



KENT ARCHAEOLOGICAL PROJECTS

**Kent Archaeological Projects
2 Windmill Court
Borstal Hill
Whitstable
Kent
CT5 4QH**

**The results of an archaeological evaluation by trial trench prior to development on land
adjacent to Custom House, The Terrace, Gravesend, Kent DA12 2BW**

**Planning Reference 20210757 (Gravesham Borough Council)
NGR 565194/174318
March 2024**

**Tim Allen
for
Kent Archaeological Projects
2 Windmill Court
Borstal Hill
Whitstable
Kent CT5 4QH**

The results of an archaeological evaluation by trial trench prior to development on land adjacent to Custom House, The Terrace, Gravesend, Kent DA12 2BW

Contents

- 1) Introduction and planning background
- 2) Summary of results
- 3) Background
 - i) *Landscape and geology*
 - ii) *Archaeological and historical background*
- 4) Results
- 5) Conclusion
- 6) References
- 7) Figures and plates
- 8) KCC HER Summary Form

1) Introduction and planning background

In January 2024 Kent Archaeological Projects (KAP) was instructed by Mr Michael Keckes of Mile Property Group Ltd to undertake an archaeological evaluation on land to be impacted on by groundworks associated with a development described in Gravesham Borough Council Planning Application 20210757 as follows:

The demolition of the southern part of the workshop building and existing corridor link at first floor level between Custom House and the outbuildings and conversion of Custom House, the coach house and outbuildings to include extensions, the Old Boathouse and the Boathouse with external alterations and erection of a new three-storey building to provide 27 residential units (6 x 1 bed, 15 x 2 bed and 6 x 3 bed) with associated landscaping and parking.

The development is due to take place on land for the most part lying north of Custom House, The Terrace, Gravesend, and south of a substantial concrete revetment and embankment separating the site from the River Thames (see **Figs 1, 2, 3 & 7** below).

In the mid-sixteenth century the development site is known to have lain between two sets of walled fortification built on the instruction of Henry VIII and subject to much modification during subsequent centuries (see ‘Post-Medieval [c. 1540 to 1901] in Part 3ii below). In the early-nineteenth century, The Custom House (a Grade II Listed Building lying adjacent and north of the eastern end of The Terrace) was built on the southern part of the site. Originally the base for HM Customs and Excise Service, Custom House was also the Customs Commissioner’s main residence and office before it was taken over by HM Revenue Customs. Its use for that purpose ceased in 2018, when the building was vacated.

The part of the site to be developed in terms of new build consists of a flat, tarmac courtyard, most lying between and to the north and south of two attached red-brick buildings to the east and two attached London-stock brick buildings to the west, the latter due for demolition (see **Figure 3** and **Plates 1, 2, 3, 4, 5 & 6**). The northern most of the latter was probably a boat house used by the HMCE excise men, the attached building to the south being a workshop of

later construction. The house and its associated grounds occupy an approximate area of 3,803m² centred on National Grid Reference TQ 6515 7437.

The archaeological evaluation was preceded by and took place according to the terms of a specification written by Kent Archaeological Projects (March 2024). Archaeological mitigation prior to development in the form of an evaluation was required by Gravesham Borough Council as Condition 5 of planning consent for the development. This followed recommendations made by Casper Johnson, Senior Kent County Council Archaeological Officer of the County Heritage Conservation Group with consultative responsibility for the Borough of Gravesham (thanks are due to Mr Johnson for subsequent insightful advice on this project).

Condition 5 of the planning consent requires that:

No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written specification and timetable which has been submitted to and approved in writing by the Local Planning Authority.

Reason: To ensure that features of archaeological interest are properly examined and recorded in accordance with Policy CS20 of the Gravesham Local Plan Core Strategy (September 2014), saved Policy TC7 of the Gravesham Local Plan First Review (1994) and section 16 of the National Planning Policy Framework (2023).

The evaluation took place on the 13th, 14th and 15th March 2024 and took the form of the mechanical excavation of five evaluation trenches under constant archaeological direction followed by manual cleaning and recording according to a standard specification for evaluation as issued by the Heritage Conservation Group of Kent County Council.

2) Summary of results

Two main sets of evidence were exposed, the earliest indicating that, up to 1801 at the latest, the original south bank of the Thames lay some 35m south of the present concrete river wall in this area. Evidence in the form of alluvial deposits, some within channels with wooden stake revetments, suggested that, when the channels were cut, the northern part of the development site lay within the Thames intertidal zone. This preceded a large-scale programme of reclamation, levelling-up and building on the site, almost certainly during the

late eighteenth century, the archaeological evidence in this case being supported by cartographic and documentary evidence.

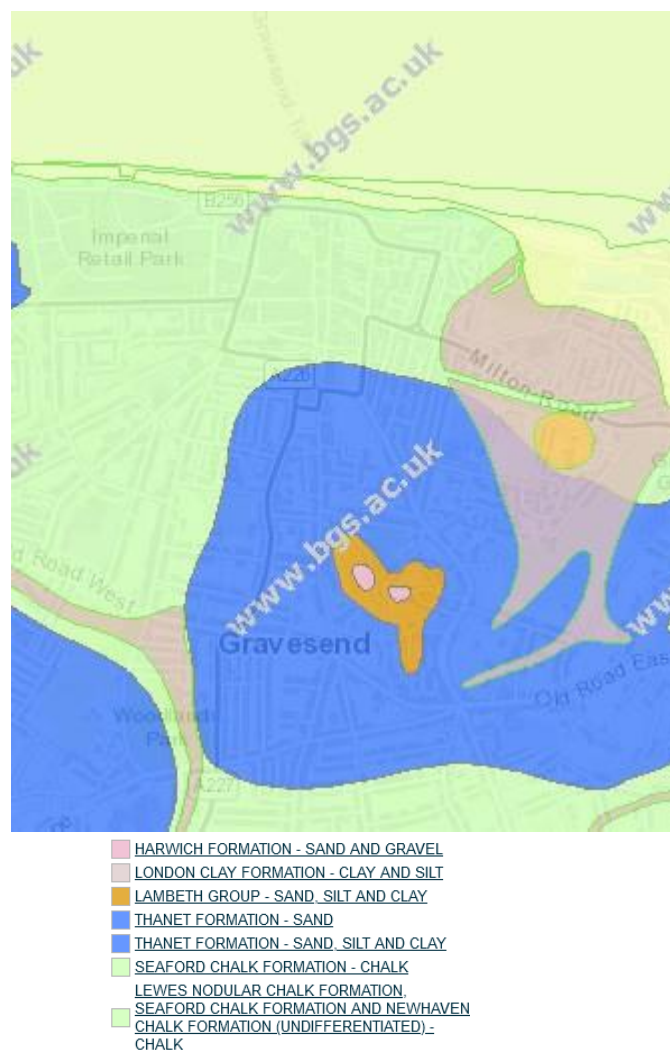
The second set of evidence consisted principally of the stratigraphic sequence of compacted horizontally laminated levelling-up layers laid down during that programme of reclamation. Exposed in all trenches and up to 1.35m thick, the deposit sequence consisted of up to eight layers of between 500mm to 0.3m thickness and consisting variously of mixed flint fragments, orange-brown clay-silt, crushed chalk, building rubble (mostly fragmented tile and brick), humic clay-silt and rock fragments. Apart from the brick fragments, which were all of standard post-medieval size and form, and a small assemblage of clay-pipe stems, no datable cultural materials were recovered. However, as a map of 1801 shows the site's northern boundary to be in approximately the same position as at present, with the site's northern part shown as a rectangle area projecting for a short distance into the intertidal zone, it can be assumed that the site had been reclaimed, consolidated and developed by that time. This was also suggested by the presence shown on the 1801 map of a large rectangular building and other structures in the reclaimed area, none of which are shown on later nineteenth-century maps.

It was concluded on this basis that a process of land reclamation took place on what had been part of a marginal Thames intertidal area in the late eighteenth century. The work almost certainly took place as part of major modifications to the Gravesend river defences undertaken after a 1778 governmental report, which recommended alterations to the blockhouse, the remodelling of the gun platforms and the construction of the new, larger New Tavern Fort to the east. As the present development as shown on the 1801 map lies between a 'D'-shaped building with a circular bastion (identified by some historians as the Blockhouse, which lie to the west) and the New Tavern Fort to the east, it can be assumed that the present development site was reclaimed as part of the late eighteenth-century extension and modification of the Gravesend defences, probably to provide secure access to the river within the new defensive complex.

