



**Project code:** LBTM12

**Client:** GMC (Ireland) Ltd on behalf of Railway Procurement Agency

**Date:** March 2013

## Archaeological Monitoring Report, Utility Slit Trenching Investigations – Future Luas Works – Luas Broombridge (BXD) Dublin

**Director:** Teresa Bolger

**Report Author:** Teresa Bolger and James Hession

**Licence No:** 12E0310

**Planning Reference:** N/A

**Report Status:** FINAL

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## EXECUTIVE SUMMARY

A programme of archaeological monitoring was undertaken of the excavation of 16 utility slit trenches along the proposed route of Luas Broombridge (BXD) between 11 September and 20 October 2012 in accordance with Licence Number 12E0310. These works were undertaken by Rubicon Heritage Services Ltd. for GMC (Ireland) Ltd on behalf of the Railway Procurement Agency (RPA).

Twenty utility slit trenches were planned along the route of Luas Broombridge (BXD) between Upper Dorset Street and College Green. Of these, fifteen were excavated (ST-101–ST-120) and five were omitted from the programme (ST-116–ST-120); one additional trench, located on Parnell Street (ST-121), was added to the programme. The purpose of the utility slit trenches was to investigate the size, type, level, gradient and position of all existing utilities and associated fixtures, including any underground culverts, basements, chambers etc. along the route of the proposed scheme. Most of the trenches were located within the zone of archaeological potential for Historic Dublin (DU018:020; AC1) and all were located in proximity to sites recorded in the Record of Monuments and Places (RMP) and/or areas of archaeological potential, as outlined in the Luas Broombridge Environmental Impact Statement (EIS). On that basis it was determined that a programme of archaeological monitoring should be undertaken in conjunction with the excavation of all utility slit trenches.

No significant archaeological features or deposits were encountered, with the exception of Trench ST-121 on Parnell Street and Trench ST-104 on Marlborough Street. A triple barrel vaulted post-medieval cellar of likely 18th century date was identified in Trench ST-121. Collapsed bonded red brick material associated with a cellar structure was identified along with a brick-built culvert in Trench ST-104. In addition a stone lined lintelled drain and associated metal surface (most likely of 19th century date), was identified in Trench ST-103 on Marlborough Street and a collapsed red brick wall was identified within Trench ST-102 on Dominick Place. However, it should be noted that the utility slit trenches were limited in scope and were targeted and positioned at locations with high levels of disturbance (where *in situ* services are currently located). Therefore, *in situ* archaeological features or deposits could survive outside of the areas directly investigated.

No further archaeological work is required in connection with this programme of utility slit trenching. An additional series of archaeological/utility slit trenches were also excavated at Broadstone. The results of these investigations are the subject of a separate archaeological report (Bolger 2013).

## **1.0 INTRODUCTION**

This report presents the results of archaeological monitoring of utility slit trenches excavated along the proposed route of Luas Broombridge (BXD) from Upper Dorset Street to College Green, Dublin 2 (Figure 1). These works were undertaken by Rubicon Heritage Services Ltd. for GMC (Ireland) Ltd on behalf of the Railway Procurement Agency (RPA) from 11 September to 20 October 2012.

A Railway Order for Luas Broombridge was granted on 2 August 2012 and became enforceable on 28 September 2012.

### **1.1 Project background**

Luas Broombridge (BXD) will be a twin track light rail system, which will serve a 5.6km long corridor from the Luas Green Line at its current terminus (St. Stephen's Green) to the Iarnród Éireann Broombridge Station on the Maynooth railway line. The scheme will link Dublin city centre to Phibsborough and Cabra via Broadstone and Grangegorman. Interchange with the Luas Red Line will be at the Abbey Street Stop. A total of 13 new stops are planned as part of the scheme.

### **1.2 Utility slit trenching programme**

Twenty utility slit trenches were planned along the route of Luas Broombridge (BXD) between Upper Dorset Street and College Green. Of these, fifteen were excavated (ST-101–ST-115) and five were omitted from the programme (ST-116–ST-120); one additional trench, located on Parnell Street (ST-121), was added to the programme. The purpose of the utility slit trenches was to investigate the size, type, level, gradient and position of all existing utilities and associated fixtures, including any underground culverts, basements, chambers etc. along the route of the proposed scheme. The majority of the utility slit trenches were located within the zone of archaeological potential (ZAP) for Historic Dublin (RMP DU018:020; AC1) and all were located in proximity to sites recorded in the Record of Monuments and Places (RMP) and/or areas of archaeological potential, as outlined in the Luas Broombridge Environmental Impact Statement (EIS)—indicated by the prefix 'AC'. The locations of these trenches are detailed in Table 1 below.

**Table 1 – Location of Utility Slit Trenches subject to archaeological monitoring**

Slit Trench	Location	Archaeological Constraint(s)
ST-101	Upper Dorset Street	<p>Within ZAP of historic Dublin (RMP DU018-020; AC1).</p> <p>Within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC76). There is the potential for subsurface remains associated with 18th and 19th century building foundations to be extant within this area</p>
ST-102	Dominick Place	<p>On the limit of the ZAP of historic Dublin (RMP DU018-020; AC1).</p> <p>However, there is a potential for the works to expose 18th century building foundations associated with the Georgian houses which formerly lined this street.</p>
ST-103 – ST-108	Marlborough Street	<p>Within ZAP of historic Dublin (RMP DU018-020; AC1).</p> <p>Within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC73). There is the potential for subsurface remains associated with 18th century building foundations to be extant within this area.</p>
ST-109	Marlborough Street	<p>Within ZAP of historic Dublin (RMP DU018-020; AC1).</p>
ST-110 – ST-113	Hawkins Street/D'Olier Street	<p>Within ZAP of historic Dublin (RMP DU018-020; AC1).</p> <p>Within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC39 and AC26). There is the potential for subsurface medieval and Viking remains and 18th century building foundations to be extant within this area,</p> <p>Within proximity of a Standing Stone site (RMP DU018-020129; AC36)</p>
ST-114	College Street	<p>Within ZAP of historic Dublin (RMP DU018-020; AC1).</p> <p>Within an area of archaeological potential identified in the Luas</p>

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Slit Trench	Location	Archaeological Constraint(s)
		Broombridge (BXD) EIS (AC26). There is the potential for subsurface medieval and Viking remains and 18th century building foundations to be extant within this area,  Within proximity of a Chapel site (DU018-020995; AC34)
ST-115	College Green	Within ZAP of historic Dublin (RMP DU018-020; AC1).  Within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC26; Described above).
ST-121	Parnell Street	Within ZAP of historic Dublin (RMP DU018-020; AC1).  Within the zone of archaeological for a Viking burial site (RMP DU018:020495).  Within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC73; Described above).

On the basis of the proximity of utility slit trenches to RMP sites and areas of archaeological potential, it was determined that a programme of archaeological monitoring should be undertaken of the excavation of all trenches.

Archaeological monitoring was undertaken by the writer with the assistance of Mr James Hession on various dates between 11 September and 20 October 2012 as required by the utility slit trenching programme. The programme of monitoring was undertaken in accordance with Excavation Licence No. 12E0310.

## **2.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND (AFTER HEADLAND ARCHAEOLOGY (IRELAND) LTD 2010)**

### **Prehistoric period**

Although evidence of prehistoric activity within Dublin City Centre is limited, a number of excavations have yielded results which demonstrate that the area which now comprises the capital was undoubtedly settled during the prehistoric period.

Archaeological monitoring and excavation carried out at Spencer Dock, North Wall Quay in 2004 revealed evidence of wooden fish traps, stake rows and miscellaneous pieces of worked wood dating to the late Mesolithic period (McQuade 2004). Evidence for riverside management dating to the Bronze Age and Iron Age period has been identified at Clancy Barracks in the suburb of Kilmainham (Lohan 2009).

Further indication of Bronze Age activity within present-day Dublin City is provided by evidence of a burnt mound, dated to the early to mid-Bronze Age, which was excavated at Hammond Lane/Church Street (Cryerhall 2003 and 2006, 15).

Iron Age evidence within present-day Dublin City has been identified in the form of a riverine timber embankment and an adjacent hurdle platform/track located at Ormond Square where the Bradoge River meets the River Liffey (Bolger 2011).

### **Early medieval period**

During the early medieval period, the site of present-day Dublin served as a focal point for long distance routes throughout Ireland. These routes included the Slighe Chualann from Leinster, the Slighe Dála from Munster, the Slighe Mór from Connaught and the Slighe Midluachra from Ulster (O'Donovan and O'Corráin in Clarke 1990, 57), all of which intersected in the area occupied by the present city.

Two settlement clusters developed on either side of the Poddle River. Both areas, respectively known as Átha Cliath and Dubhlinn derive their names from distinctive topographical features: Átha Cliath translates as “the ford of the hurdles” (Clarke 1990, 58); the Irish term Dubhlinn translates as “Black Pool”. “The ford of the hurdles” would have enabled crossing of the river at low tides, while the “Black Pool” refers to a tidal pool that was associated with the Poddle River during the early medieval period (Clarke 1990, 58.). The garden of Dublin Castle now occupies the approximate site of this pool (Clarke, 1978).

With the arrival of the Vikings in AD841, the potential of these two distinct settlement clusters (Átha Cliath and Dubhlinn) was used to form the nucleus of the political and economic centre that was to become Dublin City.

### **Viking period (c. AD790–1171)**

According to the Annals of Ulster, the first Viking settlement at Dublin was founded in AD841 with the establishment of a longphort, the characteristic fortified ship harbour of the Norsemen. Evidence to date suggests that the longphort was situated on the site of Dublin Castle (Simms 2001, 28-30). Although expelled from Dublin in AD902, the Norsemen returned in AD917 and successfully set about re-consolidating their power in the area. This second settlement seems to have been largely focused on the Lord Edward Street area. Influenced by the contemporary expansion of the Viking-age trading network, the Norsemen had, by the second half of the 10th century developed the area into what may be referred to as a town. This settlement, referred to as Dún Duibhlinne (Simms 2001, 26–27), was protected by two parallel earthen ditches, archaeological evidence of which has been identified. The ditches dated to c.AD950 and c. AD1000 respectively (Simms 2001, 31). The enclosed area comprised approximately 5.5ha. During the first half of the 11th century, the earth and timber defences were extended westwards to enclose an area twice as big, whilst also incorporating part of the old Átha Cliath community. Towards the end of the 11th century, the earthen and timber defences of the town were replaced by a stone fortification (Thomas 1992, 90; Wallace 1990, 89).

