possibly built in the 18th century and replaced by a brick built building during the early 19th century. (HER No's: TQ 67 SW 262-4).
The remains of a series of large brick-lined basement situated beneath buildings running along Princes Street and High Street were recorded. A variety of structural details were recorded across the site including arched access tunnels, trap doors, brick floors etc. In some cases, the cellar walls overlay earlier cut features, such as 17th-century wells. In one case, a shallow sub-square pit was recorded sealed by demolition rubble. Its fill consisted of thick bands of carbon and burnt mortar, containing, where cut, large quantities of tile fragments and 51 clay tobacco pipe bowls, 46 stems,

glass bottles, 9 pieces of kiln material and two pottery sherds dating to around 1851. It is possible that this represents the residue or waste from a clay tobacco-pipe manufacturing kiln site nearby. (HER No's TQ 67 SW 265-282; 229-230).
Beneath 81 High Street a number of medieval cesspits were recorded. (HER No: TQ 67 SW 232)

AA 7: KGEH04 Gravesend and North Kent Hospital TQ 6446 7423
Excavation by G. Seddon PCA 2004
Natural Chalk was recorded between 13.83m and 14:54m OD.
A sandy silt layer containing mid/ late Bronze Age flints was recorded above the natural chalk. Cut into the surface of this layer were archaeological features spanning the Iron Age to the 20th century.
In the south-west corner of the site was a large ditch where the majority of the pottery recovered was of a late Iron Age date, though there were a few sherds contemporary with the early Romano-British period. The ditch was re-cut three times in the early Romano-British period. This suggests that while the boundary was still important post invasion, the defensive aspect of the Iron Age phase was no longer needed. The latest fill contained pottery and large quantities of C.B.M, including tubuli. Just to the north of the ditch was an early Romano-British rubbish pit from which the articulated skeleton of a young human female, c. 20 years old, was recovered. From the way the body was positioned it appeared to have been thrown into the pit in an unceremonious fashion.
The next phase of occupation was represented by eight rectangular Early Saxon fire pits, seven of which were aligned north-south with the burning concentrated on the western side, whilst one was aligned east- west with the burning concentrated on the northern side. Two of the pits were subject to archaeomagnetic dating and the dates produced were 500-530 AD and 485-510 AD. As the burning was gentle, and cod and pig bones were retrieved from the fills, these features have been interpreted as food smoking pits. Several small burnt layers lay in close proximity to the pits. These were probably rake-out and indicated re-use of the pits over a period of time.
Evidence of post-medieval activity were represented by a number of small pits, containing pottery sherds dating to the 16th and 17th century, stakeholes and a posthole that most likely relate to land division or were the remnants of stock pens. Overlying these features was a sequence of layers containing chalks inclusions and artefacts of mixed dates, ranging from the Bronze Age to the 19th century. This sequence seems to be consistent with manuring on fields to be ploughed. A series of aligned postholes, predominantly square in plan, ran east-west across the site and date to the late 19th century. They were probably the remains of the scaffolding used during the construction of the Victorian terrace houses, first appearing on the 1897 OS map, and which demolished by 1975. (HER No's: TQ 67 SW 373-9).

AA 8: KSRG04 Stuart Road, Gravesend TQ 64370 74250
Evaluation and excavation by F. K. Lucas and G. Seddon PCA 2004
Natural Chalk was recorded at 15.45m OD.
The evaluation comprised four trenches arranged across the site whilst the excavation comprised five trenches. One of the trenches was an open area situated in the south-west of the site and the remaining four trenches positioned strategically where building work would be intrusive on the archaeology beneath the footprint of the proposed development.
The Natural chalk was overlain by marl in turn sealed by a sandy silty clay layer, possibly a colluvial deposit. Part of the flint assemblage recovered from a layer of sandy silt sealing the colluvium was most characteristic of Mesolithic or Early Neolithic industries, though they were all residual. The earliest recorded features from the site were two postholes towards the north probably dating to the Bronze Age. A series of parallel east-west aligned ditches and gullies contained pottery dating to between 150 and 370 AD. These linear features probably represent a Roman field system and the northernmost ditch aligns with a ditch recently excavated at Gravesend Hospital (KGEH 04) 23m to the east. As in the adjacent Gravesend Hospital site evidence for Early Anglo-Saxon activity was recorded in the form of a small group of pits and stakeholes. A layer containing sherds of early Saxon pottery mixed with residual Roman pottery sherds, fragments of ceramic building material, and struck flint sealed the features. A layer containing artifacts ranging from Bronze Age to the 18th century sealed the features and probably relate to agricultural activity. Three late post-medieval postholes cut into this layer and were sealed by a layer of subsoil which contained 19th-century pottery sherds. (HER No's: TQ 67 SW 423-4)

6.6.1 Inter-tidal zone survey

The foreshore was surveyed as part of the Rapid Coastal Zone Assessment (RCZA) of the North Kent coast undertaken by Wessex Archaeology during 200-2005. Their observations are listed below:

- **TQ 67 SW 1057** - Possible landing stage, in front of Clarendon Hotel, Gravesend.
  About 20m north of this point two rows of parallel substantial vertical square piles/posts run out perpendicular from the shore. About 10m long and 2-3m wide. TQ 64987 74440

- **TQ 67 SE 1041** - Curvilinear line of stakes, by Gravesend Rowing Club.
  A curved line of angled, narrow, round, evenly spaced wooden stakes in soft inaccessible foreshore mud 2m north of this point. 12 stakes are visible, the line of stakes is nearly semicircular and may form part of a circle. TQ 65235 74406

- **TQ 67 SE 1042** - Wooden wharf, by Gravesend Rowing Club.
  It has two small derricks and the remains of two winches on large squared wooden piles with iron bolts. It is in a fairly poor state of repair. The wharf is private, and access is not possible. TQ 65615 74304

- **TQ 67 SE 1016** - Custom House Pier, Gravesend
  Indicated on the 1st ed OS map, still in use. No access onto the pier TQ 65226 74447

- **TQ 67 SE 1017** - Watts's Pier, Gravesend
  Indicated on the 1st ed OS map. A Port of London Authority wooden causeway; well maintained and in use.TQ 65259 74450

- **TQ 67 SW 1035** - Baltic Wharf
  Marked on the 3rd ed OS map .There is now a modern apartment block in this location, though the concrete river frontage has iron bollards and ladders for access, so it could be used for mooring. TQ 64309 74484

- **TQ 67 SW 1036** - Coal Wharf
  Marked on the 3rd ed OS map . A derelict small wharf, may still be in use by small craft, the area is in use as storage for small commercial interests.
  TQ 64343 74466

- **TQ 67 SW 1037** - South-east and Central Pier,
  South-east and Central Pier, with associated wharf and dolphins, marked on the 2nd and 3rd ed OS map. A large iron pier on large round iron piles. There are six piles under the main pier and eight under pier frontage on the channel. The top of the pier has a framework for some type of roof or covering which is now gone. The top of the pier is covered in rubbish and other material suggesting it is no longer in active use as a pier. TQ 64409 74489

- **TQ 67 SW 1038** - Commercial Wharf,
  Marked on the 2nd and 3rd ed OS map. This is now part of a public path, with railings on the waterside frontage TQ 64499 74479

- **TQ 67 SW 1039** - Union Wharf,
  Marked on the 2nd and 3rd ed OS map. The wharf is no longer in use. It is part of a public pathway with safety railings on the wharf's waterfront side. Iron mooring bollards remain. TQ 64547 74470

- **TQ 67 SW 1040** - Marriot's Wharf
  Marked on the 3rd ed OS map. This area has been built over by an apartment block. It is now part of wooden promenade, and public path runs along the waterfrontTQ 64613 74466

- **TQ 67 SW 1041** - Landing Stage/Steps by Kent and Essex steam ferry pier
  Marked on the 3rd ed OS map.There is a landing stage for ferries and some commercial small craft at this point. It is a floating landing stage on pontoons. It is still in use for ferry and a tourist boat, the Princess TQ 64651 74485

- **TQ 67 SW 1042** - Landing Stage/Steps,
  Marked on the 3rd ed OS map. A modern concrete riverside wall exists at this point, no landing steps are visible. TQ 64739 74482

- **TQ 67 SW 1043** - Landing Stage/Steps
  Marked on the 3rd ed OS map. The area comprises muddy foreshore, no recognisable debris noted during the 2005 coastal survey. TQ 64804 74459

- **TQ 67 SW 1044** - Landing Stage/Steps,
  Landing Stage/Steps marked on the 3rd ed OS map. No visible remains during the 2005 coastal survey may be demolished or built over TQ 64811 74451

- **TQ 67 SW 1045** - Landing Stage/Steps
  Marked on the 3rd ed OS map. Apart from some metal steps to the east of the Town Pier no landing stage is apparent. A riverside footpath now runs by the river, the steps may have been built over. TQ 64820 74450

- **TQ 67 SW 1046** - Jetty, Gravesend
  Marked on the 3rd ed OS map. No sign of debris or other remains of a jetty noted during the 2005 coastal survey TQ 64851 74447

- **TQ 67 SW 1047** - Wharf, Gravesend
  Marked on the 3rd ed OS map. This area is now a riverside park with a public path. Any wharf structure is no longer obvious save for the riverside wall which might contain element of the wharf? TQ 64849 74436

- **TQ 67 SW 1048** - Coal Wharf
  Marked on the 3rd ed OS map TQ 64889 74420

- **TQ 67 SW 1049** - Wharf, Gravesend
  Marked on the 3rd ed OS map. A brick built wharf sticking out into foreshore, now a private house and garden with landing steps on the north east side TQ 64916 74416

- **TQ 67 SE 1027** - Pier
  Pier marked on the 3rd ed OS map TQ 65153 74433

- **TQ 67 SE 1028** - Coastguard Station (Baggage Yard), Gravesend
  Marked on the 3rd ed OS map (1).The building appears to be in use, on custom house/government land. Not possible to get close to the building for more detailed observations TQ 65190 74401

- **TQ 67 SW 1000** - Amsterdam Bridge
  Pier structure, earlier than 1870. No debris from the bridge or other remains visible during the 2005 coastal survey TQ 64831 74473

- **TQ 67 SE 1000** - Wreck of the William
  Wooden Brig run down by foreign steamer off Gravesend. cleared by divers of the Royal Sappers and Miners under the direction of Col. Paisly RE. Site of the first death of a military standard diver.
  TQ 65 74

Figure 7: Map of HER Search Report

The selected results of the HER search of a 500m radius of the proposed development site are presented in the period tables below. Due to the density or records from within the search area, the monuments, buildings and events (marked in red) are not represented individually on Figure 7 but are cross referenced with the text above (Sections 5 and 6.1-6).