3) Background

i) Landscape and geology

The site lies on what is now flat, slightly sloping (from south to north) land located immediately adjacent to the south bank of the River Thames, from which it is separated by a substantial modern concrete barrier wall. It was noted during a previous site visit that the northern part of the site would probably have been subject to estuarine alluvial deposition before the levelling-up of the ground and construction of that wall in that area. Consistent with that assumption, such alluvial deposits were exposed during the evaluation in the site's northern part, where deposits exposed in Trench 1 indicated that this area originally lay within the southern margin of the Thames intertidal zone.



ii) Archaeological and historical background

A search of the Kent Historic Environment Record (HER) was undertaken within a 500m radius around the site centre. This search returned 205 results for archaeological sites, find-spots and listed buildings. A full gazetteer of these results is presented in Appendix I of the desk-based assessment undertaken prior to the present work (KAP March 2021). The following archaeological and historical background represents a summary of the HER data, documentary, cartographic and aerial photograph research, and a study of material held by the Kent History and Library Centre archives.

Prehistoric (700,000 BC to AD 43)

The KHER holds one record of finds of this period. Twelve Palaeolithic hand axes and 12 pieces of debitage have been recovered from the general Gravesend area (TQ67SW436).

Roman (AD 43 to 410)

The KHER records one site of this period. A settlement site was excavated by the Kent Archaeological Rescue Unit in August 1978. Extensive evidence of Roman-period settlement was found across the whole five acres and it is clear that it extends beyond the available area on all four sides. Numerous ditches, some very large, were found crossing the area and these probably define the limits of extensive enclosures containing wooden structures. Traces of *opus signinum* hint at the presence of at least one small masonry building somewhere in the area. The finds include quantities of local and imported Roman pottery ranging in date from the first to the fourth centuries. This includes material of mid-first century date and a Roman military origin is be considered plausible for this site (TQ 67SW110).

Saxon (AD 410 to 1066)

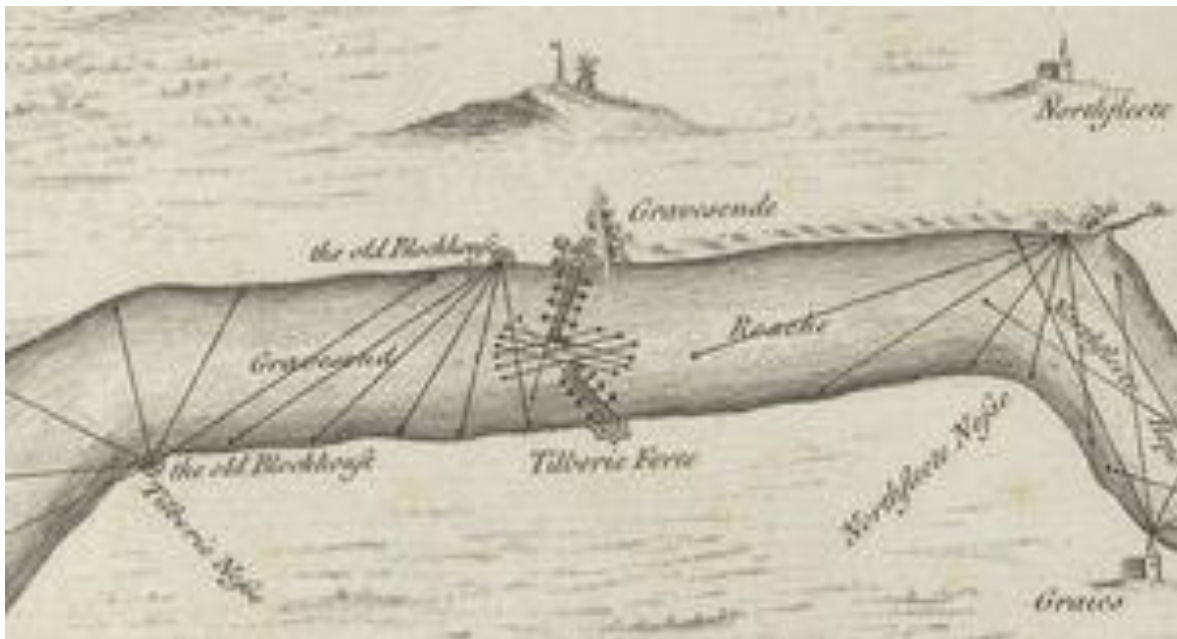
Two records of this period are held in the KHER. A watching brief and excavation during groundworks associated with the development of the Sensory Gardens site, Transport Quarter, Gravesend, was undertaken by Archaeology South East between 20th October 2010 and 22th February 2011. A 0.35m thick loose dark orange brown silty sand colluvium deposit, containing moderate charcoal flecking, with occasional artefacts and the partial skeleton of a cow, including a sherd of Saxon pottery from 5th/6th Century (TQ67SW642). The second record is of a find-spot of on Anglo-Saxon 'Sceat' silver penny dated to between 1059 and 1062 (TQ67SE1241).

Medieval (1066 to 1540)

The KHER holds six records of this period as follows: An Anglo-Norman silver penny dated to 1135-1154 (TQ67SE1245); Milton Chantry (TQ67SE1107), founded c. 1155 (now a Grade II Listed Building housing a museum; the remains of Gravesend Blockhouse (TQ67SW5), built in 1539; the site of a manorial complex (TQ67SW233), built between 1362 and 1368 by Edward III (the complex consisted of a hall and king's chamber, a chapel, a gatehouse, two houses next to the gate and as ancillary buildings a kitchen, three houses with latrines, two ovens and a bakery, two granges, a bridge and a wharf); excavations at No.43 High Street, Gravesend in 1963 (TQ67SW131) uncovered five pits of varying depth in an area behind a cobbler's shop. The pits produced many vessels including storage vessels, jugs and tankards ranging from the thirteenth to eighteenth century in date, and the site of 81 High Street, Gravesend, (TQ67SW232), where medieval cesspits were discovered.

Post-Medieval (c. 1540 to 1901)

The HER lists 105 entries for this period, all of which are Listed Buildings dating from the later medieval period to the early twentieth century. However, of direct relevance to the present development site is a strategic walled river defensive complex built by order of Henry VIII in 1539 and which became operational in 1540.



An engraving from 1588 showing the Henrician defences during the Elizabethan period. The defences lie along the south bank of the Thames, which is spanned by a boom. Interestingly, the Gravesend Blockhouse was already known as the Old Blockhouse in this period. It is

shown slightly left of centre of 'Gravesende', on this map, above and therefore south of the Thames.

In 1797 it was noted that:

King Henry VIII built two bulwarks or platforms, one at this town and the other somewhat lower down on the river at Milton, and mounted them with cannon, as a defence to the mouth of the Thames, and so late as 1782 an act passed for the better securing the river Thames at Gravesend and Tilbury (Hasted 1797, 319-335).

Hasted also stated that:

'Queen Elizabeth, consulting the honour and grandeur of the nation, and of the city of London in particular, ordered the mayor, aldermen and companies of it, to receive all eminent strangers and ambassadors at this place [Gravesend], in their formalities, and so to attend them to London in their barges if they came by water.' (ibid)

Often referred to, sometimes confusingly, as the Gravesend Blockhouse, the defensive complex at Gravesend is described as follows in Thompson & Smith, 1977, 153–177:

'Gravesend Blockhouse was an artillery fortification constructed as part of Henry VIII's Device plan of 1539, in response to fears of an imminent invasion of England by European countries. It was built at Gravesend in Kent at a strategic point along the River Thames and was operational by 1540. A two-storey, D-shaped building built from brick and stone, it had a circular bastion overlooking the river and gun platforms extending out to the east and west. It functioned in conjunction with Tilbury Fort on the other side of the river, and was repaired in 1588 to deal with the threat of Spanish invasion, and again in 1667 when the Dutch navy raided the Thames. A 1778 report recommended alterations to the blockhouse and its defences, leading to the remodelling of the gun platforms and the construction of the new, larger New Tavern Fort alongside it. In the 1830s the government decided to rely entirely on the newer fort and the old blockhouse was demolished in 1844. Its remains were uncovered in archaeological excavations between 1975 and 1976 (see plate below). The site, which lies in the grounds of the Clarendon Royal Hotel, was protected under UK law as a scheduled monument in 1979.'

The Clarendon Royal Hotel is located on Royal Pier Road, about 360m west of the present development site. It should be noted that the remains of the 'D'-shaped building with a circular bastion identified above as the Blockhouse remodelled and altered after 1778 lies almost adjacent and west of the present development site if it is the roughly 'D'-shaped structure shown on the 1801 plan (see below).