During this time, the political geography of the area changed significantly. Rather than being defined as a border settlement bound by feuding clans and owing much of its status to important terrestrial as well as aquatic crossing points, it became the focal point of a substantial-sized territory where new centralised economic and political power flourished. During this period of Viking domination, Dún Duibhlinne began to successfully establish itself in the European trading arena thereby sowing the seed for its economic growth and consequential urban expansion.

Evidence for Viking period activity, or potential Viking period activity, has been identified at three locations along the route of Luas Broombridge (BXD). The first of these is the area including and within the vicinity of the former “Thingmote”, which was located towards the eastern end of present-day Dame Street, to the south of College Green. The “Thingmote” was where the Dublin Vikings conducted their political assemblies and evidence suggests that there were a number of burial mounds, presumably that of Scandinavian Kings of Dublin, located within its vicinity. In addition to providing a focus for assemblies, it is probable that martial games and possibly the execution of prisoners of war also took place in its shadow (Somerville-Large 1996, 10). The “Thingmote” comprised an artificial conical hill recorded as being 240 feet in circumference and 40 feet high (Haliday 1881, 163) and may itself have originated as a grave mound (Bradley and King 1989, Vol. III, Part 5, 151). It was levelled in 1685 and no evidence has been identified to indicate the precise location of the

associated grave mounds, although one is recorded as still being extant in the 17th century (Harris in Clarke 2002b, 3).

A second Viking feature known to have been located within the study area is the Steine or “Long Stone”. This was a standing stone erected c.AD841 where the Stein River meets the River Liffey at the present-day junction of College Street, D’Olier Street and Pearse Street. The Steine probably acted as a navigational marker for Viking sailors approaching Dún Duibhlinne (Simms 2001, 21) and as an indicator of the original edge of the River Liffey. In addition, it has been suggested that light vesseled ships were cabled to this monument (Curtis 1990, 102). The stone gave its name to the Stein River and to the area in which it lay in the vicinity of the present-day College Street, D’Olier Street and Pearse Street junction. This monument stood on the edge of the River Liffey into the 17th century and is depicted on the Down Survey (c.1654). It was removed sometime between 1679–1700. Four Viking iron spearheads and a single-edged Viking sword have also been recovered from the College Street area.

The third location of Viking period activity has been identified in the vicinity of Parnell Square and Mountjoy Square. During the 18th century a possible Viking cemetery was disturbed during the construction of the Rotunda Hospital on Parnell Street and associated pleasure grounds. The first known record of this discovery comes from the Dublin Magazine dating to June 1763 (SMR Archives), which refers to numerous finds of spears, swords and rivets associated with vast numbers of human bones found during construction of the “New Gardens” (now the Rotunda Gardens). The same article and a later piece by Traynor (1897, 106) links these finds with the Battle of Clontarf fought in AD1014 between the High King Brian Boiromhe and the Dublin Vikings under Sigtrygg Silkenbeard. The Battle of Clontarf is known to have been fought on the north side of the River Liffey, opposite the Viking town and resulted in the defeat of the Vikings, but at the cost of many lives, including that of Brian Boiromhe. The route of Luas Broombridge (BXD) intersects with the possible location of this cemetery.

### **Anglo-Norman and later medieval periods (c. 1171–1550)**

With the Anglo-Norman colonisation of Dublin in 1171, the prominent role played by the Viking town in the European trading sphere decreased for a period. Effectively, Dublin was now the instrument of an English lordship that had a new focus. New innovations such as an independent municipal Government as well as a greater emphasis on a dominating ecclesiastical presence were introduced. Inevitably, the social and political fabric of medieval Dublin was transformed. This transformation was also reflected in the changing fabric of the urban landscape. The existing Norse town walls were elaborated and modified. A royal

castle, initially adopting the form of a motte and bailey, was constructed in the southeastern corner of the Hiberno-Norse walls on the site of the present-day Dublin Castle. The walled town was later further enlarged by means of land reclamation from the River Liffey during the 13th century (Thomas 1992, 91) and a stone bridge, west of present-day O'Connell Bridge, was built across the River Liffey, replacing the wooden structure which had been previously erected by the Vikings.

As with the Viking settlement, the medieval town was not confined to the interior of the town walls. Four main suburbs developed: Oxmantown to the north of the town, Hoggen Green to the east, the area surrounding present-day Thomas Street and James's Street, as well as the ecclesiastical suburb that developed around St. Patrick's Cathedral (Clarke 1995, 91–92). During this time, the eastern suburb of Hoggen Green, through which the route of Luas Broombridge (BXD) passes, was centred on two monastic houses, each of which had been founded in the pre-Anglo-Norman period. These were the Arroscian convent of St. Mary de Hogges, founded by Diarmait mac Murchada, King of Leinster in c.1146 not far from where St. Andrew's Church (now the Dublin Tourist Office) stands today, and the Augustinian Priory of All Hallows, also established by Diarmait mac Murchada in 1166 (Budd 2001, 1) on the site of present-day TCD.

In addition to the Augustinian Priory of All Hallows, a number of sites dating to the Anglo-Norman and later medieval periods have been identified along or close to the route of Luas Broombridge (BXD). A chapel known as the Chapel of St. Clement was possibly located within the vicinity of the Stein River between the River Liffey and the Augustinian Priory of All Hallows (McNeill 1950, 56). In one of the Deeds in the register of this priory it is described as lying "before the Gate" of All Hallows (Butler 1845, 28). A watermill referred to as the Steine Mill is recorded on the Stein River outside the present-day west front of TCD. The first record for this mill dates to 1276 (Clarke 2002a). This mill was likely to have been associated with a mill pond shown on Speed's map (1610) as lying on the Stein River, to the immediate west of TCD in the area of present-day College Green.

In addition, a bridge, which possibly dates to the medieval period, is depicted over the Stein River in the general vicinity of Suffolk Street on Speed's map (1610). A tiled medieval pavement, part of which is now in the NMI, was also found during the building of the Provincial Bank (now the Westin Hotel) on College Street in 1862. The fact that these tiles were found in situ suggests that there was an important medieval site on the spot. However, subsequent excavations carried out in this area have not recovered further evidence to support this.

Two excavations undertaken close to the route of Luas Broombridge (BXD) have identified medieval activity. Part of a graveyard deposit presumed to relate to the Priory of All Hallows' at Library Square was identified in 1998 and a waterfront with timbers, possibly mooring posts, that could have been associated with the medieval waterfronts of the River Liffey and Stein River was uncovered in the College Street/Fleet Street/Westmoreland Street area.

### **Post-medieval period (c. 1550–1700)**

Speed's map (1610) provides a useful depiction of Dublin and its suburbs at the early/mid post-medieval period as this map post-dates the dissolution of the monasteries in the 1530s and precedes the major urban expansion that took place in Dublin after the restoration of Charles II in 1660. Speed's map (1610) shows that there was very little urban development to the east of the medieval walled city. Development in these areas is shown to have been characterised by the establishment of substantial religious houses including the former ecclesiastical precincts of St. Mary's Abbey to the north of the River Liffey and the Priory of All Hallows' and convent of St. Mary de Hogges' to the south.

During the post-medieval period the College of the Holy Trinity (TCD), established in 1592, was initially housed in the former Priory of All Hallows' buildings (dating to the 12th century). Speed's map depicts the "The Colledge" within this site. Speed also depicts "The Hospitall" to the northwest of the college, which was built for poor, sick and maimed soldiers in 1602. This site is now occupied by the Bank of Ireland. In order to connect the college with the castle, which had become the seat of Government, a new street, Dame Street, was built (Simms 2001, 59). In essence however, economic growth of the town was limited until the mid-late 17th century.

With the restoration of Charles II to the English throne in 1660, the town entered a new era of prosperity. A dramatic expansion and development of the town ensued, influenced by new European ideals of town planning. As the city extended beyond its walls, its centre and focus shifted northwards and eastwards into the areas through which the route of Luas Broombridge (BXD) passes. Comparison of Speed's map (1610) with De Gomme's map (1673) indicates that significant areas of land had been reclaimed from the River Liffey on its south side and that development around St. Stephen's Green and between TCD and the old medieval city was underway during the later post-medieval period.

The development of the deep water port of Dublin and a new Custom House to the east of the old city wall encouraged the reclamation of large areas of land from the River Liffey to accommodate new quays, commercial properties and warehousing. This is especially apparent on the south bank of the River Liffey to the north of TCD. Prior to the 17th century

reclamation, the south bank of the River Liffey reached the approximate line of present-day Fleet Street.

By 1700 much of the old medieval city, including the city walls, had been demolished during the new burst of civic development that was carried out at this time. The new development also quickly swallowed up the former medieval common lands, such as Hogges Green (now College Green) through which the route of Luas Broombridge (BXD) passes (Lennon 2008, 3). Gentrified development took place around a new park at St. Stephen's Green. This new park soon became a popular amenity for strolls and other social pursuits (Somerville-Large 1996, 102). The space between the park and the centre of the town remained, however, largely undeveloped at this time.

Although there are few surviving structures of this date along the route, there is a recognised potential for there being buried remains of buildings and structures dating to this period around St. Stephen's Green, on Dawson Street, Grafton Street, College Green, College Street/Westmoreland Street/Fleet Street, Hawkins Street, Aston Quay, Eden Quay and the southern sections of Marlborough Street and O'Connell Street.

Fourteen archaeological excavations undertaken along or close to the route of Luas Broombridge (BXD) have recorded evidence for post-medieval activity. Evidence for 17th century land reclamation has been identified in the College Street/Westmoreland Street/Fleet Street area, Townsend Street/Luke Street, D'Olier Street, Aston Quay, O'Connell Street and Middle Abbey Street. In addition, post-medieval finds in riverine deposits were recovered at Eden Quay and the remains of two limestone walls and a dry stone lined well were discovered at St. Stephen's Green West.