6.7 Summary of HER records

6.7.1 Prehistoric

Table 2: Summary of relevant HER records of Prehistoric date

HER numbers	TQ grid ref	Address	Description	Period
TQ 67 SW 436	65 74	Gravesend	12 handaxes and 2 pieces of debitage	Palaeolithic
TQ 67 SE 26	65 74	Gravesend	Polished flint axe	Neolithic
TQ 67 SE 4	65 74	Gravesend	Looped and socketed axe	Bronze Age
TQ 67 SE 5	65 74	Gravesend	Coins (15-gold, bronze, tin: isolated finds).	Iron Age

6.7.2 Roman

Table 3: Summary of relevant HER records of Roman date

HER numbers	TQ grid ref	Address	Description	Period
TQ 67 SE 3	65 74	'near Gravesend'	Samian patera	2nd C
TQ 67 SW 110	647 744	S and W of St George's church	Settlement	1st-4th C

6.7.3 Medieval

Table 4: Summary of relevant HER records of Medieval date

HER numbers	TQ grid ref	Address	Description	Period
TQ 67 SE 1	6525 7433	(Leper Hospital), later Milton Chantry	SAM 24358 / Listed Building (II*)	Founded c 1155
TQ 67 SW 233	6470 7441	New Court Lane / Chapel Lane	Royal manorial complex	1362-1368
TQ 67 SW 131	6475 7425	43 High Street	Pits	13th-18th C
TQ 67 SW 234	6468 7434	St George's church	Grade B listed Chapel of ease	Late 15th C, rebuilt 1731-3

6.7.4 Post-medieval

Table 5: Summary of relevant HER records of Post-Medieval date

HER numbers	TQ grid ref	Address	Description	Period
MKE27555	6468 7445	The New Falcon Inn	Listed Building (II)	1833-1866
MKE27558	6492 7438	Thames House	Listed Building (II)	1800-1975
MKE27559	6491 7441	St Andrew's Arts Centre	Listed Building (II)	1870-1
MKE27586	6477 7427	The Town Hall	Listed Building (II*)	1836-1883
MKE27587	6475 7438	78 High Street	Listed Building (II*)	1700-1899
MKE27598	6460 7401	Gravesend Railway Station (Up Side)	Listed Building (II)	1849
MKE27604	6507 7429	The Terrace / Harmer St	Listed Building (II)	1820-1860
MKE27607	6511 7428	Terrace Tavern	Listed Building (II)	1833-1866
MKE27610	6515 7428	Uralite House	Listed Building (II)	1833-1866

HER numbers	TQ grid ref	Address	Description	Period
MKE27621	6517 7411	Gordon House	Listed Building (II)	1820-1866
MKE27624	6502 7407	Clock Tower	Listed Building (II)	1887
MKE27626	6494 7407	The Grapes PH	Listed Building (II)	1800-1899
MKE27638	6491 7441	The Mission House	Listed Building (Ii)	1815-1842
MKE27641	6457 7409	The Railway Bell PH	Listed Building (II)	1833-1866
MKE27651	6478 7444	The Three Daws PH	Listed Building (II)	1700-1899
MKE27655	6473 7428	The Albion PH	Listed Building (II)	1700-1899
MKE27660	6481 7413	County Court	Listed Building (II)	1870
MKE27749	6450 7442	Hazards House	Listed Building (II)	1700-1899
MKE27804	6511 7447	Royal Terrace Pier, Including Pavilions	Listed Building (II)	1844
MKE27807	6499 7409	Milton Park Estate Crescent	Listed Building (II)	1830-5
MKE27810	6459 7404	Gravesend Railway Station (Downside)	Listed Building (II)	1833-1866
MKE27819	6510 7428	Rose And Thistle PH	Listed Building (II)	1833-1866
MKE27820	6475 7443	The Pier PH	Listed Building (II)	1800-1899
MKE27833	6475 7439	80 High St	Listed Building (II*)	1700-1795
MKE27852	6498 7438	The Royal Clarendon Hotel	Listed Building (II)	1833-1866
TQ 67 SW 76	**6477 7448**	**Town Pier**	**Listed Building (II*)**	**1831-4**
TQ 67 SW 129	643 744	'50yards from Thames'	Gibbet	? post medieval
TQ 67 SW 132	647 742	Princes Street	Cess pits	18th C
TQ 67 SW 202	6454 7446	West Street	Russell's brewery	1836
TQ 67 SW 203	6487 7442	East Street	Gravesend brewery	1770
TQ 67 SW 246	64467 74233	Gravesend and North Kent Hospital	Dispensary and hospital	1850-present
TQ 67 SE 32	6550 7429	Milton Blockhouse	SAM 379	1539-1558
TQ 67 SE 232	6510 7394	Wellington Street	Wellington brewery	1850

6.7.5 Modern

Table 6: Summary of relevant HER records of Modern date

HER numbers	TQ grid ref	Address	Description	Period
MKE27822	6479 7411	Public Library	Listed building (II)	1905
MKE41644	6467 7419	British Home Stores, New Road	Public air raid shelter	Mid 20th C
MKE41648	6477 7411	Gravesend Public Library, Windmill Street	WWI anti-Zeppelin observer patrol HQ	Early 20th C
MKE41665	6471 7392	Woodville Terrace	Public air raid shelter	Mid 20th C
MKE41666	6469 7397	No. 1 Wrotham Road	Public air raid shelter	Mid 20th C
MKE41667	6513 7403	Wellington Arms, Wellington Street	Air raid wardens post	Mid 20th C
MKE41669	6464 7435	St George's Hall, Church Street	Civil defence building	Mid 20th C
MKE41671	6474 7424	49/50 High Street	Public air raid shelter	Mid 20th C
MKE41687	6434 7448	Clifton Marine Parade	Observation post	Mid 20th C
MKE41709	6495 7444	WWI Pontoon bridge, Gravesend - Tilbury	Military transport site	Early 20th C
MKE41711	6410 7445	WWI Voluntary Aid Detachment Hospital	Military support building	Early 20th C
MKE41721	6520 7400	Ordnance Road	Fortification	Mid 20th C
MKE41737	6500 7405	National Provincial Bank, Milton Road	Public air raid shelter	Mid 20th C
MKE41739	6463 7356	Wrotham Road School	Civil defence site	Mid 20th C
MKE41740	6446 7407	County School, Darnley Road	Air raid wardens post	Mid 20th C

HER numbers	TQ grid ref	Address	Description	Period
MKE41741	6433 7392	Pelham Road	Air raid wardens post	Mid 20th C
MKE41750-1	6524 7435	Gordon Promenade, emergency water tanks	Civil defence site	Mid 20th C
MKE41752	6530 7411	Ordnance Rd, emergency water tanks	Civil defence site	Mid 20th C
MKE41776	6518 7431	Customs House, The Terrace	Command post	Mid 20th C
MKE41789	6517 7402	Love Lane, Police Telephone Box	Civil defence site	Mid 20th C
MKE41792	6471 7374	Zion Place, Police Telephone Box	Civil defence site	Mid 20th C
MKE41793	6504 7423	Co-op, 3-11 Harmer St	Public air raid shelter	Mid 20th C
MKE41794	6541 7405	Gordon (now Chantry) School, Ordnance Road	Civil defence building	Mid 20th C
MKE41795	6461 7442	West Street	Air raid wardens post	Mid 20th C
MKE41796	6503 7409	Clock Tower, emergency water tank	Civil defence site	Mid 20th C
Mke41797	6488 7409	Milton Rd, emergency water tank	Civil defence site	Mid 20th C
MKE41798	6474 7399	Woodville Gardens, emergency water tank	Civil defence site	Mid 20th C
MKE41799	6473 7394	Windmill Street	Air raid wardens post	Mid 20th C
MKE41800	6481 7351	Clarence Place	Air raid wardens post	Mid 20th C
MKE41805	6556 7431	Gordon Promenade, Police Telephone Box	Civil defence site	Mid 20th C
MKE41806	6503 7415	Harmer St, Air Raid Precautions HQ	Civil defence building	Mid 20th C
MKE41810	6507 7442	PLA Navigation Centre, Royal Pier Rd	Cold War command post	Mid 20th C
MKE41812	6530 7433	New Tavern Fort, Commercial Place	Coastal battery	Early 20th C
MKE41813	6471 7380	Windmill Street	Civil defence building	Mid 20th C
MKE41819	6569 7416	Canal Road	Air raid wardens post	Mid 20th C
MKE41823	6477 7427	Town Hall, High St	Civil defence site	Mid 20th C
MKE41825	6472 7387	Wrotham Road,	Cold War civil defence building	Mid 20th C
MKE41826	6513 7394	Jolly Drayman PH, Wellington St	Public air raid shelter	Mid 20th C
MKE41828	6488 7397	Parrock St	Public air raid shelter	Mid 20th C
MKE41829	6523 7413	Milton Place	Public air raid shelter	Mid 20th C
MKE41830	6443 7440	Russell Brewery, West St	Public air raid shelter	Mid 20th C
MKE41833	6458 7411	Garden Row	Public air raid shelter	Mid 20th C
MKE41834	6486 7420	Brewhouse Yard	Public air raid shelter	Mid 20th C
MKE41839	6399 7444	Clifton Marine Parade air raid siren and Police Telephone Box	Civil defence site	Mid 20th C
MKE41844	6521 7403	BT Communications Bunker, Ordnance Rd	Cold War civil defence building	Mid 20th C
MKE41845	6481 7389	Lord St Firewatchers HQ	Civil defence site	Mid 20th C
MKE41853	6421 7382	Grange Road	Drill hall	Mid 20th C
MKE41855	6525 7433	Milton Chantry	Civil defence site	Mid 20th C
MKE41856	6524 7415	Milton Place	Civil defence building	Mid 20th C
MKE41859	6531 7427	New Tavern Fort , Milton Place	Radio telegraphy station	Mid 20th C
MKE41866	6461 7414	74 New Road	Public air raid shelter	Mid 20th C
MKE41867	6446 7416	Super Cinema Second World War 51 New Road	Public air raid shelter	Mid 20th C
MKE41873	6477 7427	Police Station, Old Town Hall	Civil defence building	Mid 20th C