Photograph by Ben Sutherland – Flickr: Remains of Gravesend Blockhouse in the grounds of the Clarendon Royal Hotel

As discussed above, of direct relevance to the present site is the map dated 1801 (see below) showing the results of the modifications and extensions recommended in the 1778 report as described by Thompson and Smith (the modifications also pre-date the construction of Custom House in the early nineteenth century). The map shows the up-dated defensive structures outlined in bold, with adjacent and presumably non-defensive buildings delineated in faint lines. Significantly, it shows the present development site to lie between two sets of defensive structures, with a rectangular building picked out faintly within it. The presence of an adjacent jetty suggests the site may have been reclaimed with the express purpose of establishing a secure embarkment and disembarkment point for the newly upgraded defences.

This 1801 plan also shows the site boundary in approximately the same position as at present, with the northern part of the area shown as rectangular and projecting out for a short distance into the intertidal zone just northwest of a narrow jetty (compare the 1801 map with Figure 1 in Part 7 below).



1801 plan of the Gravesend defences (see also below)

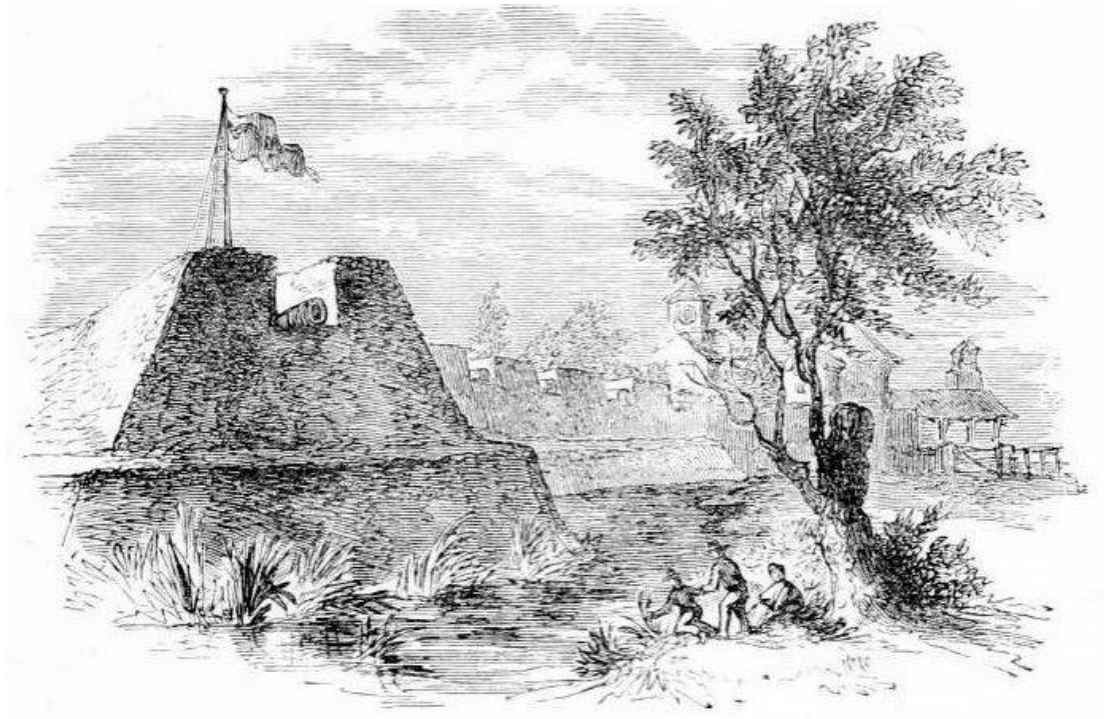


Image of *Fortifications at Gravesend*, 1859, from Hall, Samuel Carter, and A. M. Hall. *The Book of the Thames from its Rise to its Fall*. London: Arthur Hall, Virtue, and Co., 1859. *Internet Archive* version of a copy in the William and Mary Darlington Memorial Library, the University of Pittsburgh. Web. 10 March 2012.

4) Results

The overall stratigraphic sequence exposed in the evaluation trenches was complex and detailed, as shown in the context-based tabulated trench results shown below the following discussion of the results and their wider significance.

Discussion

The evaluation exposed two sets of archaeological evidence, the earliest relating to the riverside topography of the site prior to subsequent phases of reclamation, consolidation and construction undertaken during the early sixteenth-century and subsequent centuries in this part of the Thames intertidal zone.

The earlier evidence, as exposed in Trenches 1, 2 and 5, indicated that, prior to reclamation and development, the northern part of the present development site lay within the southern range of the Thames intertidal zone. Part of the original river bank was almost certainly

exposed in Trench 5, some 38m south of the present seawall, the bank being marked by a steeply rising slope separating riverine alluvia to the north and *in-situ* natural Quaternary Brickearth to the south. Consistent with this interpretation, Trenches 3 and 4, located 10m further to the south, exposed no alluvia, with bedrock chalk with natural brickearth-filled grooved striations being exposed beneath late post-medieval levelling-up deposits in both cases.

Riverine alluvial deposits exposed in the northernmost parts of the site were recorded as Contexts 108 – 110 and 115 in Trench 1 (see ‘Tabulated trench results’ below), the earliest occurring at approximately 3.52m OD and, in Trench 2, at 4.10m OD (Context 208) and, in Trench 5, some 10m south of Trench 2, at 5.27m OD (Context 505). It should be noted here that alluvial deposits identified in Trench 1 occurred in channels that were probably man-made but nonetheless indicated that a tidal regime still prevailed in that area at the time of their construction (basal deposit 111 in Trench 1 may have been bedrock chalk but severe trench flooding prevented further investigation). In contrast, to the south, homogenous alluvium (505) exposed in Trench 5 abutted the steeply upward-sloping edge of homogenous mid orange-brown sandy clay silt, interpreted with confidence as natural *in-situ* Brickearth of probable Quaternary origin and representing the remains of the old riverbank in this area. The rise in the Brickearth was 1.55m+ over a distance of 0.75m.

The above interpretations were consistent with the evidence exposed in Trenches 3 and 4, some 10m south of Trench 5. Here, natural bedrock chalk with natural mid-orange-brown brickearth-filled surface striations was exposed at heights of 4.4m OD (Trench 3) and between 4.9m and 5.8m OD in Trench 4. Excluding the subsequent levelling-up layers, the fall in ground surface elevation from south to north between Trench 3 (southernmost) and Trench 1 (northernmost) was 2.25m+, the main point of drop (1.55m+) being exposed in Trench 5.

The second set of evidence can be divided into two sub-sets. In relation to the first sub-set, as discussed above in Part 3ii (*Post-Medieval c. 1540 to 1901*), it is likely that the first clear evidence of anthropic activity on the site, as evident in Trench 1, predated significant, large-scale modification to the defences undertaken during the later eighteenth century, probably, at a time when Gravesend was a small town consisting of, according to a plan of 1588 (see above), a single road leading down to the river, with buildings on either side. The earliest channel ([16],

see Trench 1 section) underlay a compact crushed chalk layer (14) that was in turn cut by another channel [12] in the trench's east end, both trenches apparently being contained within wooden stake revetments, of which only one set for each channel was exposed (the wooden stakes were given the same contexts numbers [12 & 17] as the channel cuts). Both channels appear to have been approximately north-south aligned and were presumed to provide access to the Thames intertidal zone at high-tide times, as indicated, for example by the predominantly alluvial fills (7-10) in the later of the two channels.

A third channel [17] providing similar access was exposed in the western end of Trench 1. This channel cut crushed chalk layer 14 and layer (13), which overlay Channel 16, and was therefore the latest of the three channels. Its fill (19) consisted of a laminated deposit of compact mid-brown clay-silt and gravels, the horizontally banded appearance of which was suggestive of purposive rather than natural alluvial deposition. It was interpreted as resulting from the deliberate filling and levelling-off of the channel prior to the final process of levelling represented by overlying deposits 118 & 106.



The map of 1801 discussed in Part 3 (see detail above) shows the northern site boundary to be in approximately the same position as at present, with the site's northern part shown as a rectangle area projecting out for a short distance into the intertidal zone. It can therefore be assumed that the site had been reclaimed, consolidated and developed for some time before 1801, as suggested by the presence in it of a large rectangular building and other structures. The three channels and associated deposits discussed above therefore almost certainly predate 1801 and the late eighteenth-century modification to the Gravesend defensive structures.