### **Industrial period (c.1700 to 1900)**

With the onset of the 18th century, Dublin and its immediate hinterland continued to experience rapid growth and quickly became an imposing metropolitan and commercial centre, in keeping with its status as a national capital (Lennon 2008, 5).

Development carried out during the 18th century continued to be driven mainly by private enterprise, though there was the occasional civic authority intervention. Despite the fragmented nature of its development, Dublin became known for the relative uniformity of its new residential buildings, which comprised mainly of three bayed, four storey, brick townhouses over basements (Lennon 2008, 7).

Between 1707–1728 new building ventures were undertaken by the Moore estate to the north of the River Liffey in the area between Liffey Street and Marlborough Street. This was centred around the cruciform axes of Drogheda Street (now Lower O'Connell Street) and

Henry Street. The area was further developed by the Gardiners and the changes executed during this time are evident through comparison of Brooking's map (1728) with Rocque's map (1756). This comparison shows that large-scale development had taken place between 1728–1756. The area to the north and northeast of Drogheda Street (now Lower O'Connell Street) and Marlborough Street had been developed and the newly laid out Sackville Street (now Upper O'Connell Street) with its central mall is shown on this map. Sackville Street was planned as a residential mall and promenade by Luke Gardiner in the 1740s. To the north end of the mall Rocque depicts the New Gardens as well as the Lying-In Hospital and Assembly Rooms (now the Rotunda Hospital). The New Gardens were in turn bounded to the north, east and west by Palace, Cavendish and Granby Rows (which would later comprise Rutland Square) (Casey 2005, 43). Thus it can be seen that the area to the north of the River Liffey began to establish itself as one of commerce and residence during this period. With regard to the area lying to the east of the mall, Rocque's map (1756) shows that the area to the east of Marlborough Street was predominantly undeveloped and comprised a patchwork of lots; a number of streets are, however, represented in this general area. Rocque's map (1756) also indicates that the north-western limit of urban expansion at this date followed the approximate line of present-day Dorset Street; a rural patchwork of fields and orchards is shown beyond this location.

With the establishment of the House of Parliament (now the Bank of Ireland, College Green) on the south side of the River Liffey, this largely undeveloped area also underwent rapid urban expansion during the early 18th century. The driving forces behind this began with Joshua Dawson who, in the first two decades of the 18th century, initiated the development of the area comprising present-day Dawson Street, Grafton Street and Nassau Street by constructing the Mansion House in 1710. By 1728 the Molesworth Estate was continuing this development eastwards around St. Ann's Church. The most significant development to the south of the river at this time was the construction of Kildare House, which began in 1745 (Casey 2005, 43). Although preceded by Molesworth Street, Kildare House is regarded as being the progenitor of Kildare Street and Clare Street and of later development on the Fitzwilliam Estate (Casey 2005, 43). Rocque's map (1756) shows that St. Stephen's Green lay in the extreme southeastern corner of mid-18th century Dublin and that a rural patchwork of fields lay to its east and south.

As a consequence of this rapid growth, the urban landscape comprised settlement clusters and pockets of commerce and trade that were poorly connected due to insufficient transport links. The routeways that did exist were heavily congested. In response to this, a 1757 Act of Parliament provided for the establishment of the Commissioners for the Making of Wide and Convenient Streets and Passages, otherwise known as the Wide Street Commissioners

(WSC) (Sheridan 2001a, 69). This organisation was fundamental in laying the foundations of the physical characteristics of the modern city. The main achievements of the WSC were the widening and rebuilding of parts of Dame Street, the creation of Westmoreland Street, D'Olier Street, the building of Carlisle (now O'Connell Bridge) and the expansion of Lower Sackville Street (now O'Connell Street) down to the River Liffey. This development necessitated large-scale removal of the existing structures in the affected areas in order to facilitate widening of the existing streets/lanes and/or to construct entirely new streets. In consequence of this, it is possible that subsurface material associated with the structures, which were razed to the ground during this period, is present beneath the aforementioned streetscapes.

Many of the excavations undertaken along or close to the route of Luas Broombridge (BXD) have recorded industrial period deposits. Between St. Stephen's Green and Parnell Street these have included significant evidence for the urban expansion of Dublin through the 18th and 19th centuries. This has included evidence for early 18th century land reclamation on both banks of the River Liffey. North of Parnell Place, material associated with the Royal Canal and the MGWR has been recovered.

### **3.0 OBJECTIVES AND METHODOLOGY**

#### **3.1 Objectives**

The objective of the archaeological monitoring programme was to identify any archaeological features, deposits or artefacts that might be present at the site which could be impacted on by ground reduction works associated with the excavation of utility slit trenches. The results from the monitoring programme will be incorporated and used to inform the subsequent archaeological strategy for the project.

#### **3.2 Methodology**

Archaeological monitoring of all ground reduction works for each utility slit trenches excavated was undertaken between 11 September and 20 October 2012.

The perimeter of each trench was saw cut and the existing surfaces broken out; the trench was then mechanically excavated using a machine excavator with a narrow bucket (max. 0.60m width), until the top of *in situ* services were encountered. Limited hand excavation was undertaken in order to safely expose the location of services or where mechanical excavation was deemed to be inappropriate or unsafe. All trenches were excavated to a minimum depth of 0.60m and a maximum depth of 1.50m.

Any potential archaeological features identified during the course of archaeological monitoring were cleaned back by hand to determine their exact nature and extent and to clarify if archaeological material is *in situ*. Each trench was archaeologically recorded and photographed (see Appendix 1).

## **4.0 RESULTS OF ARCHAEOLOGICAL MONITORING**

### **4.1 Upper Dorset Street (Figure 2a)**

#### **ST-101**

0.00-0.10m	Tarmac
0.10-0.40m	Concrete/lime mix
0.40-1.50m	Mid-brown silty clay with red brick rubble, with inclusions of loose masonry and pieces of mortar. Occasional animal bone and oyster shells were also noted within this material.

The trench measured c.3.85m long by 0.60m wide by 1.50m deep (Plate 1). It was orientated east/west and located on the carriageway/footpath of Upper Dorset Street opposite the Upper Dorset Street flats. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1). This area was highlighted as an area of archaeological potential in the Luas Broombridge (BXD) EIS (AC76), as there is potential for subsurface remains associated with 18th and 19th century building foundations to be extant within this area. A large quarried stone was identified within the eastern half of the trench. This stone did not seem to be part of any structure/wall and was set at a slight angle within man-made ground.

No archaeological material was identified; no artefacts were retrieved.

### **4.2 Parnell Street (Figures 2b)**

#### **ST-121**

*Profile 1: at northeast end (0m to 2m)*

0.00-0.15m	Kerb stones
0.15-0.21m	Tarmac/lime mix
0.21-0.37m	Grey silty clay with inclusions of small angular and rounded stone
0.37-0.59m	Reddish brown silty clay with inclusions of animal bone, oyster shell, and occasional angular stone and redbrick fragments

0.59-0.79m	Compact grey silty clay with inclusions of frequent stone and occasional red brick fragments
0.79-0.87m	Layer of rounded stone within a grey clay matrix (possible cobbled surface)
0.87-0.95m	Grey silty clay with a number of large angular stone (possible foundation layer associated with possible cobbling noted above)
0.95-1.17m	Mid to dark grey compact silty clay with occasional angular and sub-angular stone
1.17-1.50m	Orange to mid brown moist silty sand with inclusions of frequent angular stone

*Profile 2: recorded at mid section (c. 11.25m-18m)*

0.00-0.15m	Kerb stones
0.15-0.30m	Tarmac/lime mix
0.30-0.40m	Mortar within mid brown silty clay matrix
0.40m	Intact barrel vaulted cellar

The trench measured 18m in length by 0.60 m wide and was excavated to a depth of 1.5m (Plates 2-5). It was orientated northeast/southwest, located along the southeast side of Parnell Street and positioned parallel to the existing footpath. The trench was located within the constraint area of RMP DU018-020495 (possible Norse cemetery) and of an area of archaeological potential (possible remains of 18th/19th century building foundations/basements may be present; AC73) as well as being within RMP DU018-020 (ZAP for Historic Dublin; AC1). A possible cobbled surface was identified in the northeast end of the trench and a triple barrel vaulted coal cellar associated with No. 71 Parnell Street a Georgian/Victorian building was identified in the south-western half of the trench (from 9.75m to 18m).

The triple barrel vaulted cellar was identified 0.40m below the surface of the existing footpath. Its alignment matched that of the existing building at No 71 Parnell Street and it is thought to have originally comprised part of this building. The gable end of the cellar was exposed within the trench and in total it measured 8.25m in length. Three crowns were identified with two of the exposed crowns intact. The first crown measured 2.70m in length by 0.85m in height, with the second crown measured 3.10m in length by 0.65m in height. The third crown measured 2.45m in length by 0.65m in height and had been recently truncated by the insertion of natural gas services. This enabled a visual examination of the cellar interior to be undertaken. The cellar was in good condition and seemed to be

structurally sound however it must be noted that it had been almost fully backfilled which inhibited any thorough investigation from being carried out. The backfill material ranged from large angular quarried masonry blocks, mortar and lime mix associated with the insertion of the gas services.

#### **4.3 Dominick Place (Figure 2b)**

##### **ST-102**

0.00-0.10m	Tarmac
0.10-0.40m	Hardcore – modern gravel/stone infill
0.40m+	Mid to dark brown clay with frequent rubble (red-brick and mortar) and oyster shell inclusions (post-medieval deposit; possible garden soil)

The trench measured 6.3m long by 0.60m wide by 1.5m deep (Plate 6). It was oriented northeast/southwest across Dominick Place and excavated in three sections across both footpath and carriageway. The natural geological stratum was encountered at a depth of c.1.2m in the eastern section (beneath the pavement) only. The trench straddles the limit of the ZAP of historic Dublin (RMP DU018-020; AC1). However, there was a potential for works to expose 18th century building foundations associated with the Georgian houses which formerly lined this street. Accordingly a possible collapsed red-brick wall/wall-footing was noted, crossing the base of the trench c.3.2m west of the kerblines in the central section of the trench. This comprised a localised concentration of red-brick (c. 0.35m wide) noted in both section faces and across the base of the trench. The red-brick in the south face of the trench was possibly coursed (2-3 courses). Otherwise no archaeological features or deposits were identified; no artefacts were retrieved.