HER numbers	TQ grid ref	Address	Description	Period
Mke41875	6509 7437	Clarendon Road	Public air raid shelter	Mid 20th C
MKE41876	6442 7357	North Kent Cricket Club emergency water tank	Civil defence site	Mid 20th C
MKE41888	6523 7436	National Sea Training School, Commercial Place	Training establishment	Mid 20th C
MKE41892	6456 7420	New Road	Air raid wardens post	Mid 20th C
MKE41896	6569 7414	Canal Basin	Civil defence site	Mid 20th C
MKE41898	6480 7439	Bull Yard	Public air raid shelter	Mid 20th C
MKE41899	6480 7436	Horn Yard	Public air raid shelter	Mid 20th C
MKE41900	6488 7438	Crooked Lane	Public air raid shelter	Mid 20th C
MKE41901	6441 7391	Pelham Rd/Darney Rd	Public air raid shelter	Mid 20th C
MKE41902	6473 7443	Pope's Head, West St	Civil defence site	Mid 20th C
MKE41903	6442 7415	St. James School Second World War 1st Aid Post, New Rd	Civil defence site	Mid 20th C
MKE41909	6481 7429	Old Town Hall National Fire Service Station, Market Place	Civil defence site	Mid 20th C
MKE41910	6458 7435	Church Street School Auxiliary Fire Service building	Civil defence site	Mid 20th C
MKE41913	6471 7380	Windmill St WWII -Cold War Fire Station	Civil defence building	Mid 20th C
MKE41923	6467 7451	former car ferry pier, West Street	Civil defence site	Mid 20th C
MKE41925	6514 7390	Saddington Street	Air raid wardens post	Mid 20th C
MKE41936	6525 7375	Milton Barracks, Wellington Street	Military complex	Mid 20th C use of mid 19th C site

7. SITE VISITS

The site was visited on 14 September and again on 11 December 2009. A photographic record was made of the structure and its environs, including the foreshore area. Due to health and safety constraints, the foreshore surface itself was also examined from the waterfront. The intertidal zone was largely covered with a deposit of silt (to an unknown depth) which may have obscured any surviving archaeological remains. Further discussion of the current site conditions is presented in the Recommendations (Section 11).

7.1 History and description of the pier

A description of the history and development of the pier site and structure is to be found in Lennard 1970, and McCormack 2003, while the engineer of the 1834 pier, W.T. Clark wrote a detailed account of its construction in 1840 (see plates 3-6 for original drawings). Thus only an outline is provided here.

The importance of the ferry point / quay has been highlighted in the earlier sections of this report, and from 1595 there was an agreement between the Corporation of London and Gravesend Corporation regarding the regulation and operation of the ferry. In 1632, an annual sum of £6 14s4d was fixed as payable to the Duke of Lennox as Lord of the Manor for the better maintenance of 'Gravesend and Milton Bridge', and in 1650, a Council of State ordered all landing stages at Gravesend, except the common bridge to be removed (Towncentric, 2000, 12). The annual sum to the Duke of Lennox was paid until 1677 "when it fell into abeyance for 15 years at the end of which time the Corporation of the Borough put before the representative of the possessor of the manor that a sum of £115 13s 9d had been expended upon repairs to the bridge, whereupon the further payment of 'pontage' as it was called was excused and the Corporation became the sole owners". The causeway was repaired a number of times during the early to mid 18th century after storm damage and Plate 1 shows a view of the town from the river during this period. In 1767: the corporation erected a spacious wharf and crane and made a substantial stone bridge or causeway (Hiscock, 2006, 21)

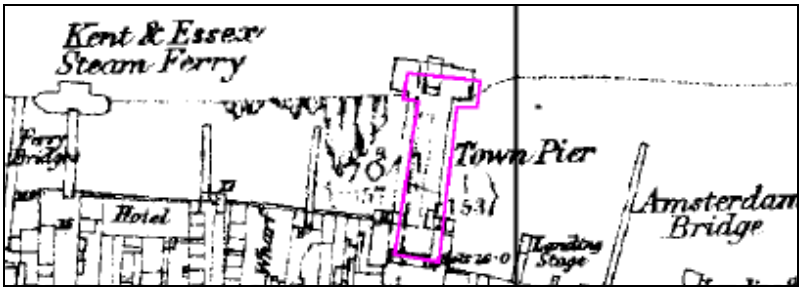
Further developments took place during the early 1800s when the Christopher Inn, immediately west of the pier was demolished and the Pier Hotel was constructed on the site. At the same date (1828-9), a new stone landing place was constructed by a Mr Mcintosh (Lennard, 1970, 28). In spite of strenuous opposition from the local watermen (who provided a passenger service from the large vessels anchored further out in the river to the quayside), proposals to build a longer pier were put before Parliament during the early 1830s and in 1833 a temporary pier was constructed by the Corporation (Plate 2). However, almost immediately after its opening, the structure was attacked and largely demolished by the irate local watermen (Lennard, 1970, 48).

The Bill for the construction of the new pier was finally passed in 1834, and a 'Deed of Trust' was set up between the Corporation and the watermen, who were guaranteed employment on the new pier. The pier was built in 1831-4 by Gravesend Corporation at the cost of £8,700. Designed by W T Clark, it is 'T' shaped, of cast iron, and rests on two rows of four Tuscan columns at the shore end and three rows of six columns under the T-portion. For the pier promenade section cast iron columns were set in foundations of

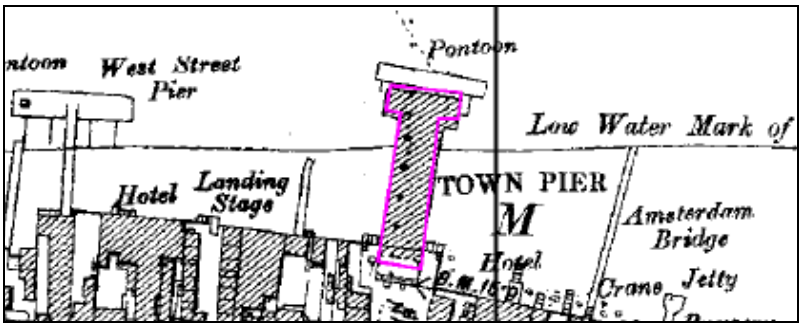
Bramley Fall stone and brickwork. At the ''T-head'' the decking was supported upon a framework of diagonal construction, in turn secured to the eighteen columns already described. Below each column, three cast iron piles, each measuring 14 feet long and 15 inches in diameter, were sunk into the riverbed. Just above foreshore level, iron adjusting plates formed the junction between the piles and the columns (Glasspool D, 2009). Structures on the pier consisted of two original pavilions and a cast iron lighthouse (see Plates 3 to 6). The pier is the subject of a number of early 19th-century engravings of which three have been reproduced as Plates 7, 8 and 9.

The original open design of the pier did not last long – an illustration of the pier from the 1830s (Plate 8) indicates a temporary awning, and the pier promenade and head were permanently enclosed from the mid 1840s (Plate 9). This involved the removal of the gas lamps and reuse of the pedestals as bases for the existing column shafts supporting the roof (McCormack 2003, 2). From 1854 the pier served as the southern ferry terminus of the London, Tilbury and Southend Railway, transferring passengers from the Tilbury terminus on the north side of the Thames (*ibid*., 4). A pontoon was added during this phase to allow more than one ferry to dock at a time (www.rivaonthepier.com accessed 10.12.2009), and OS mapping indicates it was lengthened by 1909, presumably to accommodate newer, larger ferries that came into service around the turn of the century (Figure 8).

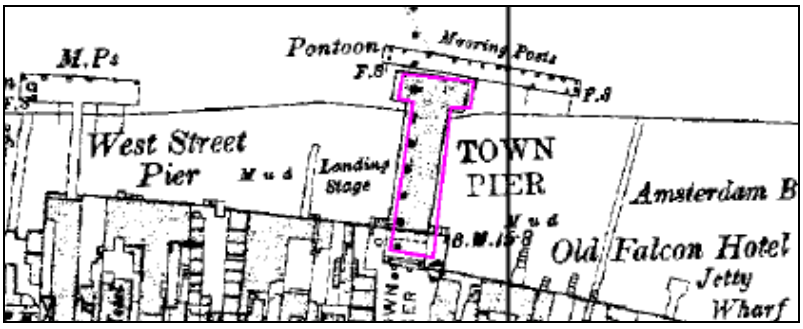
The pier was bought by the London, Tilbury and Southend Railway Company in 1885 (Plate 10). This image also shows boats and other causeway jetty structures relating to late 19th-century activity in the vicinity of the pier. A brick front was added to the structure in the 20th century (Plate 11). The pier continued in use as a railway passenger ferry terminal until the 1960s, when the pontoons were removed. Following a period of neglect, an HLF funded restoration initiative was launched by Gravesham Borough Council in 2000, the first stage of which was completed in 2002 (McCormack 2003). Most recently commercial retail units including a restaurant (Riva on the Pier) have been established – see front cover.