The second sub-set of evidence relates to reclamation, consolidation and development of the site during the later eighteenth century, probably following the '1778 report that recommended alterations to the blockhouse and its defences, leading to the remodelling of the gun platforms and the construction of the new, larger New Tavern Fort alongside it.' (Thompson & Smith, 1977). Consistent with that interpretation, the three channels discussed above all underlay complex sequences of compacted, thin horizontal deposits consisting variously of mixed flint fragments, orange-brown clay-silt, crushed chalk, building rubble (mostly fragmented tile and brick), humic clay-silt and rock fragments, with, common to all, the upper layers consisting on two tarmac surfaces, the latest one still in use (see, for example, Deposits 101, 102, 103, 104, 105 & 106 in the Trench I section and tabulated results below). Deposits 101-105 denote tarmac layers of their associated bedding layers. Tarmac, or tarmacadam, was patented by the Welsh inventor Edgar Purnell Hooley in 1902 and came into common use in the twentieth century, so these layers are of relatively recent deposition.

It can be concluded that the main and most significant phase of riverbank modification in the area (as indicated by the alluvial deposits underlying thick laminated levelling-up layers exposed in Trenches 1, 2 & 5) almost certainly dates to the late eighteenth-century. Further, smaller-scale modification evident in Trenches 3 & 4 do not relate to the reclamation process, with the higher lying ones probably relating to the later, early nineteenth-century construction of Custom House and more recent phases of re-surfacing.

Tabulated trench results

Trench 1	Dimensions: 16.62m x 1.8m Trench alignment: E-W Pre-excavation surface OD, 4.25m Figures 1 & 2, Plates 7 – 14		
Context	Interpretation	Description	Depth below present ground surface
101	Tarmac consolidation surface	Layer of compacted tarmac surfacing still in use	40mm
102	Tarmac bedding layer	Grey-black crushed re-compacted tarmac fragments, fine-crushed building rubble and fine aggregate gravel	40mm - 55mm
103	Mixed flints and mid orange-brown sandy clay-silt	Consolidation/levelling layer (re-deposited natural brickearth)	0.55m-0.75m
104	Tarmac consolidation surface	Earlier buried layer of compacted tarmac surfacing	0.75m-0.8m
105	Layer of crushed tarmac	Crushed/fragmented compacted tarmac used as a bedding layer	0.8m-0.83
106	Layer of redeposited chalk mixed with some humic soil	As this layer is 0.38m thick in the west and 0.18m in the east but its upper surface is roughly horizontal this is probably a levelling layer deposited prior to laying the overlying tarmac surface, later replaced by another (104)	0.83m-1.21m
107	Mixed chalk and humic clay-silt	Top fill of probable backfilled man-made channel 112, over 108 in the western end of the trench	0.57m-72m
108	Light-mid stiff orange-brown clay-silt	Probably alluvial fill in silted up man-made channel, possibly providing boat access to the river, over 109 in west end of trench. This layer contained many large iron bars	0.72m-1.00m
109	Thin layer of chalk	Probable colluvial (down-slope) chalk debris from layer 114, over 110	1.00m-1.03m
110	Very thin layer of orange-brown clay-silt	Probable basal alluvial deposit in Channel 112, west end	1.03m-1.2m
111	Chalk exposed in the base of channel 112	Probably natural chalk	1.2m+
112	Cut or bank edge of channel	Edge of Channel 112 marked by a line of narrow wooden stakes (see Plate 13)	1.2m+
113	Layer of mixed building rubble (fragmented tile and brick), humic clay-silt and rock fragments	Backfill/levelling over a severely slumped area caused by the presence of two probable man-made channels in the west end of the trench, over 114 (fill of Channel 16), cut by Channel 17	0.75m-0.98m
114	Compacted crushed chalk layer/floor and channel abutment skirting east side of Channel 112	Almost certainly a deliberately deposited chalk layer skirting and contemporary with Channel 112, under 113, over 115	0.63m-1.10m+
115	Grey-brown clay-silt	Probably alluvial clay-silt filling a made-made channel as indicated by a line of wooden revetment stakes, which it lies immediately to the east of (see Plate 14). Under 14, cut by 117	1.10m+
116	Cut of bank edge marked by wooden stakes	Almost certainly the remains of the earliest man-made channel exposed in the trench. Extends approximately north-south (see	0.9m+

		Plate 14). Under and abutted by chalk layer 114, which is probably contemporary with Channel 112	
117	Cut for or edge of a man-made channel	Almost certainly the remains of a later man-made channel providing access to the Thames from the boat house located some seven metres to the south. The cut intersects rubble backfill/levelling layer 113 (see Plate 9). Filled by 119	N/A
118	Mid yellow-brown mixed deposit of stones, sand and clay-silt	Probably, like 106, which it underlies, part of the levelling undertaken prior to laying of tarmac surface 104/105	0.5m-1.00m
119	Composite and laminated deposit of mid brown clay silt and gravel. Fill of 117	The compacted, horizontally banded nature of this deposit is suggestive of purposive rather than natural alluvial deposition, probably as the initial filling and levelling off of Channel 117 prior to the final process of levelling represented by deposits 118 & 106	0.75m-1.5m

Trench 2	Dimensions: 15.4m x 1.8m Trench alignment: N-S Pre-excavation surface OD, 4.99m Figures 1 & 2, Plates 15-17		
Context	Interpretation	Description	Depth below present ground surface
201	Tarmac consolidation surface	This layer of compacted tarmac surface that's still in use. Same as 101	40mm
202	Tarmac bedding layer	Grey-black crushed re-compacted tarmac fragments, fine-crushed building rubble and fine aggregate gravel.	40mm - 55mm
203	Levelling up/bedding layer	Grey-black crushed re-compacted tarmac fragments, bricks (in the north end), fine-crushed building rubble and fine aggregate gravel. Similar to 102	55mm – 0.20m
204	Tarmac consolidation surface	Earlier buried layer of compacted tarmac surfacing	0.20m-0.37m
205	Layer of crushed tarmac	Crushed/fragmented compacted tarmac used as a bedding layer, including a thin layer of underlying sand	0.37m-0.75m
206	Layer of compacted crushed chalk	Discontinuous chalk layer. Probably the upper part of a substantial programme of deposition undertaken to raise the ground level what had been on the tidal fringe of the Thames	0.75m-0.8m
207	Mixed layer of boulders, clay-silt, brick fragments, gravel and brickearth	Substantial levelling-up deposit (lower part of a substantial programme of deposition as described above)	0.8m-1.23m
208	Mid grey-brown alluvium	Probably alluvial (tidally deposited) clay-silt in the form of re-deposited London Clay laid down prior to the levelling-up process discussed above	1.23m-1.52m

Trench 3	Dimensions: 14.5m x 1.8m Trench alignment: NNE-SSW Pre-excavation surface OD, 6.40m Figures 1 & 2, Plates 18 & 19,		
-----------------	--	--	--

Context	Interpretation	Description	Depth below present ground surface
301	Tarmac consolidation surface	This layer of compacted tarmac surface that's still in use. Same as 101 and 201	40mm
302	Tarmac bedding layer	Grey-black crushed re-compacted tarmac fragments, fine-crushed building rubble and fine aggregate gravel.	40mm – 0.24m
303	Concrete slab	0.12m-thick concrete slab/platform lying south of the workshop to the rear of the boathouse and adjacent the garden lying south of Custom House	0.24m-0.36m
304	Mixed light orange-brown gravel, sand and clay-silt	Commercial aggregate bedding/levelling layer for overlying concrete slab	0.36m-0.66m
305	Dark brown humic clay-silt	Buried garden/top soil (probably originally part of the Custom House garden).	0.66m-0.9m
306	Thin discontinuous layer compacted crushed chalk	3mm-thick patchy spread of compacted crushed chalk underlying buried garden/topsoil.	0.9m -0.93m
307	Mid-dark brown friable sandy humic clay-silt	0.3m-0.42m-thick mid orange-brown humic palaeosol (old buried topsoil pre-dating the construction of the Custom House and the earlier, late eighteenth-century reclamation of the site). Undifferentiated (graded) boundary between this and the underlying orange-brown sandy clay silt	0.93m-1.55m (max)
308	Orange-brown sandy clay-silt	Quaternary orange-brown sandy clay-silt (Brickearth)	0.1.35m-1.55m+
309	Bedrock Chalk	Exposed bedrock Chalk under Quaternary orange-brown sandy clay-silt (Brickearth)	1.55m+