#### **4.4 Marlborough Street (Figure 2c-d)**

##### **ST-103**

0.00-0.10m	Tarmac
0.10-0.50m	Concrete/ lime mix
0.50-1.00m	Modern fine brown sand and grey gravel (804) infill over services
1.00-1.10m	Slab of lintelled drain noted in south-east corner of slit trench
1.10-1.50 m	Black-brown silty clay with occasional red brick fragments, pieces of mortar, oyster shell, 18th and 19th century ceramics and rounded stone.
1.50m+	Metalled surface identified beneath lintelled drain in south-east section of slit trench

The trench measured 5m in length by 0.60m wide and was excavated to a depth of 1.5m (Plate 7). It was orientated northwest/southeast across the eastern side of the junction of Marlborough Street and Parnell St. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1) and also lies within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC73). There is a potential for subsurface remains associated with 18th century building foundations to be extant within this area. A lintelled drain, constructed of limestone or slate, was identified in the south-east corner of the trench. It overlay a metalled surface measuring 2m in length within the trench (Plate 8). Partial evidence of the location of a former red brick wall was also identified, possibly delimiting the north-west edge of the metalled surface. Only the upper surface of this feature was exposed so its exact character is uncertain. No further archaeological features, deposits or finds were identified within the remaining section of the excavated trench.

#### **ST-104**

0.00-0.10m    tarmac/paving slab

0.10-0.30m    concrete

0.30m+        mid-brown gravelly clay (modern fill plastics and modern rubbish noted)

The trench measured c.6m long (overall) by 0.60m wide and was excavated to a maximum depth of 0.30m (Plate 9). It was oriented east/west across the road and footpath of Marlborough Street. It was excavated in two sections with the kerb left in situ unexcavated. The trench is on the limit of the ZAP of historic Dublin (RMP DU018-020; AC1) and also lies within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC73). There is a potential for subsurface remains associated with 18th century building foundations to be extant within this area. A red brick barrel-vaulted culvert was located in the western section of the trench starting 1.30m from the west end of the trench and extending under the kerbline, at a depth of c.1m below present ground level (PGL; Plate 10). The east wall of the culvert was visible in the east section of trench immediately underlying the kerb. Further collapsed red-brick-built cellaring/culvert was present (beginning 1.2m) from the east end of Trench ST-104 and extending to the kerbline, at depth of c.1.10m below PGL. It was disturbed by modern services and cut through on the east by concrete infill, so its relationship to the barrel-vaulted culvert could not be ascertained within the limits of the trench – it may be a separate feature (perhaps a collapsed coal cellar) or an adjunct to the barrel-vaulted culvert. No further archaeological features, deposits or finds were identified within the remaining section of the excavated trench.

### **ST-105**

0.00-0.10m	Tarmac
0.10-0.40m	Reinforced concrete
0.40-0.80m	Mid-brown sandy clay
0.80-0.90m	Crushed red brick and mortar
0.90-1.50m	Brown silty clay with frequent inclusions of angular stone and moderate to occasional inclusions of red brick fragments, pieces of mortar and oyster shell.

The trench measured 3.60m in length by 0.60m wide and was excavated to a depth of 1.5m (Plate 5). It was orientated east/west across the eastern side of Marlborough Street. The trench is outside ZAP of historic Dublin (RMP DU018-020; AC1). No archaeological features, deposits or finds were identified within the trench.

### **ST-106**

0.00-0.10m	Tarmac
0.10-0.30m	Concrete
0.30-1.50m	Mid-brown sandy clay with frequent gravel (occasional red brick fragments and pieces of mortar were also noted within this material) was identified on the western side of the excavated trench. The eastern side of the trench was filled by modern gravel (804 or similar).

The trench measured 4m in length by 0.60m wide and was excavated to a depth of 1.5m (Plate 12). It was orientated east/west across carriageway on the eastern side of Marlborough Street. The trench is outside the ZAP of historic Dublin (DU018-020; AC1). No archaeological features, deposits or finds were identified within the trench.

### **ST-107**

0.00-0.10m	Tarmac
0.10-0.30m	Concrete
0.30- 0.80m	Lime mix and 804 gravel or similar
0.80-1.15m	Fine grey sand
1.15-1.50m	Mid-brown sandy clay with frequent gravel (occasional red brick fragments, pieces of mortar and rounded and angular stone were noted within this material).

The trench was excavated in two halves and measured 7.40m in total length by 0.60m wide and was excavated to a depth of 1.5m (Plate 13). It was orientated east/west across the carriageway of Marlborough Street. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1). No archaeological features, deposits or finds were identified within the trench.

#### **ST-108**

0.00-0.10m Tarmac

0.10-0.30m Reinforced concrete

0.30- 0.50m Black fine sand and gravel

0.50-1.50m Gravel (804) or similar \*(A mid-brown sandy clay with frequent gravel, occasional red brick fragments and rounded and angular stone was noted at this depth in the westernmost part the trench)

The trench (excavated in two halves) measured 7.10m in total length by 0.60m wide and was excavated to a depth of 1.50m (Plate 14). It was orientated east/west across the carriageway of Marlborough Street. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1). No archaeological features, deposits or finds were identified within the trench.

#### **ST-109**

0.00-0.10m Tarmac

0.10-0.40m Concrete

0.40-0.70m Mid-brown sandy clay with frequent gravel (very occasional red brick fragments, pieces of mortar were noted within this material).

0.70-1.50m Moist dark brown sandy silt with inclusions of red brick fragments, oyster shell, mortar pieces, organic material (tree roots) and occasional 19th century ceramics

The trench (excavated in two halves) measured 7.50m in total length by 0.60 m wide and excavated to a depth of 1.5m (Plate 15). It was orientated east/west across the carriageway of Marlborough Street. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1). No archaeological features, deposits or finds were identified within the trench.

### **4.5 Hawkins Street/D'Olier Street (Figure 2e)**

#### **ST-110**

0.00-0.10m Tarmac

0.10-0.45m Concrete

0.45-1.70m Mid-brown silty clay with frequent inclusions of angular and rounded stone and moderate to occasional inclusions of red brick fragments, pieces of mortar and oyster shell.

The trench was excavated in two halves measuring 7.60m in total length by 0.60m wide and excavated to a depth of 1.7m (Plate 16). It was orientated east/west across carriageway/footpath of Hawkins Street. The trench was in the ZAP of historic Dublin (RMP DU018-020; AC1). It also lies within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC39) where the potential for subsurface medieval and Viking remains and 18th century building foundations was identified. A number of large angular stones and loose masonry were identified in the western and eastern halves of the trench. The identified stone and masonry appeared to be dumped deposits within man-made ground. No archaeological features, deposits or finds were identified within the trench.

#### **ST-111**

0.00-0.10m Tarmac

0.10-0.38m Concrete, tarmac and lime mix

0.38-0.90m Light-brown sand and gravel

0.90-1.15m Mid-brown silty clay with frequent inclusions of angular stone and moderate to occasional inclusions of red brick fragments, oyster shell and pieces of mortar

The trench measured 4m in length by 0.60m wide and was excavated to a depth of 1.15m (Plate 17). It was orientated east/west across the western carriageway of Hawkins Street. The trench was in the ZAP of historic Dublin (RMP DU018-020; AC1) and also within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC39) where the potential for subsurface medieval and Viking remains and 18th century building foundations was identified. No archaeological features, deposits or finds were identified within the trench.

#### **ST-112**

0.00-0.10m Paving slab

0.10-0.20m Concrete bedding

0.20m+ Grey coarse gravel/stone fill or varying compaction (modern construction grade infill)

The trench measured c.6.75m long by 0.60m wide by 1.50m deep (Plate 18). It was located on the footpath of a pedestrian island at the junction of Hawkins Street and D'Olier Street. The trench was in the ZAP for historic Dublin (RMP DU018-020; AC1), in proximity to a Standing Stone site (RMP DU018-020129; AC36). It also lies within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC26) where the potential for subsurface medieval and Viking remains and 18th century building foundations was identified. No archaeological material was identified; no artefacts were retrieved.

#### **ST-113**

0.00-0.10m	Paving slab
0.10-0.20m	Concrete bedding
0.20m+	Grey coarse gravel/stone fill or varying compaction (modern construction grade infill)

The trench measured c.3.10m long by 0.45m wide by 1.20m deep (Plate 19). Excavation of the trench ceased due to water ingress (1.1m below PGL). It was located on the footpath of a pedestrian island at the junction of Hawkins Street and D'Olier Street. The trench was in the ZAP for historic Dublin (DU018-020; AC1) in proximity to a Standing Stone site (DU018-020129; AC36). The trench also lies within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC26) where the potential for subsurface medieval and Viking remains and 18th century building foundations was identified. No archaeological material was identified; no artefacts were retrieved.

#### **4.6 College Street/College Green (Figure 2e)**

##### **ST-114**

0.00-0.10m	Paving slab
0.10-0.50m	Reinforced concrete
0.50-1.50m	Mid-brown to black brown silty clay with inclusions of frequent gravel, red brick rubble and mortar. 18th/19th century ceramics, oyster shell and angular stone were also noted within this material. This material was very compact at the base of excavation where angular stone and red & yellow brick fragments were identified (Note: this material was identified at the western extent of the trench. Gas and ESB services identified within eastern half of the trench which were sealed by 0.45m of fine sand and lime mix).

The trench measured c.3m long by 0.60m wide and was excavated to a maximum depth of 1.50m (Plate 20). It was orientated east/west and located on College Street to the north of

the footpath encircling Trinity College. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1) and in proximity to a Chapel site (RMP DU018-020995; AC34). The trench also lies within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC26). There was the potential for subsurface medieval and Viking remains and 18th century building foundations to be extant within this area. No archaeological material was identified; no artefacts were retrieved.

#### **ST-115**

0.00-0.10m    Paving slab

0.10-0.30m    Tarmac

0.30-0.60m    Concrete bedding

0.60-1.50m    Mid-brown silty clay with black mottling. Red brick rubble, 18<sup>th</sup>/19<sup>th</sup> century ceramics, clay pipe stems and oyster shells were noted within this material.