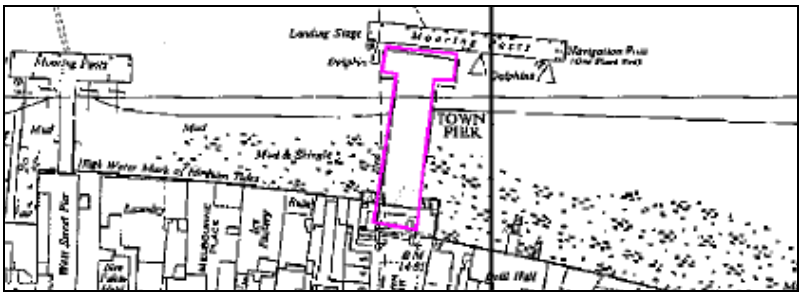
1864-76



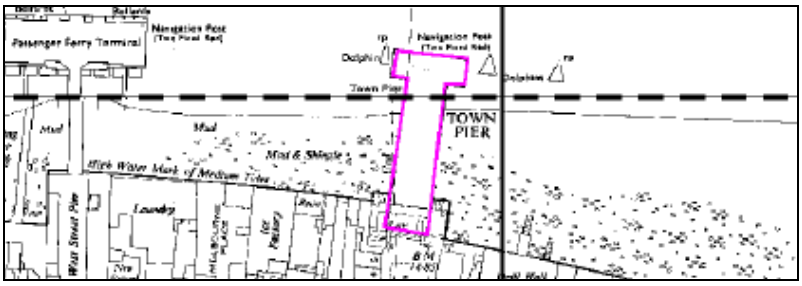
1897



1909



1955



1954-75

Figure 8: Historic plan development of pier as indicated by OS mapping 1:2,500 scale

Table 6: Gravesend Town Pier development history summary

Year	Event	Additions	Removals	Alterations	Features known to survive?	Source
1833	Temporary structure erected	Temporary pier structure	Temporary pier structure		No	Lennard 1970 Plate 2
1831-1834	Town Pier constructed	Riverside steps			Yes	Clark 1840 McCormack 2003
		Central causeway			Yes	Clark 1840 McCormack 2003
		Pier promenade superstructure			Yes	Clark 1840 McCormack 2003
		T-head superstructure			Yes	Clark 1840 McCormack 2003
		T-head landing step			No	Clark 1840 McCormack 2003
		Supporting columns			Yes	Clark 1840 McCormack 2003
		Pile structures			Yes	Clark 1840 McCormack 2003
		Cambered timber deck			No	Clark 1840 McCormack 2003
		Fixtures (gas lamps)			No	Clark 1840 McCormack 2003
		T-head w pavilion			Yes	Clark 1840 McCormack 2003
		T-head e pavilion			Yes	Clark 1840 McCormack 2003
		Lighthouse column			Yes	Clark 1840 McCormack 2003
1830s	Temporary awning added?	Temporary awning			No	Plate 5
		Poles for support			No	Plate 5
				Pier promenade superstructure	Yes	Plate 5
By 1844	Pier promenade enclosed	Roof Structure			Yes	McCormack 2003 Plate 6
		Supporting columns for roof			Yes	McCormack 2003 Plate 6
		Side walls & guttering			Partial (guttering)	McCormack 2003 Plate 6
		Fencing/posts			Partial	McCormack 2003 Plate 6
			Fixtures (gas lamps)		No	McCormack 2003 Plate 6
				Pier promenade superstructure	Yes	McCormack 2003 Plate 6

Year	Event	Additions	Removals	Alterations	Features known to survive?	Source
1844-1897	Floating pontoon added	Pontoon structure			No	www.rivaonthepier.com McCormack 2003 www.simplonpc.co.uk OS 1897
		Supporting mooring posts for pontoon			Partial (one surviving)	www.rivaonthepier.com McCormack 2003 www.simplonpc.co.uk OS 1897
			Cambered timber deck		No	McCormack 2003
			T-head landing step		No	McCormack 2003
1885	Becomes terminus for LTSR	Station superstructure			No	Site visit 2009
		Station infrastructure			No	Site visit 2009
				Pier promenade superstructure	Yes	
1897-1909	Pontoon extended	Pontoon structure			No	OS 1909
		Supporting mooring posts for pontoon			Partial (one surviving)	OS 1909
1965-1969	Ferry services cease		Pontoon Structure		No	www.rivaonthepier.com McCormack 2003 www.simplonpc.co.uk OS 1897
			Supporting mooring posts for pontoon		Partial (one surviving)	www.rivaonthepier.com McCormack 2003 www.simplonpc.co.uk OS 1897 Site visit 2009
Post-1965	Stripping out of pier including Victorian panelling & ironwork		Side walls & guttering		Partial (guttering)	McCormack 2003
1980s	Concrete flood defences added to quayside			Riverside steps	Yes	McCormack 2003
2002-2003	Restoration and repair of Gravesend Town Pier			Pier promenade superstructure	Yes	McCormack 2003
				T-head superstructure	Yes	McCormack 2003

Year	Event	Additions	Removals	Alterations	Features known to survive?	Source
				T-head w pavilion	Yes	McCormack 2003
				T-head e pavilion	Yes	McCormack 2003
				Lighthouse column	Yes	McCormack 2003
				Roof Structure	Partial	McCormack 2003
				Supporting columns for roof	Yes	McCormack 2003
2003-2007	Addition of retail units and restaurant			Pier promenade superstructure	Yes	Glasspool 2009
				T-head superstructure	Yes	Glasspool 2009
				T-head w pavilion	Yes	Glasspool 2009
				T-head e pavilion	Yes	Glasspool 2009

8. DEVELOPMENT PROPOSALS

Thomas Ford and Partners (TFP), on behalf of Gravesham Borough Council (the client), are currently progressing the proposed development of a new floating pontoon berth for the Gravesend to Tilbury ferry. Schematic models of the proposed design have been provided by TFP, which will assist in the assessment of impacts to the setting of the historic structure (Figures 9 to 12).

The floating pontoon is to be constructed immediately downstream of Gravesend Town Pier, with access gained directly from the existing pier at a fixed level, via an access walkway supported on tubular steel piles; the level of the pontoon will fluctuate with the tide and access is to be gained via two brows (gangways), with an intermediate floating landing.

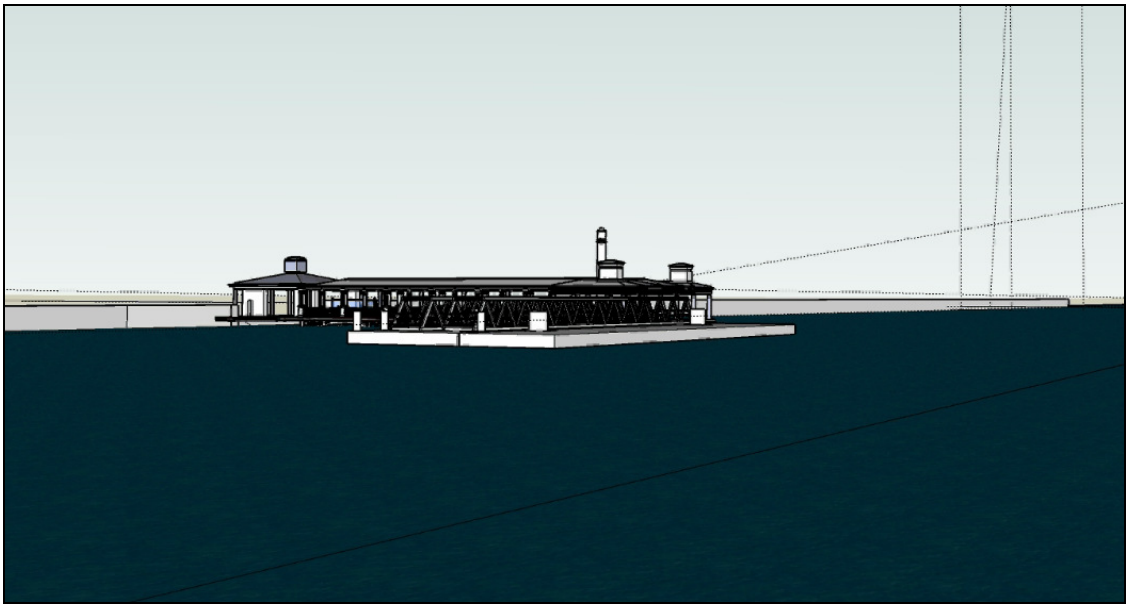
It is understood that the development proposals for the construction of the pontoon include the following specific elements:

- the scheme involves driving 13 piles into the sub-tidal bed;
- erection and mooring of main berthing pontoon on downstream side of pier T-head;
- erection and mooring of intermediate pontoon to enable DDA compliant access;
- erection of fixed-level access structure adjacent to pier; and
- erection of two brows to provide access to berthing pontoon.

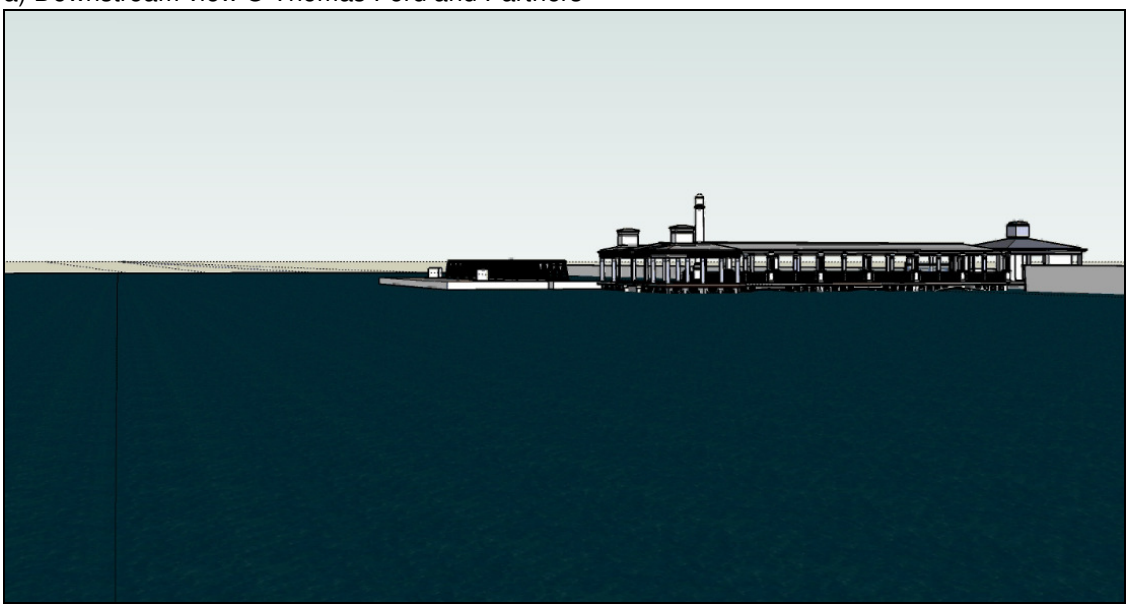
8.1 Potential impacts to the historic environment

The new pontoon will be constructed as a free-standing structure, independent of the existing Town Pier. It is understood that an air-gap will be provided between the access landing and the T-head, and it is not envisaged to make any physical contact with the pier itself. Therefore the adverse effects by the scheme on the historic structure, if any, are considered to be purely visual (See Section 8.2). The historic fabric of the pier itself has recently been restored, and it is understood that in this programme of works the structure was retro-engineered at the east side to allow removal of a section of ironwork to provide access to the pontoon.