Trench 4	Dimensions: 13.5m x 1.8m Trench alignment: N-S (approx.) Pre-excavation surface OD, 6.22m Figures 1 & 2, Plate 20		
Context	Interpretation	Description	Depth below present ground surface
401	Tarmac consolidation surface	This layer of compacted tarmac surface that's still in use. Same as 101 and 201	40mm
402	Tarmac bedding layer	Grey-black crushed re-compacted tarmac fragments, fine-crushed building rubble and fine aggregate gravel.	40mm – 0.15m
403	Compact mixed layer of crushed brick, brick fragments, patches of humic clay-silt and orange-brown powdered mortar	Levelling-up and ground-surface raising layer prior to making the courtyard surface associated with Customs House	0.15m-0.32m
404	Thin band of compacted crushed chalk.	One of three chalk layers deposited as part of the ground-raising groundworks associated with the construction of Custom House or, less likely, as part of earlier, late eighteenth-century reclamation of the site	0.32m -0.37m
405	Thin band of stiff mid orange-brown clay-silt	One of three this clay-silt layers deposited as part of the ground-raising groundworks associated with the construction of Custom	0.37m-0.42m

		House or, more likely, part of the earlier, late eighteenth-century reclamation of the site	
406	Thin discontinuous layer compacted crushed chalk	Like 404, one of three such chalk layers deposited as part of the ground-raising groundworks associated with the construction of Custom House or, more likely, part of the earlier, late eighteenth-century reclamation of the site	0.42m -0.93m
407	Very thin band of stiff mid orange-brown clay-silt	One of three such clay-silt layers, like 405 & 409, deposited as part of the ground-raising groundworks possibly associated with the construction of Custom House but, more likely, part of the earlier, late eighteenth-century reclamation of the site	0.93m-0.95m
408	Bedrock Chalk	Exposed bedrock Chalk under Quaternary orange-brown sandy clay-silt (Brickearth). Same as 309	0.78m (in south end) - 1..55m+ (in north end)
409	Very thin band of stiff mid orange-brown clay-silt	One of three clay-silt layers, like 405 & 409, deposited as part of the ground-raising groundworks associated with the construction of Custom House or, more likely, the buildings shown on the 1801 map	0.98m-1.02m
410	Mid-dark brown friable sandy humic clay-silt	0.3m-0.42m-thick humic palaeosol (old buried topsoil pre-dating the construction of the Custom House and earlier 18 th –century structures). Undifferentiated (graded) boundary between this and the underlying orange-brown sandy clay silt. Probably same as 307.	1.02m-1.35m
411	Orange-brown sandy clay-silt	Quaternary orange-brown sandy clay-silt (Brickearth). Over 408. Same as 308	0.1.35m-1.55m+

Trench 5	Dimensions: 7m x 1.8m Trench alignment: N-S (approx.) Pre-excavation surface OD, 5.47m Figures 1 & 2, Plates 21 & 22		
Context	Interpretation	Description	Depth below present ground surface
501	Tarmac consolidation surface	A layer of compacted tarmac surface that's still in use. Same as 101	40mm
502	Tarmac bedding layer	Grey-black crushed re-compacted tarmac fragments, fine-crushed building rubble and fine aggregate gravel.	40mm - 63mm
503	Tarmac consolidation surface	A now- buried layer of compacted tarmac surfacing	63mm – 0.25m
504	Tarmac bedding layer	Fine-crushed building rubble, powdered chalk and mortar and fine aggregate gravel.	0.25m-0.35m
505	Mid-light grey-brown homogenous fine clay-silt	Alluvial (riverine, tidally deposited clay-silt [probably re-deposited London Clay]). Abuts 506 (see below), which is almost certainly natural Quaternary Brickearth	0.35m- 2m in the north end, 0.6m in the south end
506	Mid orange-brown sandy clay silt	Natural Quaternary Brickearth, which was exposed in the south end of this trench, where its northern edge raised sharply from 2m deep to 0.6m over a distance of 1.3m, suggesting this once represented part of the old southern Thames river bank in this area	0.6m-2m+

5) Conclusion

As stated in Parts 2 and 4 above, two sets of evidence were exposed during the evaluation, the earliest of which related to the riverside topography of the site before its subsequent reclamation, consolidation and development. This almost certainly took place during the later eighteenth century as part of substantial modifications to a complex of defensive structures originating in the mid-sixteenth century as part of Henry VIII's Device plan of 1539.

The evidence in the form of estuarine alluvial deposits abutting natural brickearth indicated that the southern Thames river bank originally extended east-west in the central part of the site, some 35m south of the present river wall, with the area lying immediately to the north being within of the Thames intertidal zone. This in turn suggested that, at least in this area, to the south, The Terrace was built in the nineteenth century or earlier on what had been a road or trackway running alongside the top of the Thames flood plain's southern bank, as shown on the 1801 plan.

The second set of evidence relates almost entirely to the multi-phase filling, raising, and levelling of land, which appears to have taken place as a part of the major renovations and enlargement of the 'D'-shaped circular bastion defensive structure almost immediately to the west of the development and the construction of the New Tavern Fort almost immediately to the east. Given its position exactly between the two defensive structures it can probably be assumed that the reclamation was undertaken for a specific purpose, especially given the scale of groundworks required. It is possible, if not probable, that the area was designed to provide secure access to the river, an interpretation supported by the adjacent presence of a long jetty projecting out into the river from the south-east part of the newly enclosed area.

It appears that, despite early assumptions, very little of the above-described activity was related to the construction of Custom House, which took place several decades later during the early nineteenth century. It can therefore be proposed that the palaeosol exposed in southernmost trenches 3 and 4 (307 & 410) indicated the parts of the medieval/early post-medieval land surface survived on or to the Thames river bank in that area south. However, it is certain that some of the later build up and re-surfacing of the courtyard in that area, as in the area to the north, took place during the use of Custom House by HM Customs and Excise Service or later on, when HM Revenue Customs eventually took possession of the house, as attested by the presence at a depth 0.75m of an intact buried tarmac surface.

In the opinion of the present writer, it is unlikely that any further archaeological investigation would produce additional significant archaeological evidence.

6) References

Edward Hasted, 'Parishes: Gravesend', in *The History and Topographical Survey of the County of Kent: Volume 3*, (Canterbury, 1797), 319-335

Kent Archaeological Projects, March 2021, *The Custom House, The Terrace, Gravesend, Kent DA12 2BW: Archaeological Desk-based Assessment (pre-planning)*. Unpublished client report

Kent Archaeological Projects, March 2024, *An archaeological site-specific written scheme of investigation (Part A) for an archaeological evaluation by trial trench prior to development on land at The Custom House, The Terrace, Gravesend, Kent DA12 2BW (Planning Reference 20210757)*

Hall, A., *The Book of the Thames from its Rise to its Fall*. London: Virtue, and Co., 1859. Internet Archive version of a copy accessible in the William and Mary Darlington Memorial Library, the University of Pittsburgh. Web. 10 March 2012.

Thompson, D., Smith, V., 1977, "The Excavation of the Gravesend Blockhouse". *Archaeologia Cantiana*. **93**: 153–177