The trench measured c.6.30m long by 0.60m wide by 1.50m deep (Plate 21). It was orientated northeast/southwest and was located on College Green on the footpath of a pedestrian island opposite the main entrance to Trinity College. The trench was within the ZAP of historic Dublin (RMP DU018-020; AC1) and within an area of archaeological potential identified in the Luas Broombridge (BXD) EIS (AC26). There was the potential for subsurface medieval and Viking remains and 18th century building foundations to be extant within this area. No archaeological material was identified; no artefacts were retrieved.

## **5.0 CONCLUSIONS**

### **5.1 Summary of archaeological findings**

Archaeological monitoring of the excavation of 16 utility slit trenches along the proposed route of Luas Broombridge (BXD) did not uncover any significant archaeological features, deposits or artefacts, with the exception of Trench ST-121 on Parnell Street and Trench ST-104 on Marlborough Street. A triple barrel vaulted post-medieval cellar of likely 18th century date was identified in Trench ST-121. Collapsed bonded red brick material associated with a cellar structure was identified along with a brick-built culvert in Trench ST-104. In addition a stone lined lintelled drain and associated metalised surface (most likely of 19th century date), was identified in Trench ST-103 on Marlborough Street and a collapsed red brick wall (of general post-medieval or early modern date) was identified within Trench ST-102 on Dominick Place. However, it should be noted that the utility slit trenches were limited in scope and were targeted and positioned at locations with high levels of disturbance (where

*in situ* services are currently located). Therefore, *in situ* archaeological features or deposits could survive outside of the areas directly investigated.

## **5.2 Recommendations**

No further archaeological work is required in connection with this programme of utility slit trenching. An additional series of archaeological/utility slit trenches were also excavated at Broadstone. The results of these investigations are the subject of a separate archaeological report (Bolger 2013).

## **6.0 ARCHIVE QUANTITIES**

The site archive is comprised of the following materials:

<b>Item</b>	<b>Quantity</b>
Context Sheets	N/A
Plans	N/A
Sections	N/A
Photographs	153
Registers	N/A
Notebooks	N/A

Storage of the archive in a suitable format and location is required in order to provide for any future archaeological research. The archive is currently stored in the offices of Rubicon Heritage Services Ltd., Unit 2, Europa Enterprise Park, Midleton, Co. Cork. Following completion of post-excavation works the archive will be deposited with the National Monuments Service Archive facility in Swords.

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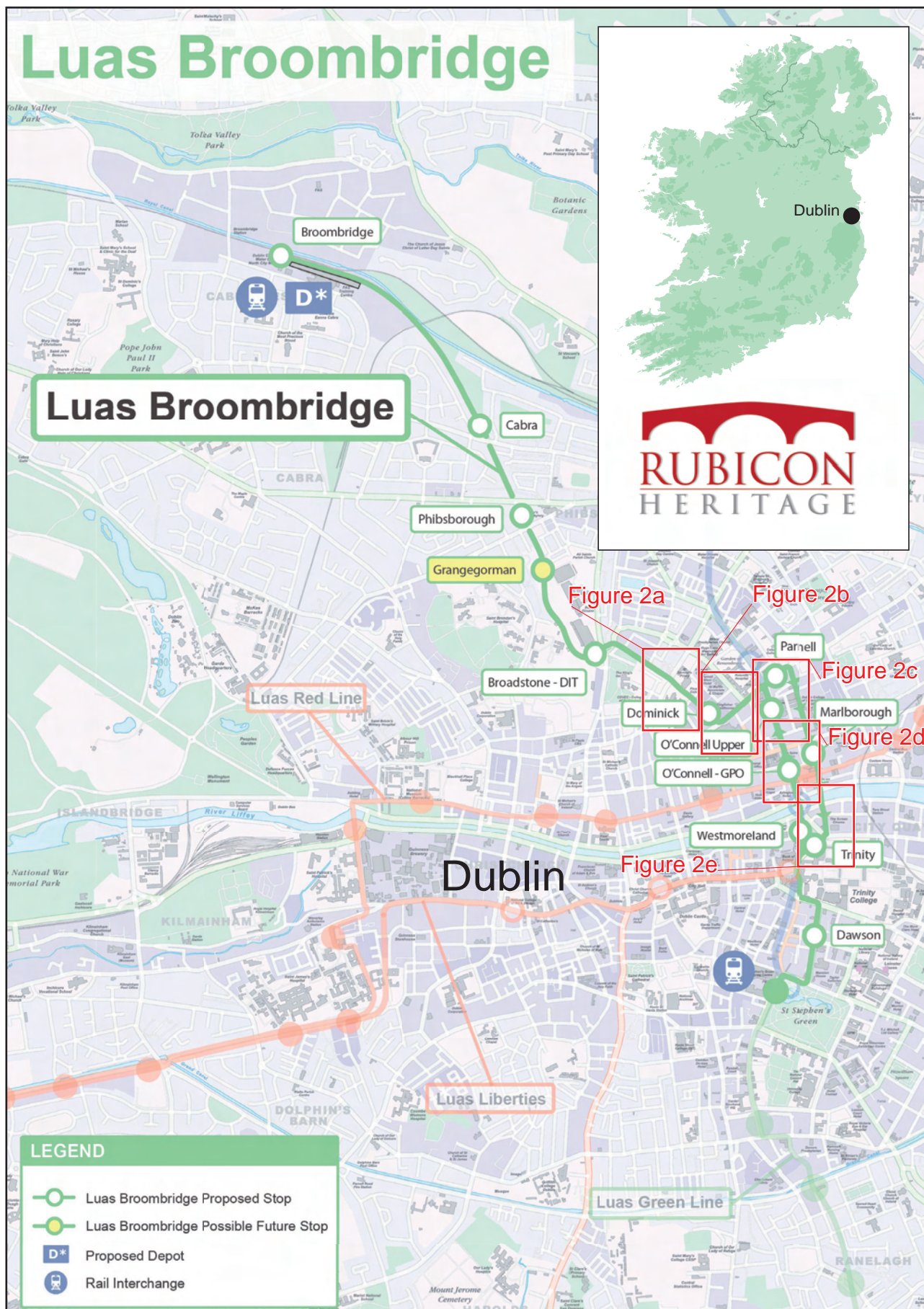
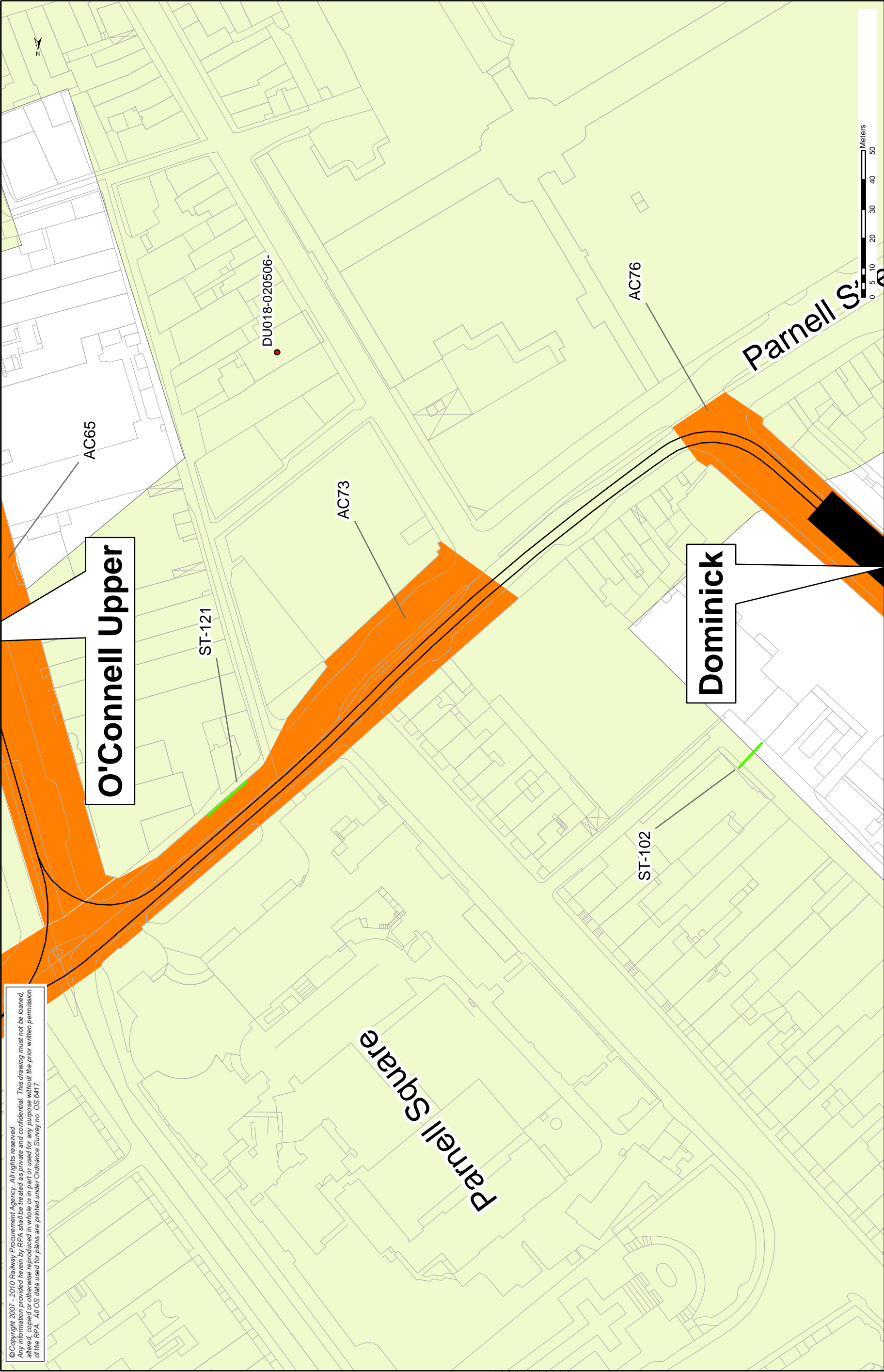



Figure 1 - Location map showing route of proposed Luas Broombridge.