While the pier itself will not be physically impacted by the proposed pontoon extension, the proposals will have a direct, albeit very localised, impact on any foreshore archaeological deposits through piling, and may also affect the local flow patterns of the river, leading to increased scour of, and/or deposition on, the foreshore. These potential changes to deposits within the river surrounding the pier may have an effect on any surviving archaeological remains near the foreshore surface.

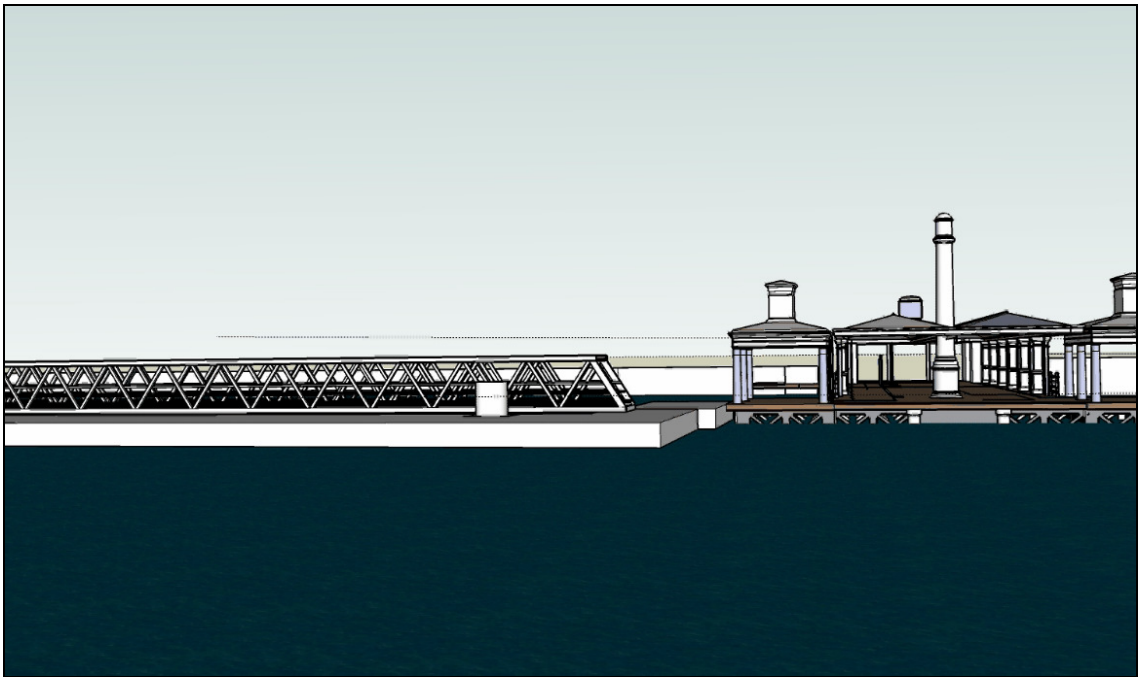


a) Downstream view © Thomas Ford and Partners

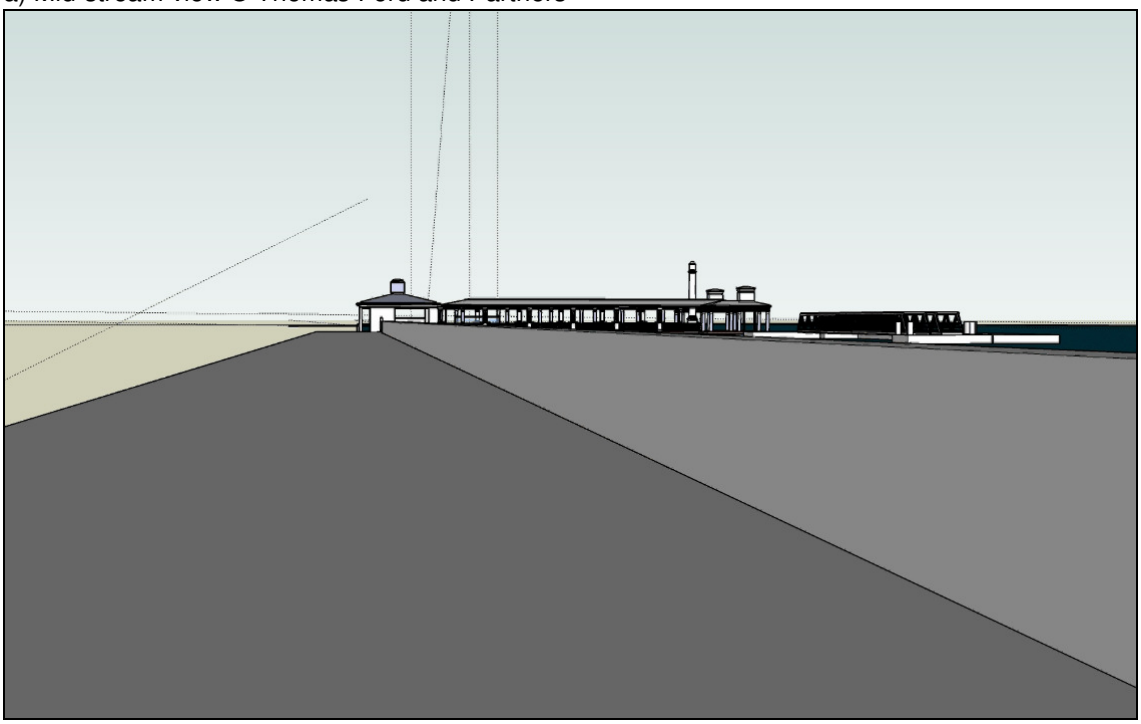


b) Upstream view © Thomas Ford and Partners

Figure 9: Far views upstream and downstream

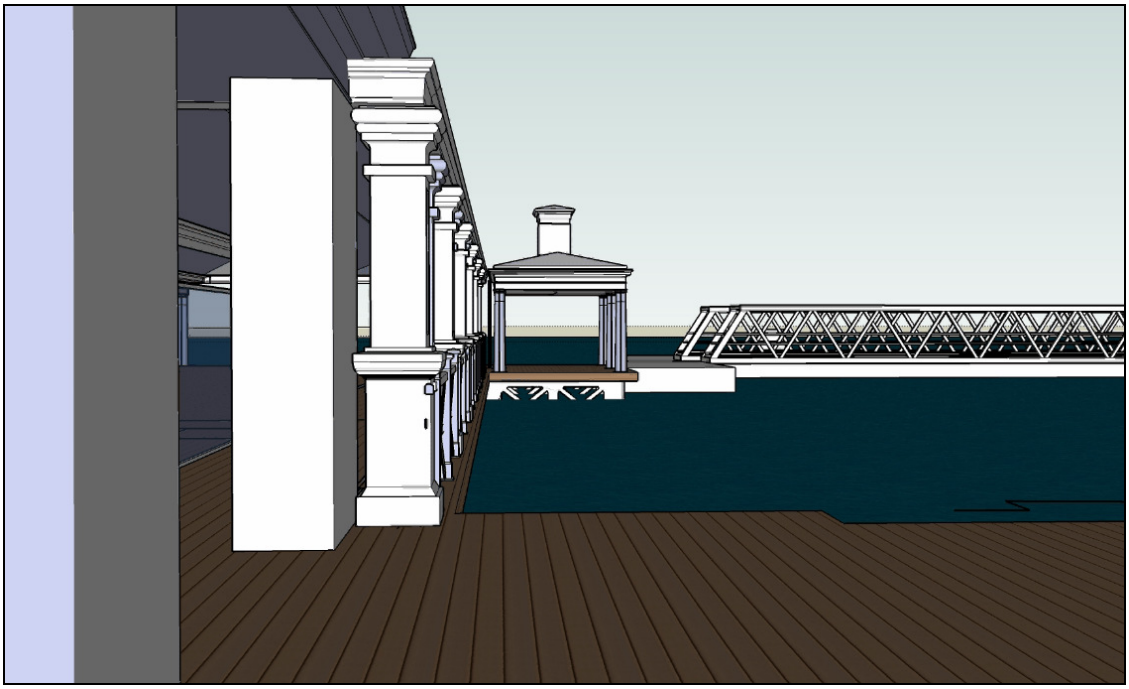


a) Mid-stream view © Thomas Ford and Partners

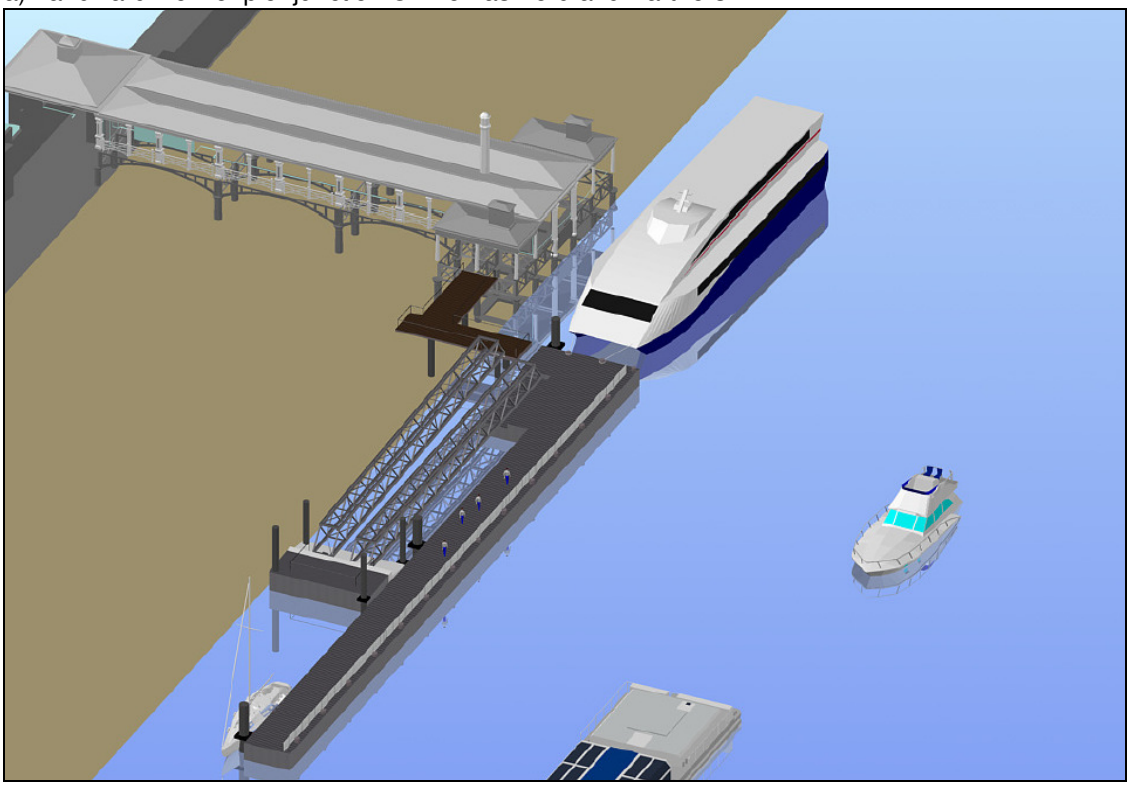


b) Downstream quayside view © Thomas Ford and Partners

Figure 10: Near views and quayside views



a) Landward view of pier junction © Thomas Ford and Partners



b) Isometric model showing berthing arrangements © Thomas Ford and Partners

Figure 11: close view and isometric view

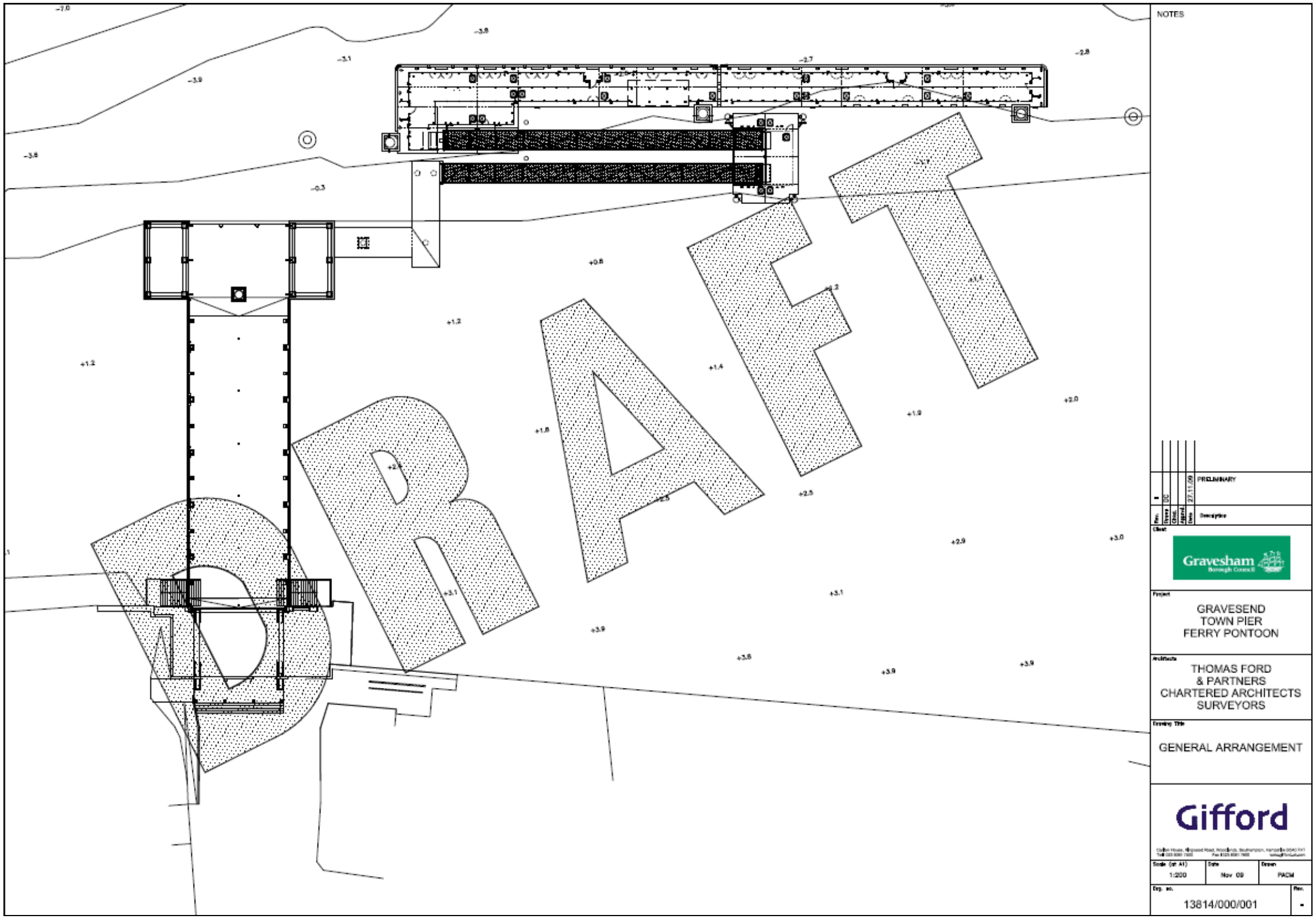


Figure 12: Draft plan layout of pontoon structure

8.2 Assessment of impact on setting

While it is clear that there will be minimal physical impact on the historic pier structure itself (Section 8.1), the addition of a pontoon immediately downstream of the pier will result in an alteration of the setting of the pier. The assessment of proposals outlined in Figures 9-12 above, allows for some consideration of the effects on the setting of the pier.

One of the principal features of interest of the pier is its architectural language, with a very symmetrical design to a Classical, almost Palladian style, emphasised by the original placement of the two pavilions and the steps to the embarkation platform at the T-head. The introduction of a new pontoon and access platform to one side of the structure would result in some slight imbalance in the reading of this original architectural form. However, it is clear that there have been a number of historic alterations to the pier, which have resulted in a dilution of this original form. Additionally, for much of the historic life of the pier, there has been a similarly configured pontoon structure in place (Figure 8, also see historic images of the pontoon at www.simplonpc.co.uk, not reproduced here for reasons of copyright), and therefore in terms of historic context, there is a clear precedent for such a design.

The fundamental importance, of the reinstatement of the pier's original function as a point of embarkation, to its long-term conservation and survival, should be recognised. It is considered that the benefits to the communal value of the historic pier structure brought about by these additions will more than compensate for the minor impact to the aesthetic values indicated.

9. CONCLUSIONS

This report provides an assessment of the known archaeological and historical development of the Town Pier, Gravesend, Kent and its immediate vicinity and comprises the first stage in a programme of examination into the possible impact on archaeological remains of any future development of the site.

The proposed development site lies comprises a Grade II* listed structure, lying within a Conservation Area as designated by Gravesham Borough Council. Therefore archaeological remains are very likely to be found in the area of the site and these may originate from a number of archaeological/historical periods.

Remains for each period are assessed according to the potential for presence (high, moderate or low), and according to potential significance (national, regional or local). Archaeological remains considered to be of national significance, would be unique, or nationally rare survivals, equivalent to statutorily designated sites such as Scheduled Monuments or Grade I listed and Grade II* buildings. Archaeological remains considered to be of regional significance would be remarkable, or regionally rare survivals, equivalent to statutorily designated sites such as Grade II listed buildings, or Conservation Areas. Archaeological remains considered to be of local significance would be good, or locally rare survivals, equivalent to locally listed buildings, and other locally (non-statutory) designated sites. The following matrix can help to define the broad level of archaeological 'risk', presented by the presence of such survivals, and a general level of recommended response:

Table 7: Archaeological 'Risk' Matrix

Archaeological 'Risk' Matrix	**Potential for Presence**	**High**	**Moderate**	**Low**	**Negligible**
Significance Level					
National		**High** Mitigation by Design			
Regional			**Moderate** Archaeological Evaluation		
Local				**Low** Archaeological Monitoring	
Negligible					**Negligible** No Further Action Recommended

9.1 Historic impacts and their effects on archaeological risk

Where significant impacts are identified as having impacted upon the study area, this will be taken into consideration when assessing the level of archaeological risk.

The main historic events that are likely to have had an impact on below-ground archaeological deposits are as follows:

- The historic development and construction of the Town Quay / Town Pier
- The historic development and construction of other piers and jetties in the vicinity
- The embankment and reclamation of the waterfront area from the late medieval period

Plate 5 shows the foundation plans for the construction of the pier, as produced by Tierney Clark. The construction of the pier and the pile foundations would have had a localised but highly destructive impact on earlier archaeological deposits.

9.2 Prehistoric (c. 520,000BC - AD43)

Somewhat unusually for a Thames side settlement, no archaeological finds of prehistoric date are recorded from riverine or intertidal contexts within the vicinity of the site, and all recorded material has come from further inland. In conjunction with this, the proposed impacts to potential archaeological deposits will be limited to a very contained area, in the location of the piles intended to support the floating pontoon. Potential prehistoric deposits within the impact area are considered likely to be of local significance, and the potential for presence within the impact area is considered to be low. Therefore the archaeological risk is considered to be low.

9.3 Roman (AD43 - AD450)

There is good archaeological evidence for Roman settlement activity within 200m of the site. Should Roman remains be present, it is thought that they are likely to be of local significance, However it seems likely that the area of the site lay within the river channel during this period, and the presence of Roman remains within the limited area of impact is considered to be low. Therefore the archaeological risk is considered to be low.

9.4 Medieval (AD450 - AD1550)

The main focus of early medieval settlement appears to lie further west (upstream at Northfleet) and c 1km to the southwest on higher ground, although some evidence for early Saxon activity has been recorded nearer to the site. There is more potential in the later medieval riverside town. During the last 30 years, there have been several archaeological investigations within the town, and these have shown that there are still areas of surviving sub-surface archaeological deposits within the historic core, but little can as yet be said with certainty about their extent, nature, quality, and date range. As some early streets (for example, High Street, West Street, Queen Street and the former East Street) were widened in the 19th century, remains of earlier structures could be concealed in front of the present street frontages. Thus, there is a good chance that meaningful archaeological deposits still survive, with potential for establishing the evolution and development of the town (EH / KCC, 2004, Section 6.1). With regard to the Town Pier site, it is likely that this

area lay beyond the line of the medieval waterfront, until at least the late 15th century. Therefore, the archaeological risk is considered to be low to moderate.