7) Figures and plates



Figure 1. Site location

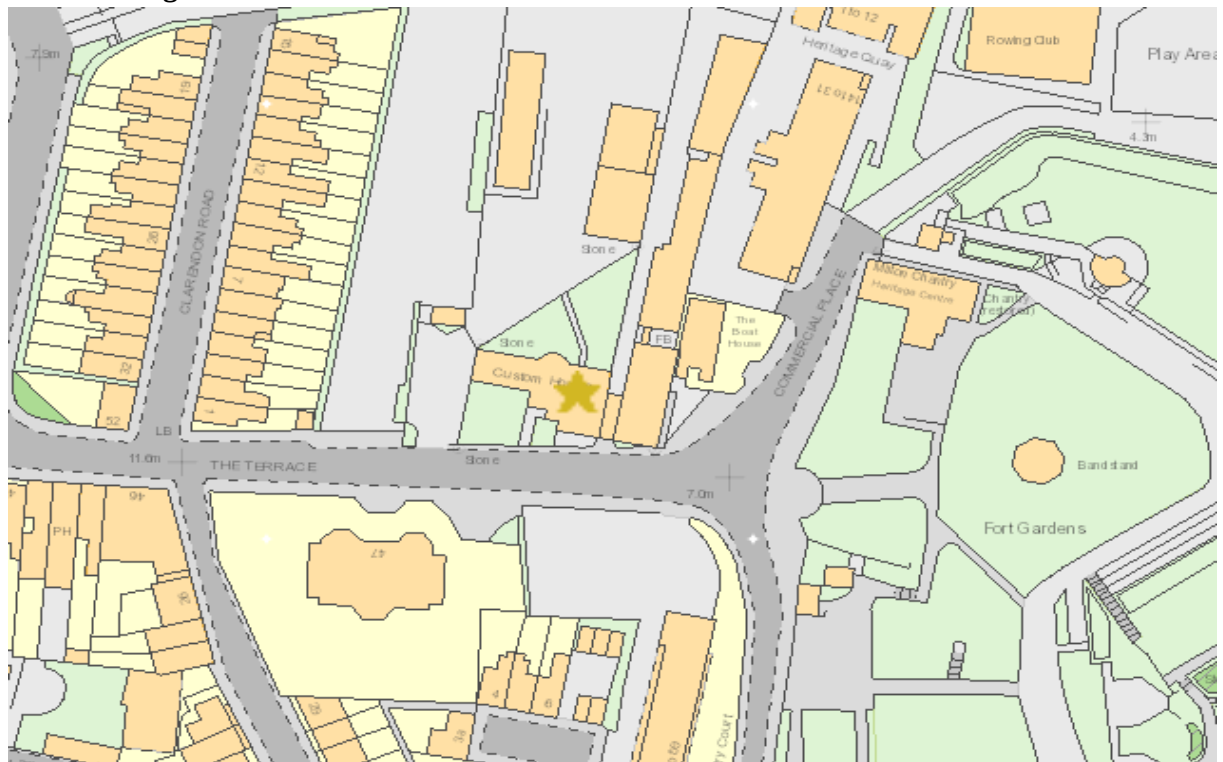
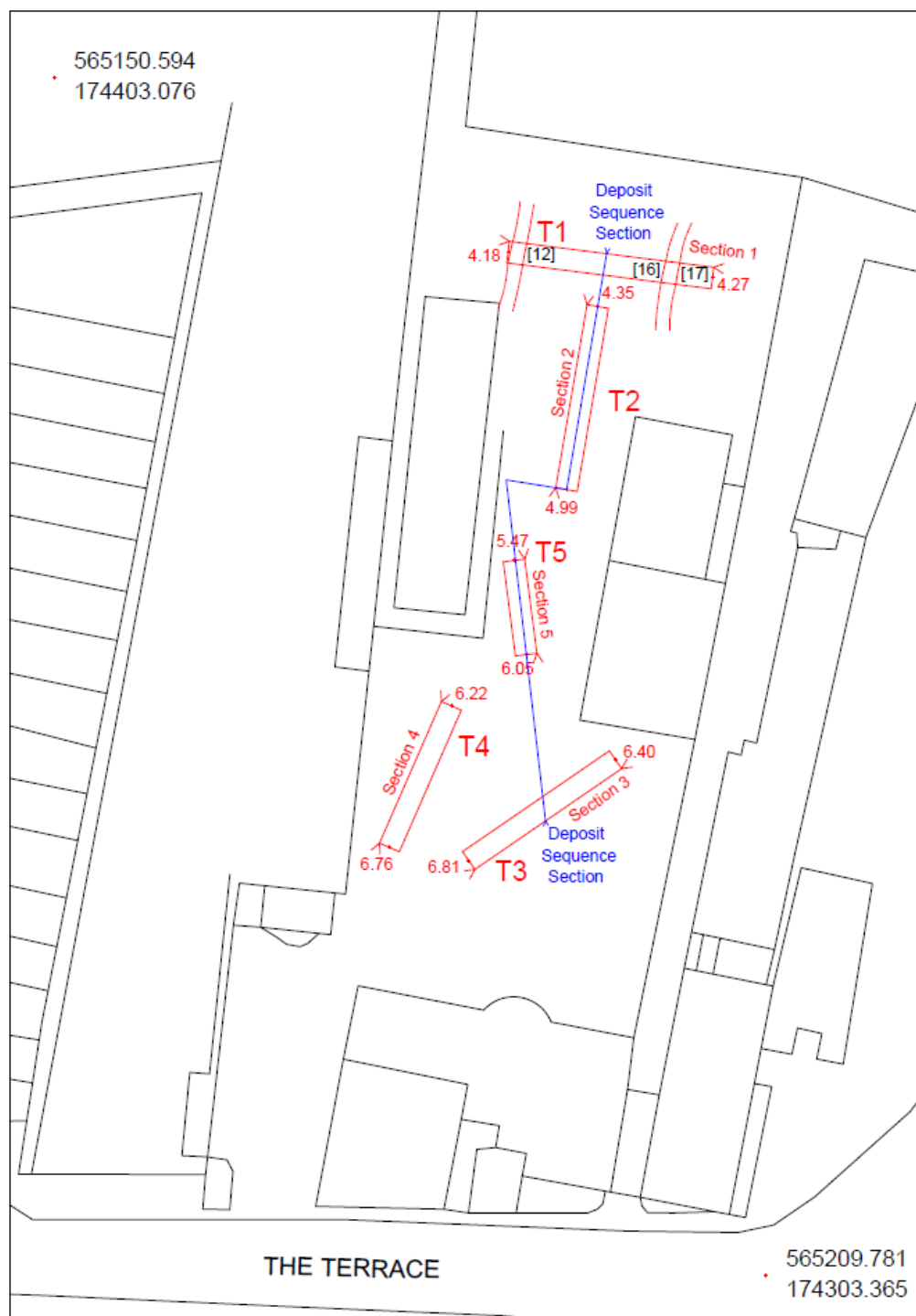


Figure 2. Site location showing The Custom House and its surrounding grounds



1:500@A4

0m 50m

Figure 3. Evaluation trench plan and line of reconstructed north-south deposit sequence

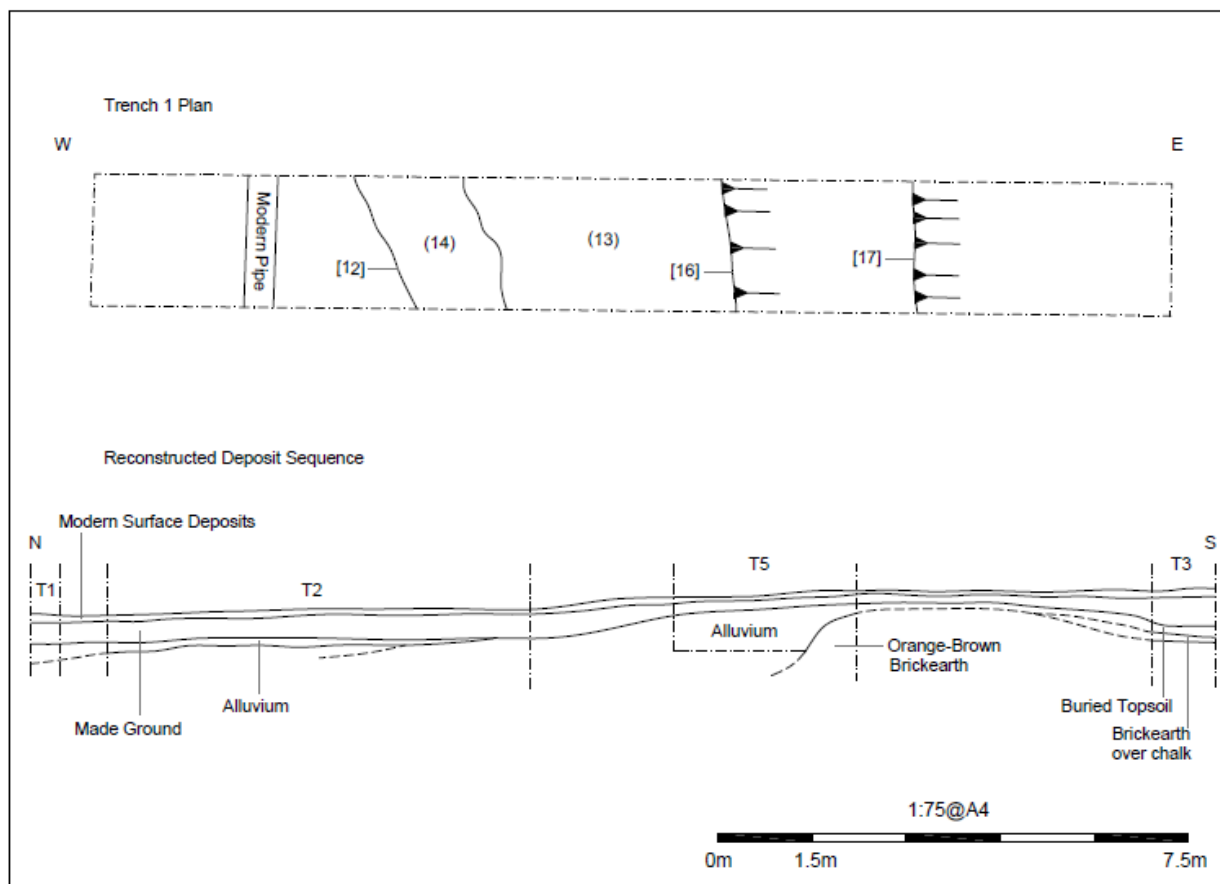


Figure 4. Trench 1 plan (above) and the north-south section of the reconstructed deposit sequence (below)