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LUAS



RUBICON  
HERITAGE

PREPARED: JMM

REVIEWED: TB

APPROVED: xx

CHECKED: xx

DATE: November 2012

SCALE: 1:1,250

SUBJECT: TRENCH LOCATION

LOCATION:  
Parnell Square Slit Trenches ST-102 and ST-121

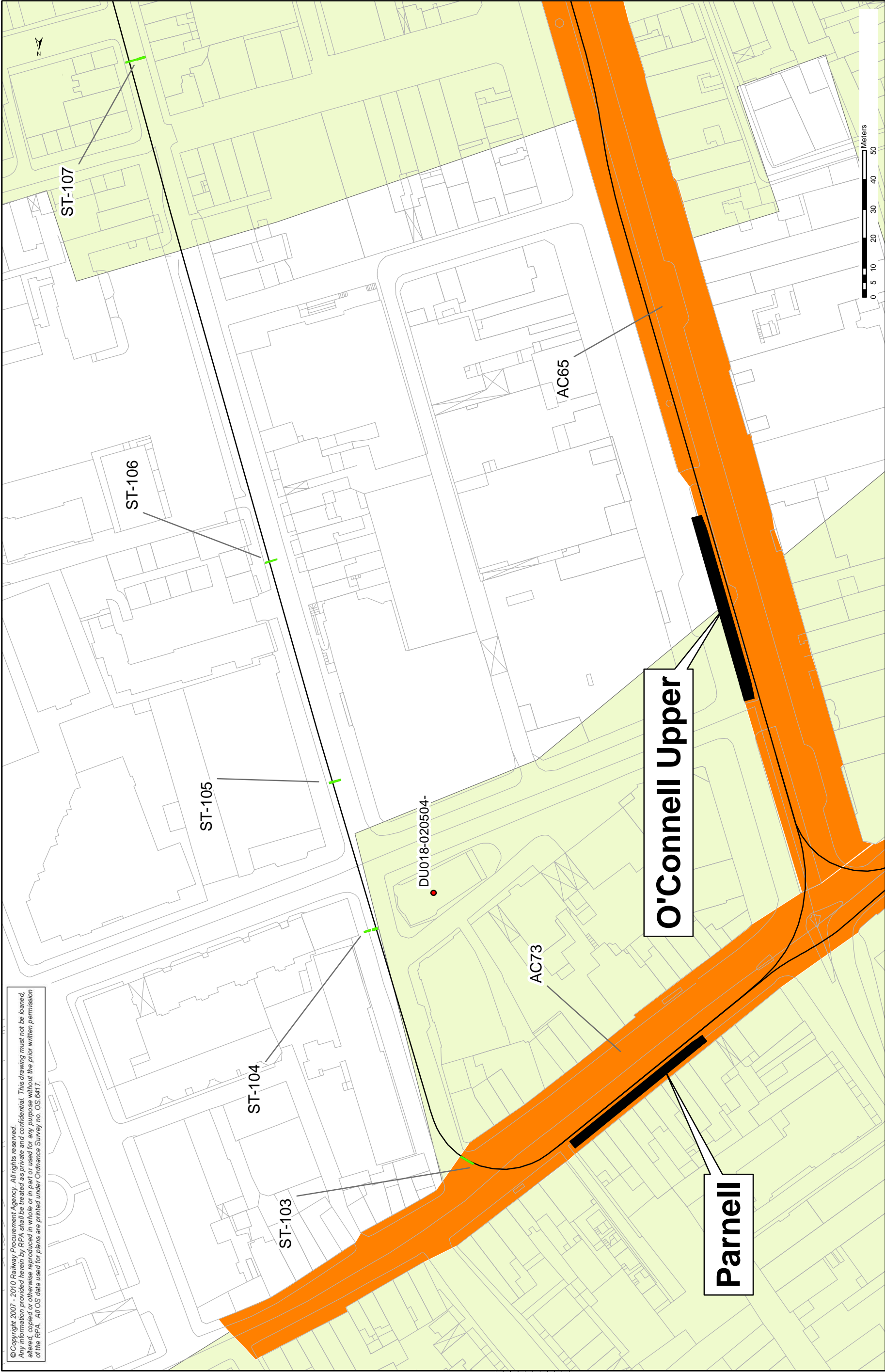
SHEET 2 OF 5

SPECIALIST TOPIC:  
**Location of Slit Trenches ST-102 and ST-121**


AREA NO.  
Area 29

PLAN NO.  
Figure 2b



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- Proposed Alignment
- Proposed Stops
- Watercourse
- Slit Trench
- Zone of Archaeological Potential (ZAP) - DU018-020 (AC1)
- RMP Sites
- Area of Archaeological Potential



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PREPARED: JMM	REVIEWED: TB	APPROVED: xx
CHECKED: xx	DATE: November 2012	
	SCALE: 1:1,250	

LOCATION:
 Marborough Street Slit Trenches ST-103, ST-104, ST-105, ST-106 and ST-107

SPECIALIST TOPIC:  
**Location of Slit Trenches ST-103, ST-104, ST-105, ST-106 and ST-107**

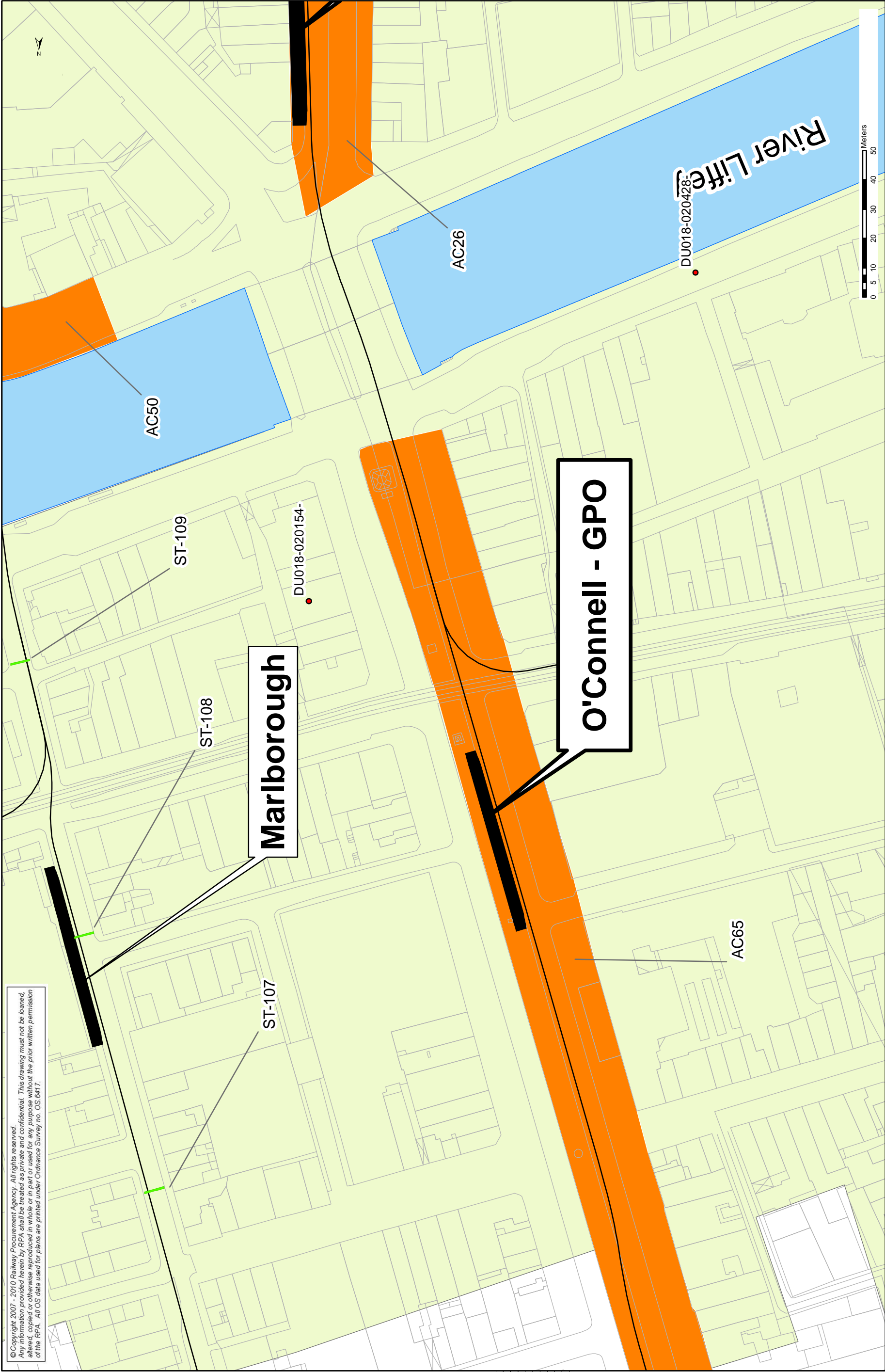
AREA NO.  
 Area 29

PLAN NO.  
 Figure 2c

SUBJECT:  
 TRENCH LOCATION

Sheet 3 of 5

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- Proposed Alignment
- Proposed Stops
- Watercourse
- Slit Trench
- Zone of Archaeological Potential (ZAP) - DU018-020 (AC1)
- RMP Sites
- Area of Archaeological Potential