9.5 Post-Medieval and Modern (AD1550 - present day)

As outlined above, the area of the Town Quay / Pier underwent several phases of redevelopment during the post-medieval period. The visible raised causeway surviving under the present pier structure was built during the early 19th century, as part of the pier construction, replacing an earlier causeway structure referred to as a 'bridge on Tierney Clark's original drawings. The foreshore survey undertaken by Wessex Archaeology has identified a number of post-medieval features within the intertidal zone, and the possible locations of others can be identified through examination of historic maps and photographs. Alterations / extensions to the existing pier structure will not only have a direct impact on the historic fabric of the pier but may also affect the local flow patterns of the river, leading to increased scour / deposition on the foreshore. Similarly, the pier structure underwent a number of alterations and refurbishments during the modern period, most notably its conversion to a railway station. Evidence may also survive relating to maritime foreshore activity, such as fishing, in the form of access stairs, vessel remains and so on. Gravesend Town Pier is probably the earliest surviving cast iron pleasure pier in the world. The archaeological risk is considered to be high for the post-medieval and modern periods.

10. RECOMMENDATIONS FOR MITIGATION OF ARCHAEOLOGICAL RISK

Gifford consider that, given the potential presence of remains from a number of archaeological periods, investigations should be undertaken to allow assessment of the extent and survival of archaeological deposits and structures within the site, and thereby inform the treatment of these remains during construction.

- **localised foreshore survey** – the possibility of a localised foreshore survey to record in detail any exposed structures or deposits in the inter-tidal zone which may be affected by the proposed engineering works was explored. A site visit was undertaken on 11 December 2009 (Gifford 2009, report 13814-SP-02) to confirm the suitability of this outline strategy; this demonstrated that for both health & safety reasons and because historic foreshore deposits are obscured by recent soft tidal muds of unknown but clearly significant depth, it was not viable to progress a measured foreshore survey;

- **archaeological recording of borehole cores** through the alluvial sequence extracted during geotechnical investigation to determine the presence, character, thickness, absolute levels and date of archaeological deposits. The archaeological recording of the cores would include recovery of any artefacts from each defined archaeological deposit and consideration of the need for environmental sampling. A draft specification has been prepared for this investigation (Gifford 2009, report 13814-SP-02).

Since the new pontoon structure is not envisaged to make any physical contact with the pier itself (it would be structurally independent), the adverse effects by the scheme on the historic structure, if any, are considered to be purely visual. The historic fabric of the pier itself has recently been restored, and in this programme of works the structure was retro-engineered at the T-head to allow removal of a new section of ironwork to provide access to the pontoon. On this basis, no mitigation in relation to the historic fabric would be required.

11. ACKNOWLEDGEMENTS

Gifford would like to thank Gravesham Borough Council for commissioning this archaeological desk-based assessment. The author would also like to thank Stuart Brookes (Thames Discovery Programme) for assistance with Figures 1 and 7. Additional thanks to the staff of the Kent County Council Historic Environment Record (HER) and Alison Nolan of Gravesend Library for her help and permission to use images held by the Library within this report. Thanks also to Thomas ford and Partners for the provision of Computer-generated images of the Town pier 3d models. Thanks also to Simon McCormack of Thomas Ford and Partners, and Wendy Rogers, Senior Archaeological Officer for Kent County Council, for their helpful advice.

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History of Gravesend Town pier and LTSR

http://www.rivaonthepier.com/index.php?option=com_content&view=article&id=4
Brief history of the pier

http://www.simplonpc.co.uk
History of the pier, Ferry service, and old postcards of ferry and pier

13. APPENDIX 1 PLATES

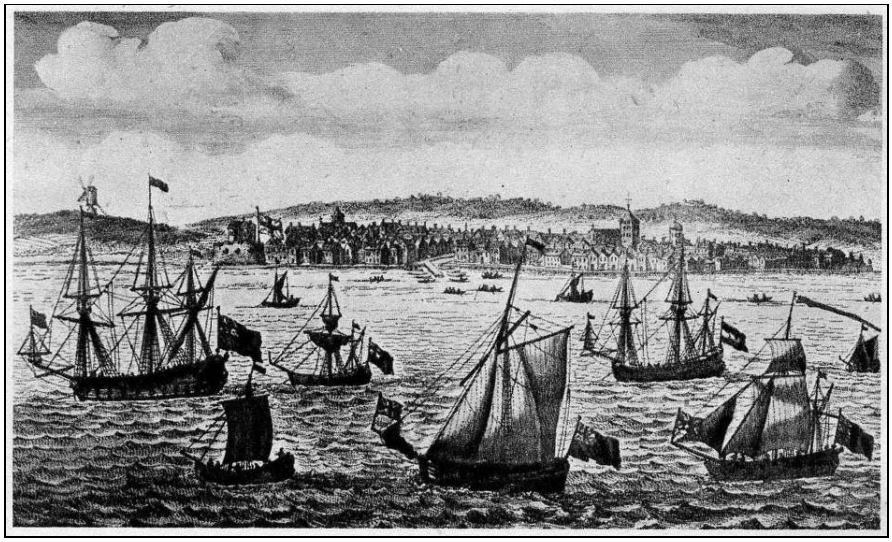

Plate 1: View of Gravesend c 1750

Plate 2: View of the 1833 temporary pier

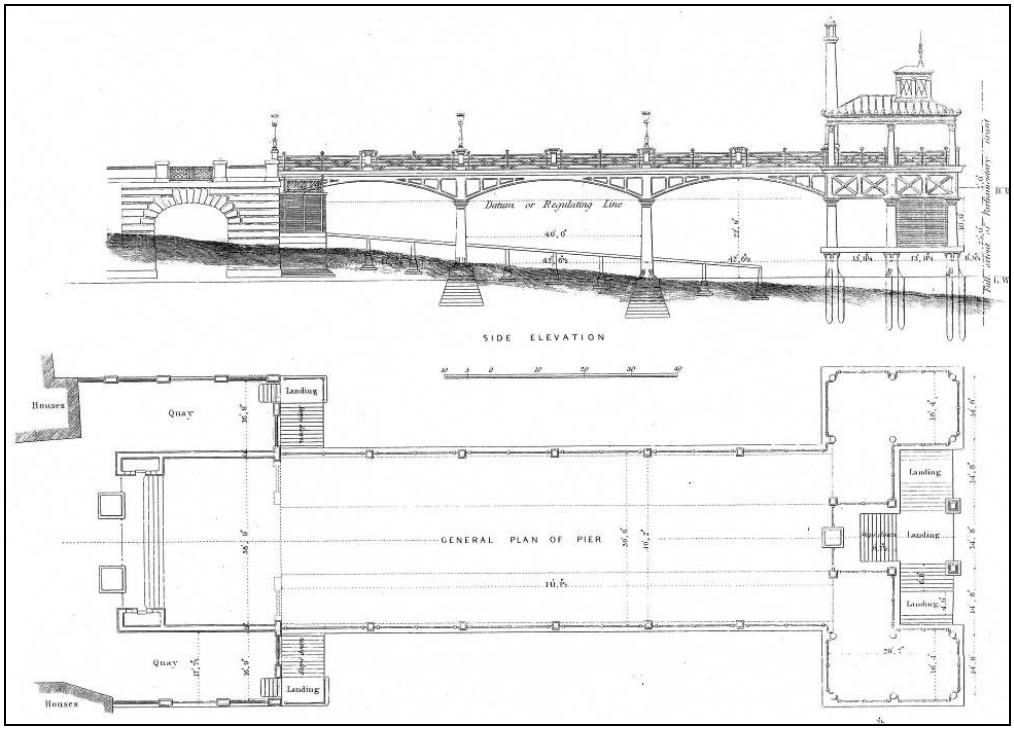

Plate 3: Plan and elevation of the 1834 Pier (from Clark 1840)

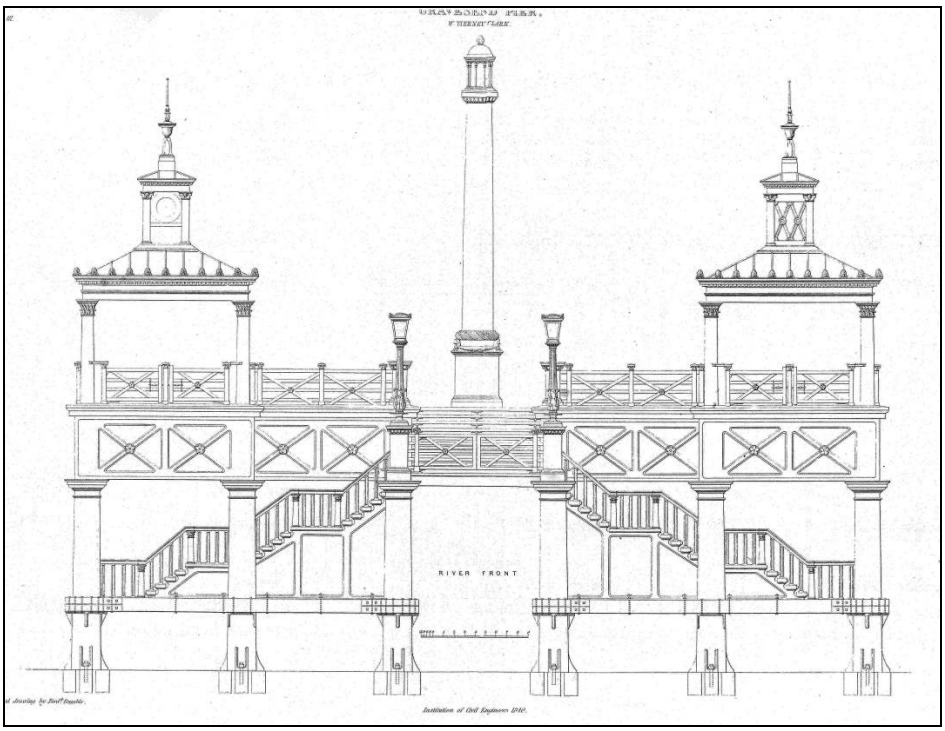

Plate 4: Elevation of the river frontage of the 1834 pier (from Clark 1840)