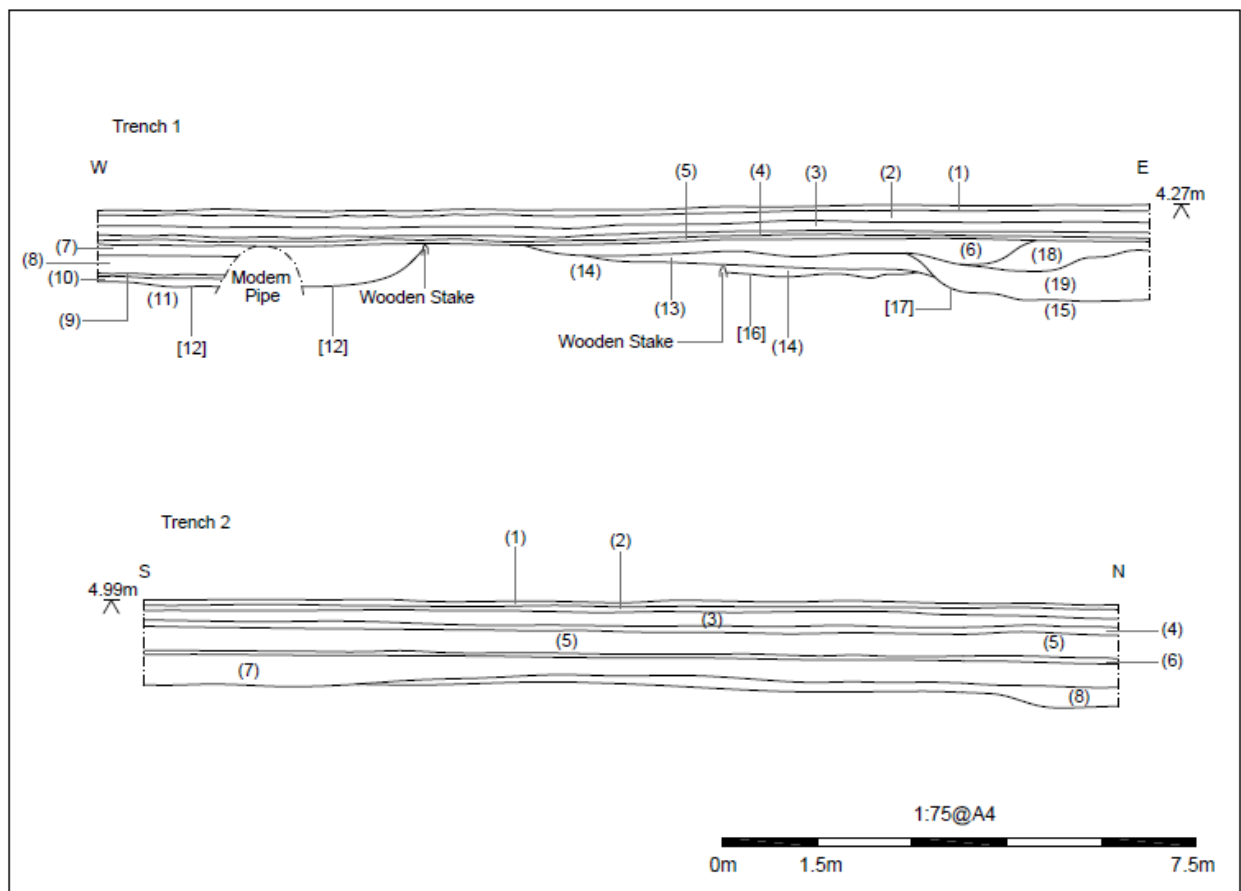


Figure 5. Trenches 1 & 2 sections

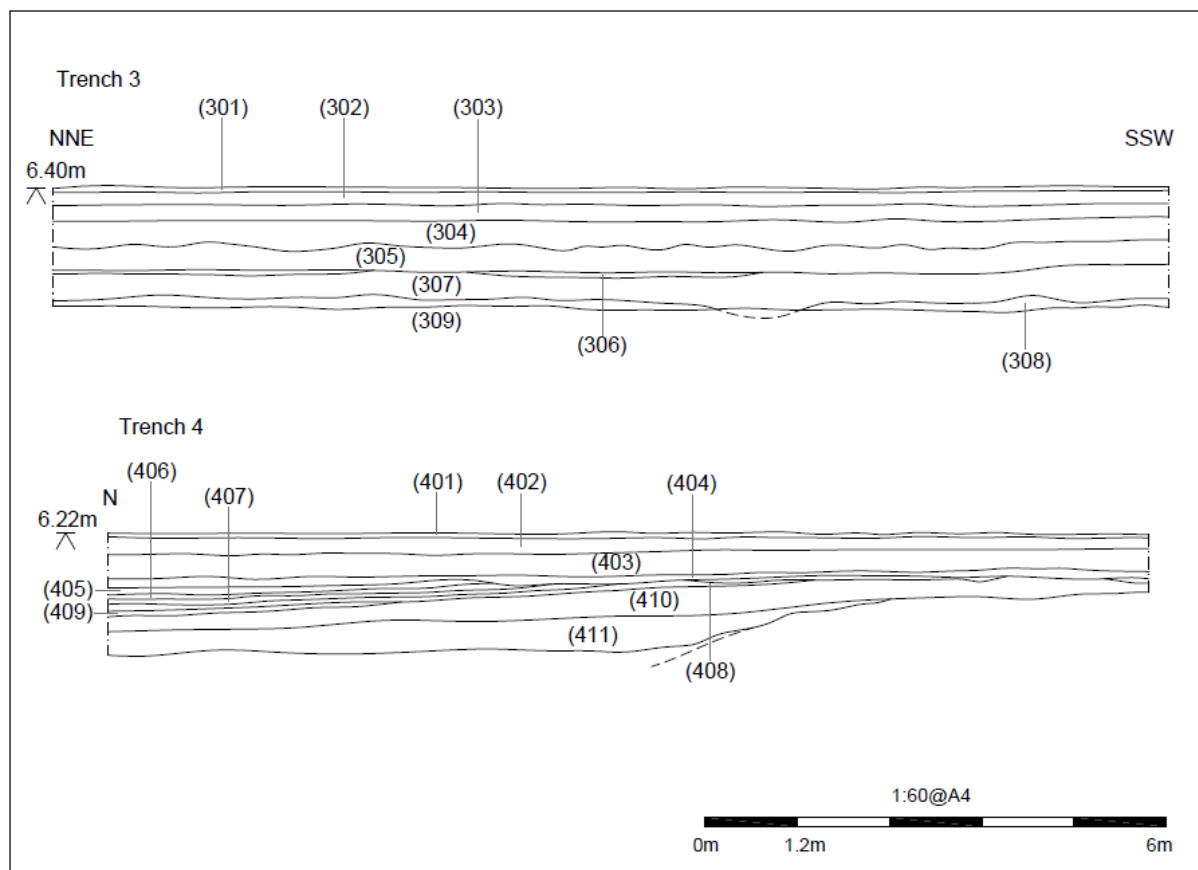


Figure 6. Trenches 3 & 4 sections

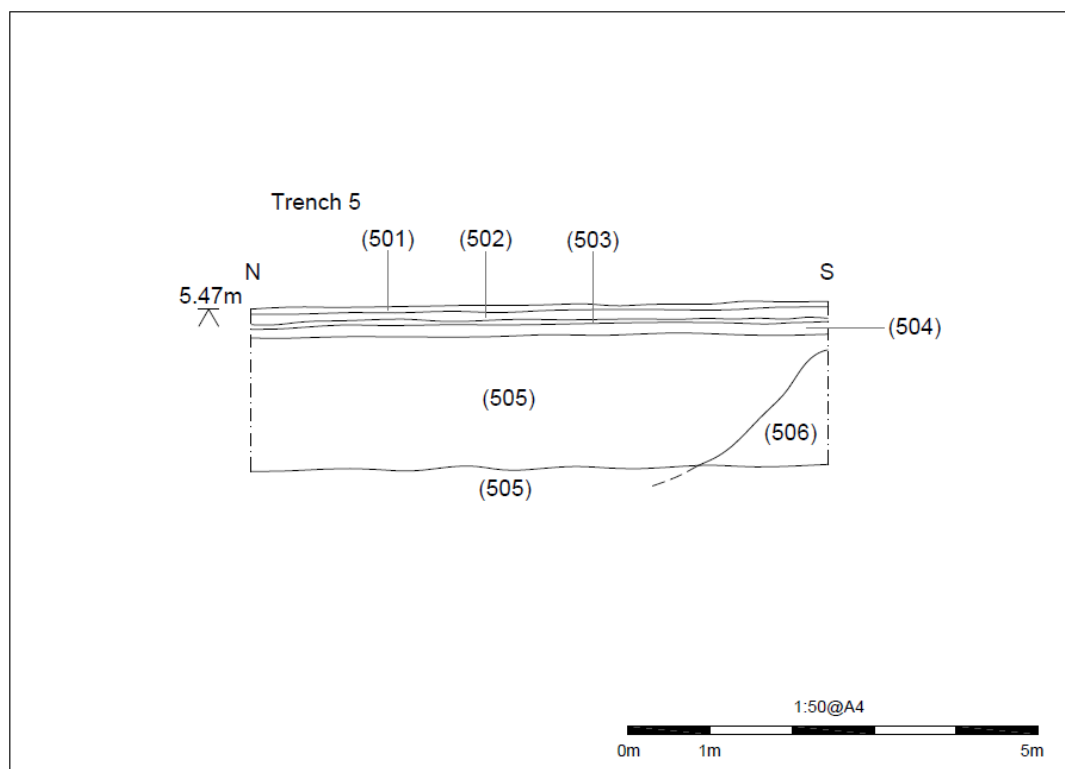


Figure 7. Trench 5 section



Plate 1. The site looking north across the Thames towards the Essex coast in the background



Plate 2. The entrance to the site looking north (Custom House visible on the right)



Plate 3. The Custom House boathouse with blocked arched entrances and a later workshop to the rear and with Custom House in the background



Plate 4. The boathouse looking south with red-brick ancillary buildings to the right (west)



Plate 5. The red-brick ancillary buildings to the west (looking south)



Plate 6. The boathouse with a walled walkway and adjacent workshops and offices to the east (looking south east)



Plate 7. The commencement of the Trench 1 evaluation (east end, 1.4m scale)



Plate 8. Trench 1 (east-west aligned in the northern part of the site) looking west with a 1.5m deep channel exposed in the background (assumed to provide access by boat to the boathouse shown in Plates 3, 4 & 6, a chalk floor in the mid-ground and two earlier channels in the back- and foreground (1.6m scale lying north-south over a still-functioning modern water main)



Plate 9. The eastern end of Trench 1 looking south showing the latest water channel (Channel 117, on the left/west) cutting an earlier channel capped by levelling deposits to the right, which cut a chalk layer/floor (114) adjacent to and was contemporary with the earliest exposed channel in the trench's west end. The boathouse can be seen in the background (1.4m scale)



Plate 10. The easternmost channel (112) exposed in Trench 1 looking south showing the infilling stratified levelling deposits (1.4m scale) and the iron bars found in Deposit 108



Plate 11. Trench 1. Exposed channel (112) cut to the west by a modern water main (1.4m scale), looking south



Plate 12. Trench 1. As above showing a pile of rusted steel objects comprising part of the channel's backfill (1.4m scale), from deposit 108



Plate 13. Trench 1. The vestigial timber remains of the channel's narrow stake wooden revetments (12) and the adjacent chalk floor/layer (114) to the east



Plate 14. Trench 1. The chalk floor/layer cut in the foreground by a later channel (0.6m and 0.8m scales). Note the wooden staked revetment (116) underlying chalk layer 114.



Plate 15. Trench 2 (north-south aligned and cut at a right angle some 3m south of and perpendicular to Trench 1), looking south with natural orange-brown brickearth underlying a 1.2m-thick layer of made ground (1.4m scale)



Plate 16. The north end of Trench 2 showing made ground over alluvial (riverine) clay silt (1.4m scale)



Plate 17. The south end of Trench 2 showing finely stratified 1.2m-thick made ground of levelling/demolition and other building debris deposits overlying natural clay-silt, which underlay alluvial clay-silt in the north of the trench (1.4m scale)



Plate 18. Trench 3 (cut on an east-north-east/west-south-west alignment just south of the modern workshop, see Plates 1 & 3) showing natural basal chalk with brickearth striations under made ground (1.4m scale)



Plate 19. The 1.2m-thick made ground overlying natural brickearth and bedrock chalk in Trench 3 (1.4m scale).



Plate 20. Trench 4 looking south, cut on a north-south alignment in the south-west part of the site exposing natural basal chalk with brickearth striations under finely stratified made ground of levelling/demolition and other building debris deposits similar to those exposed in Trenches 2 and 3, (1.4m scale)



Plate 21. Trench 5, cut on a north-west-north/south-east-south alignment in the courtyard area west of the modern work shop area, exposed made ground with a maximum depth of 1.90m present here as a result of ground re-instatement following the construction of the sunken red-brick building shown in the background. The original excavation cut into alluvial clay-silt can be seen in the left part of the trench brickearth to the south. The made ground here was not evident in the opposite section (see Plate below) (1.4m scale)