LOCATION: Marlborough Street Slit Trenches ST-107, ST-108 and ST-109

SPECIALIST TOPIC: Location of Slit Trenches ST-107, ST-108 and ST-109

AREA NO. Area 29

PLAN NO. Figure 2d

SUBJECT. TRENCH LOCATION

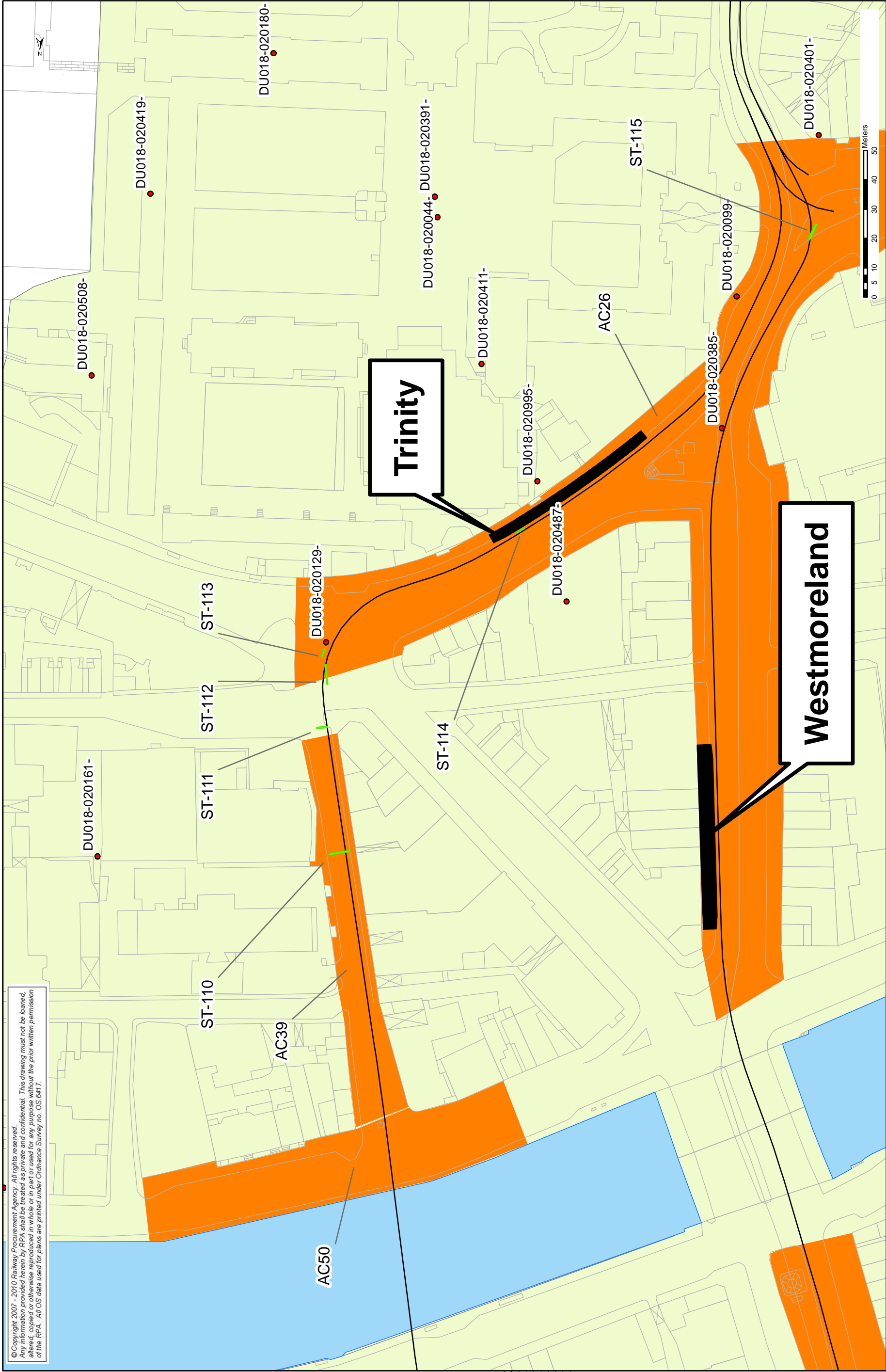
Sheet 4 of 5

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	CHECKED: xx	DATE: November 2012
		SCALE: 1:1,250

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- Proposed Alignment
- Proposed Stops
- Watercourse
- Slit Trench
- Zone of Archaeological Potential (ZAP) - DU018-020 (AC1)
- RMP Sites
- Area of Archaeological Potential

LOCATION: Trinity Slit Trenches ST-110, ST-111, ST-112, ST-113, ST-114 and ST-115

SPECIALIST TOPIC: Location of Slit Trenches ST-110, ST-111, ST-112, ST-113, ST-114 and ST-115


AREA NO. Area 29

PLAN NO. Figure 2e



SUBJECT. TRENCH LOCATION

Sheet 5 of 5

Trinity Slit Trenches ST-110, ST-111, ST-112, ST-113, ST-114 and ST-115

  
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PREPARED: JMM

REVIEWED: TB

CHECKED: xx

APPROVED: xx

DATE: November 2012

SCALE: 1:1,250



Plate 1 - ST-101, Upper Dorset Street, facing E



Plate 2 - ST-121, Parnell Street, triple barrel vaulted basement, facing SW



Plate 3 - ST-121, Parnell Street, gable end of triple vaulted coal cellar, facing SW



Plate 4 - ST-121, Parnell Street, truncation of crown 3 with gas service present within coal cellar, facing SW



Plate 5 - ST-121, Parnell Street, crowns 1, 2 and 3, facing NE



Plate 6 - ST-102, Dominick Place, central section facing NE



Plate 7 - ST-103, Marlborough Street, metallised surface and remains of possible wall under lintelled drain in south-east corner section of trench, facing E



Plate 8 - ST-103, Marlborough Street, gas main over lintelled drain in turn sitting over metallised surface in south-west section of trench, facing SW



Plate 9 - ST-104, Marlborough Street, west section (top of barrel-vaulted culvert visible), facing E



Plate 10 - ST-104, Marlborough Street, east section (side wall of culvert visible and collapsed cellaring), facing W



Plate 11 - ST-105, Marlborough Street, facing W



Plate 12 - ST-106, Marlborough Street, facing W



Plate 13 - ST-107, Marlborough Street, east section, facing E



Plate 14 - ST-108, Marlborough Street, east section, facing W



Plate 15 - ST-109, Marlborough Street, west section, facing E



Plate 16 - ST-110, Hawkins Street/D'Olier Street, east section, facing W



Plate 17 - ST-111, Hawkins Street/D'Olier Street, facing W



Plate 18 - ST-112, Hawkins Street/D'Olier Street, facing S



Plate 19 - ST-113, Hawkins Street/D'Olier Street, facing SW



Plate 20 - ST-114, College Street, facing W



Plate 21 - ST-115, College Green, facing NE

## Appendix 1 – Trench Register

Trench No	Length (m)	Width (m)	Depth (m)	Description	Summary of Features
ST-101	3.85	0.60	1.50	<p>0.00-0.10m Tarmac</p> <p>0.10-0.40m Concrete/lime mix</p> <p>0.40-1.50m Mid-brown silty clay with red brick rubble, with inclusions of loose masonry and pieces of mortar. Occasional animal bone and oyster shells were also noted within this material. A large quarried stone was identified within the eastern half of the trench. This stone did not seem to be part of any structure/wall and was set at a slight angle within man-made ground.</p>	No archaeological material was identified; no artefacts were retrieved.
ST-121	18	0.60	1.5	<p>(Note: profile recorded at mid section of Trench 121: at 11.25m)</p> <p>0.00-0.15m Kerb stones</p> <p>0.15-0.30m Tarmac/lime mix</p> <p>0.30-0.40m Mortar within mid brown silty clay matrix</p> <p>0.40m Intact barrel vaulted cellar</p>	A possible cobbled surface was identified in the NE end of the trench and a triple barrel vaulted basement (coal cellar) associated with No 71 Parnell Street a Georgian/Victorian building was identified in the southwestern half of the trench (from 9.75m to 18m).
ST-102	6.3	0.60	1.5	<p>0.00-0.10m Tarmac</p> <p>0.10-0.40m Hardcore – modern gravel/stone infill</p> <p>0.40m+ Mid to dark brown clay with frequent rubble (red-brick and mortar) and oyster shell inclusions (post-medieval deposit - ?garden soil)</p>	No archaeological features or deposits identified; no artefacts were retrieved.
ST-103	5	0.60	1.5	<p>0.00-0.10m Tarmac</p> <p>0.10-0.50m Concrete/ lime mix</p>	A lintelled drain was identified in the south-east corner of the trench. It overlay a metal surface measuring 2m in length within the trench (Plate 8). Partial

Trench No	Length (m)	Width (m)	Depth (m)	Description	Summary of Features
				<p>0.50-1.00m Modern fine brown sand and grey gravel (804) infill over services</p> <p>1.00-1.10m Slab of lintelled drain noted in south-east corner of slit trench</p> <p>1.10-1.50 m Black-brown silty clay with occasional red brick fragments, pieces of mortar, oyster shell, 18<sup>th</sup> and 19<sup>th</sup> ceramics and rounded stone.</p> <p>1.50m+ Metalled surface identified beneath lintelled drain in south-east section of slit trench</p>	evidence of the location of a former red brick wall was also identified.
ST-104	6	0.60	0.30	<p>0.00-0.10m tarmac/paving slab</p> <p>0.10-0.30m concrete</p> <p>0.30m+ mid-brown gravelly clay (modern fill plastics and modern rubbish noted)</p>	A red brick barrel-vaulted culvert was located in the western section of the trench starting 1.30m from the west end of the trench and extending under the kerbline, at a depth of c. 1m below present ground level (PGL)
ST-105	3.60	0.60	1.5	<p>0.00-0.10m Tarmac</p> <p>0.10-0.40m Reinforced concrete</p> <p>0.40-0.80m Mid-brown sandy clay</p> <p>0.80-0.90m Crushed red brick and mortar</p> <p>0.90-1.50m Brown silty clay with frequent inclusions of angular stone and moderate to occasional inclusions of red brick fragments, pieces of mortar and oyster shell.</p>	No archaeological features, deposits or finds were identified within the trench.
ST-106	4	0.60	1.5	<p>0.00-0.10m Tarmac</p> <p>0.10-0.30m Concrete</p> <p>0.30-1.50 Mid-brown sandy clay with frequent gravel (occasional red brick fragments and pieces of mortar were</p>	No archaeological features, deposits or finds were identified within the trench.