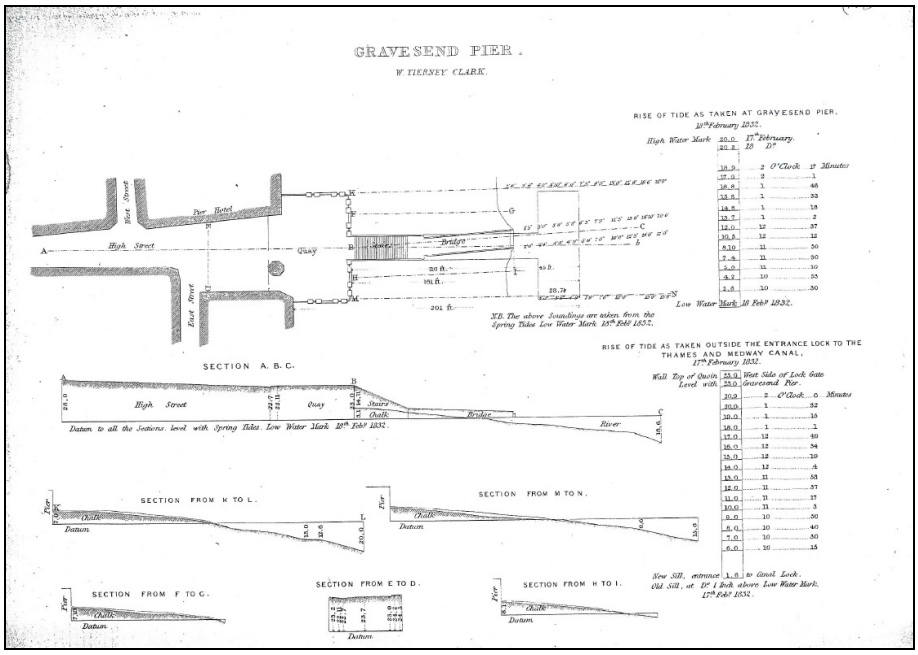

Plate 5: Existing sections prior to pier construction (from Clark 1840)

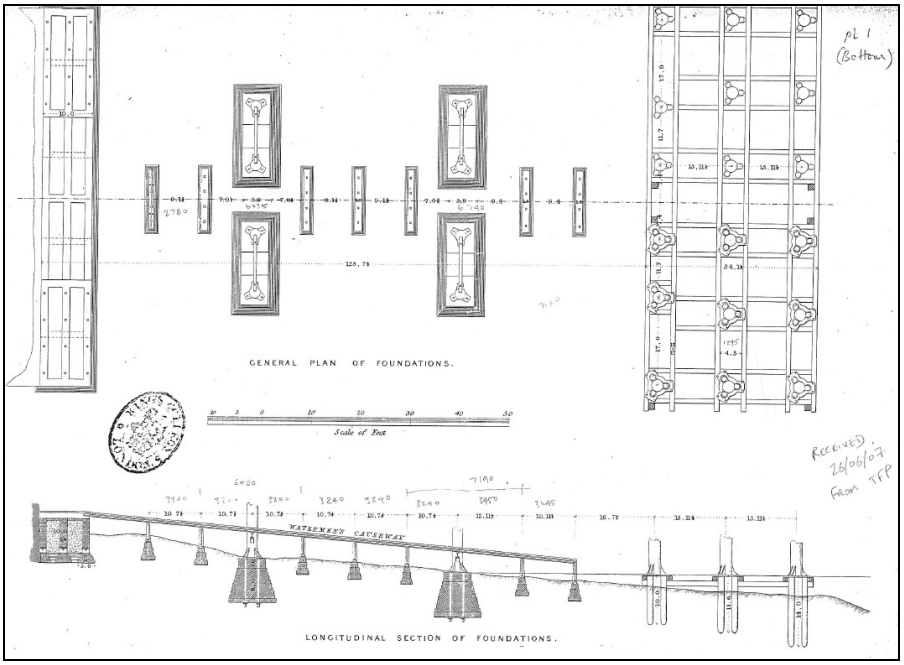

Plate 6: Foundation details (from Clark 1840)

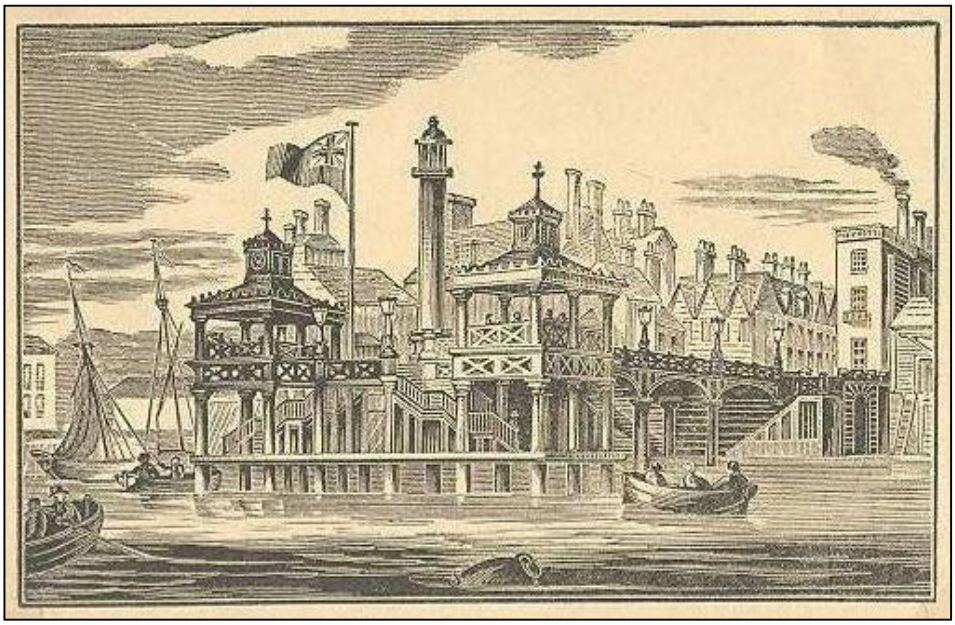

Plate 7: Undated stylised view of the Pier (pre 1840s)

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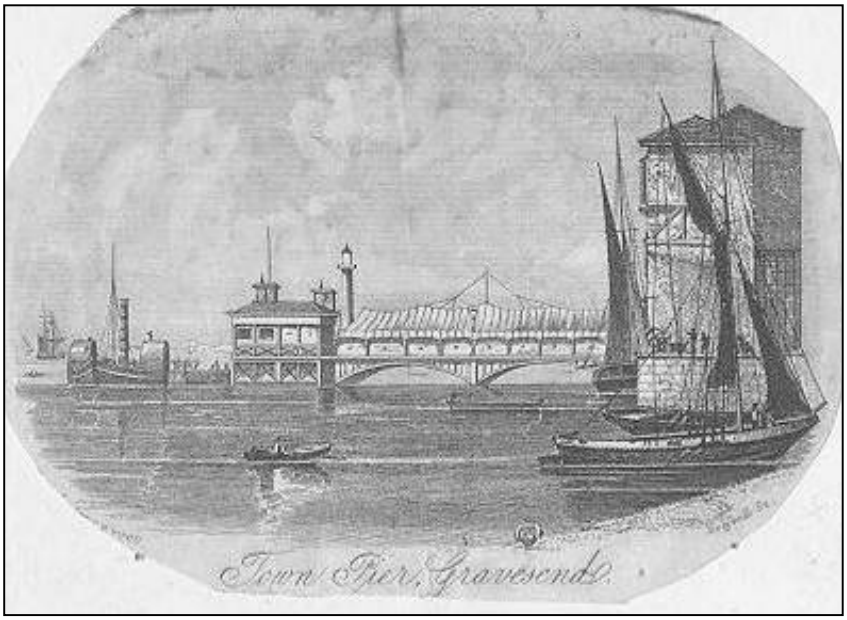

Plate 8: Town Pier, 1830s (Wood)

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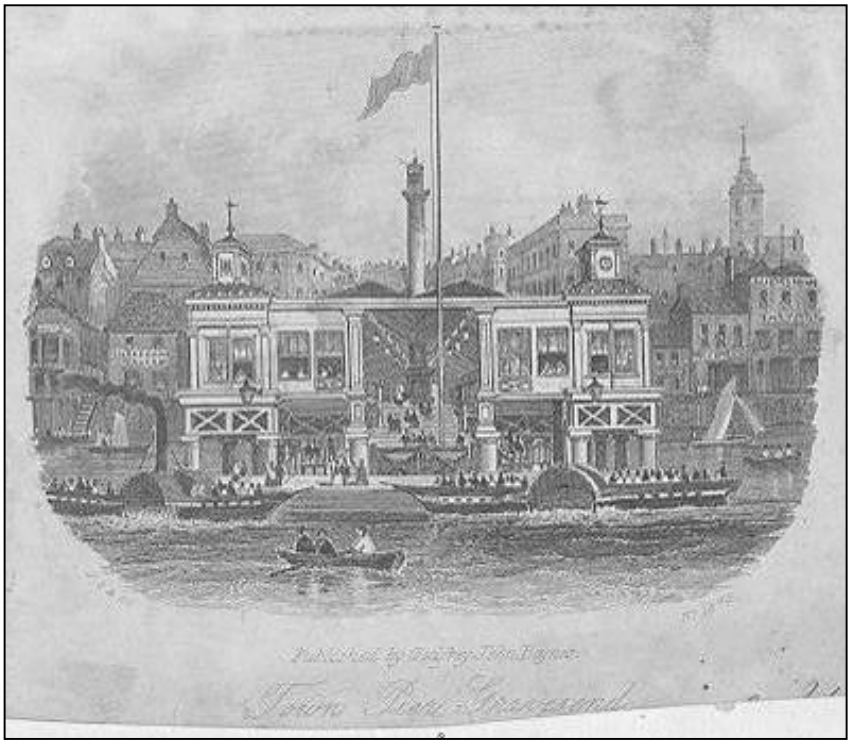

Plate 9: View of the pier 1844 (Baynes)

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Plate 10: View of the Town Pier, looking west, 1890

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Plate 11: Flooding at the Pier Railway Station (undated)

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