Plate 22. The southern end of Trench 5 showing alluvial (riverine) clay-clay silt overlying/abutting natural orange-brown brickearth (1.4m scale)

8) KCC HER Summary Form

Site Name: Custom House, The Terrace, Gravesend, Kent DA12 2BW	
Site Address: As above	
Summary:	
District/Unitary: Gravesham	Parish: Gravesend
Period(s): Late eighteenth to late nineteenth century and later	
NGR (centre of site : 8 figures): 565194/174318	
Type of archaeological work: Evaluation (Gravesham Planning Ref 20210757)	
Date of Recording: 13/04/24 - 15/03/24	
Unit undertaking recording: Kent Archaeological Projects	
Geology: Chalk under alluvial (riverine) sandy clay-silt with frequent flint inclusions	
Title and author of accompanying report: <i>The results of an archaeological evaluation by trial trench prior to development on land adjacent to Custom House, The Terrace, Gravesend, Kent DA12 2BW, T. Allen</i>	
Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate). Two main sets of evidence were exposed, the earliest indicating that, up to 1801 at the latest, the original south bank of the Thames lay some 35m south of the present concrete river wall in this area. Evidence in the form of alluvial deposits, some within channels with wooden stake revetments, suggested that, when the channels were cut, the northern part of the development site lay within the Thames intertidal zone. This preceded a large-scale programme of reclamation, levelling-up and building on the site, almost certainly during the late eighteenth century, the archaeological evidence in this case being supported by cartographic and documentary evidence. The second set of evidence consisted principally of the stratigraphic sequence of compacted horizontally laminated levelling-up layers laid down during that programme of reclamation. Exposed in all trenches and up to 1.35m thick, the deposit sequence consisted of up to eight layers of between 500mm to 0.3m thickness and consisting variously of mixed flint fragments, orange-brown clay-silt, crushed chalk, building rubble (mostly fragmented tile and brick), humic clay-silt and rock fragments. Apart from the brick fragments, which were all of standard post-medieval size and form, and a small assemblage of clay-pipe stems, no datable cultural materials were recovered. However, as a map of 1801 shows the site's northern boundary to be in approximately the same position as at present, with the site's northern part shown as a rectangle area projecting for a short distance into the intertidal zone, it can be assumed that the site had been reclaimed, consolidated and developed by that time. This was also suggested by the presence shown on the map of a large rectangular building and other structures in the reclaimed area, none of which are shown on later nineteenth-century maps. It was concluded on this basis that a process of land reclamation took place on what had been part of a marginal Thames intertidal area in the late eighteenth century. The work almost certainly took place as part of major modifications to the Gravesend river defences undertaken after a 1778 governmental report, which recommended alterations to the blockhouse, the remodelling of the gun platforms and the construction of the new, larger New Tavern Fort to the west. As the present development is shown on the 1801 map to lie between a 'D'-shaped building with a circular bastion (identified by some historians as the Blockhouse) and the New Tavern Fort to the west, it can be assumed that the present development site was reclaimed as part of the late eighteenth-century extension and modification of the Gravesend defences, probably to provide secure access to the river within the new defensive complex.	

Location of archive/finds: KAP Office	
Contact at Unit: Tim Allen	Date: 06/06/2024