Trench No	Length (m)	Width (m)	Depth (m)	Description	Summary of Features
				also noted within this material) was identified on the western side of the excavated trench. The eastern side of the trench was filled by modern gravel (804 or similar).	
ST-107	7.40	0.60	1.5	0.00-0.10m Tarmac	No archaeological features, deposits or finds were identified within the trench.
				0.10-0.30m Concrete	
				0.30- 0.80m Lime mix and 804 gravel or similar	
				0.80-1.15m Fine grey sand	
				1.15-1.50m Mid-brown sandy clay with frequent gravel (occasional red brick fragments, pieces of mortar and rounded and angular stone were noted within this material).	
ST-108	7.10	0.60	1.50	0.00-0.10m Tarmac	No archaeological features, deposits or finds were identified within the trench.
				0.10-0.30m Reinforced concrete	
				0.30- 0.50m Black fine sand and gravel	
				0.50-1.50m 804 gravel or similar *(A mid-brown sandy clay with frequent gravel, occasional red brick fragments and rounded and angular stone was noted at this depth in the westernmost part the trench)	
ST-109	7.50	0.60	1.5	0.00-0.10m Tarmac	No archaeological features, deposits or finds were identified within the trench.
				0.10-0.40m Concrete	
				0.40-0.70m Mid-brown sandy clay with frequent gravel (very occasional red brick fragments, pieces of mortar were noted within this material).	
				0.70-1.50m Moist dark brown sandy silt with inclusions of red brick fragments, oyster shell, mortar pieces, organic	

Trench No	Length (m)	Width (m)	Depth (m)	Description	Summary of Features
				material (tree roots) and occasional 19 <sup>th</sup> c ceramics	
ST-110	7.60	0.60	1.7	0.00-0.10m Tarmac 0.10-0.45m Concrete 0.45-1.70m Mid-brown silty clay with frequent inclusions of angular and rounded stone and moderate to occasional inclusions of red brick fragments, pieces of mortar and oyster shell.	A number of large angular stones and loose masonry were identified in the western and eastern halves of the trench. The identified stone and masonry appeared to be dumped deposits within man-made ground. No archaeological features, deposits or finds were identified within the trench.
ST-111	4 m	0.60	1.15	0.00-0.10m Tarmac 0.10-0.38m Concrete, tarmac and lime mix 0.38-0.90m Light-brown sand and gravel 0.90-1.15m Mid-brown silty clay with frequent inclusions of angular stone and moderate to occasional inclusions of red brick fragments, oyster shell and pieces of mortar	No archaeological features, deposits or finds were identified within the trench.
ST-112	6.75	0.60	1.50	0.00-0.10m Paving slab 0.10-0.20m Concrete bedding 0.20m+ Grey coarse gravel/stone fill or varying compaction (modern construction grade infill)	No archaeological material was identified; no artefacts were retrieved.
ST-113	3.10	0.45	1.20	0.00-0.10m Paving slab 0.10-0.20m Concrete bedding 0.20m+ Grey coarse gravel/stone fill or varying compaction (modern construction grade infill)	No archaeological material was identified; no artefacts were retrieved.

Trench No	Length (m)	Width (m)	Depth (m)	Description	Summary of Features
ST-114	3	0.60	1.50	0.00-0.10m Paving slab	No archaeological material was identified; no artefacts were retrieved.
				0.10-0.50m Reinforced concrete	
				0.50-1.50m Mid-brown to black brown silty clay with inclusions of frequent gravel, red brick rubble and mortar.	
				18 <sup>th</sup> /19 <sup>th</sup> century ceramics, oyster shell and angular stone were also noted within this material. This material was very compact at the base of excavation where angular stone and red & yellow brick fragments were identified (Note: this material was identified at the western extent of the trench. Gas and ESB services identified within eastern half of the trench which were sealed by 0.45m of fine sand and lime mix).	
ST-115	6.30	0.60	1.50	0.00-0.10m Paving slab	No archaeological material was identified; no artefacts were retrieved.
				0.10-0.30m Tarmac	
				0.30-0.60m Concrete bedding	
				0.60-1.50m Mid-brown silty clay with black mottling. Red brick rubble, 18 <sup>th</sup> /19 <sup>th</sup> century ceramics, clay pipe stems and oyster shells were noted within this material.	

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## Appendix 2 – Photograph Register

Photo No	Direction Facing	Description
IMG_1291	E	ST-104, western section of trench (on road)
IMG_1292	W	ST-104, eastern section of trench (on footpath)
IMG_1293	E	ST-104, top of brick barrel-vaulted culvert visible at E-end of western section of trench
IMG_1295	W	ST-104, brick side wall of culvert visible at W-end of eastern section of trench
IMG_1296	N	ST-112
IMG_1297	N	ST-112
IMG_1298	N	ST-112
IMG_1300	S	ST-112
IMG_1301	S	ST-112
IMG_1302	S	ST-112
IMG_1303	SW	ST-113
IMG_1304	SW	ST-113
IMG_1305	SW	ST-113
IMG_1306	SW	ST-113
IMG_1307	NE	ST-113
IMG_1308	NE	ST-113
IMG_1309	NE	ST-113
IMG_1310	SW	ST-102, eastern section
IMG_1311	NE	ST-102, eastern section

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Photo No	Direction Facing	Description
IMG_1312	SW	ST-102, central section
IMG_1313	NE	ST-102, central section
IMG_1314	SE	ST-102, possible collapsed red-brick walling
IMG_1315	SW	ST-102, west section
IMG_1316	SW	ST-102, west section
IMG_1317	NE	ST-102, west section
IMG_1318	N	ST-102, western terminus
IMG_1351	W	ST-109, east section
CIM0001	W	ST-106 pre-excavation
CIM0002	W	ST-106 pre-excavation
CIM0003	N	ST-106 western section
CIM0004	W	ST-106 mid-excavation
CIM0005	W	ST-106 mid-excavation
CIM0006	W	ST-106 mid-excavation
CIM0007	W	ST-106 mid-excavation
CIM0008	W	ST-106 mid-excavation
CIM0009	W	ST-107 mid-excavation (east side)
CIM0010	w	ST-107 mid-excavation (east side)
CIM0011	E	ST-107 mid-excavation (east side)
CIM0012	E	ST-107 mid-excavation (west side)
CIM0013	E	ST-107 mid-excavation (west side)

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Photo No	Direction Facing	Description
CIM0014	SE	ST-107 mid-excavation (west side)
CIM0015	S	ST-107 mid-excavation (west side)
CIM0016	W	ST-107 mid-excavation (west side)
CIM0017	NW	ST-108 pre-excavation
CIM0018	NW	ST-108 pre-excavation
CIM0019	W	ST-108 mid-excavation (east side)
CIM0020	S	ST-108 north facing section
CIM0021	W	ST-108 mid-excavation (east side)
CIM0022	W	ST-108 mid-excavation (east side)
CIM0023	W	ST-108 pre-excavation of west side of trench
CIM0024	W	ST-108 mid-excavation (west side)
CIM0025	NW	South facing section of ST-108 (west side)
CIM0026	NW	South facing section of ST-108 (west side)
CIM0027	NW	South facing section of ST-108 (west side)
CIM0028	NW	ST-115 pre-excavation
CIM0029	NW	ST-115 pre-excavation
CIM0030	SE	ST-115 pre-excavation
CIM0031	SE	ST-115 pre-excavation
CIM0032	SE	ST-115 mid-excavation
CIM0033	SE	ST-115 mid-excavation
CIM0034	SE	ST-115 mid-excavation

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Photo No	Direction Facing	Description
CIM0035	SE	ST-115 mid-excavation
CIM0036	SW	NW facing section of ST-115
CIM0037	SW	NW facing section of ST-115
CIM0038	NW	ST-115 mid-excavation
CIM0039	E	ST-114 pre-excavation
CIM0040	N	ST-114 pre-excavation
CIM0041	W	ST-114 mid-excavation
CIM0042	N	South facing section of ST-114
CIM0043	W	ST-114 mid-excavation
CIM0044	E	ST-114 mid-excavation
CIM0045	W	ST-114 mid-excavation
CIM0176	SE	ST-103 mid-excavation
CIM0177	SE	ST-103 mid-excavation
CIM0178	SE	ST-103 mid-excavation
CIM0179	SW	NE facing section of ST-103
CIM0180	SW	NE facing section of ST-103
CIM0181	SW	NE facing section of ST-103
CIM0182	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0183	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0184	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0185	SE	Lintelled drain and metalled surface in SE corner of ST-103

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Photo No	Direction Facing	Description
CIM0186	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0187	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0188	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0189	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0190	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0191	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0192	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0193	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0194	SE	Lintelled drain and metalled surface in SE corner of ST-103
CIM0195	SW	Lintelled drain and metalled surface in SE corner of ST-103
CIM0196	SW	Lintelled drain and metalled surface in SE corner of ST-103
CIM0176.3	E	ST-109 mid-excavation (west side)
CIM0177.3	E	ST-109 mid-excavation (west side)
CIM0178.3	N	South facing section of ST-109 (west side)
CIM0179.3	N	South facing section of ST-109 (west side)
CIM0001.4	W	ST-105 mid-excavation
CIM0002.4	W	ST-105 mid-excavation
CIM0003.4	S	North facing section of ST-103
CIM0004.4	S	North facing section of ST-103
CIM0005.4	W	ST-110 mid-excavation
CIM0006.4	W	ST-110 mid-excavation

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Photo No	Direction Facing	Description
CIM0007.4	S	North facing section of ST-110
CIM0008.4	E	ST-111 pre-excavation
CIM0009.4	W	ST-111 mid-excavation
CIM0010.4	S	North facing of ST-111
CIM0011.4	S	North facing of ST-111
CIM0012.4	W	ST-111 mid-excavation
CIM0013.4	W	ST-111 mid-excavation
CIM0014.4	E	ST-110 mid-excavation (east side)
CIM0015.4	S	North facing of ST-111 (east side)
CIM0016.4	S	North facing of ST-111 (east side)
CIM0017.4	S	North facing of ST-101
CIM0018.4	S	North facing of ST-101
CIM0019.4	E	ST-101 mid-excavation
CIM0020.4	E	ST-101 mid-excavation
CIM0001.5	SW	ST-121 mid-excavation
CIM0002.5	SW	Basement beneath tarmacadam
CIM0003.5	SW	Basement beneath tarmacadam
CIM0004.5	SE	ST-121 mid-excavation
CIM0005.5	SE	NW facing section of ST-121
CIM0006.5	SE	NW facing section of ST-121
CIM0007.5	SW	ST-121 mid-excavation

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Photo No	Direction Facing	Description
CIM0008.5	SW	ST-121 mid-excavation
CIM0009.5	SE	Service beneath footpath ST-121
CIM0010.5	SW	ST-121 mid-excavation
CIM0011.5	SW	ST-121 mid-excavation
CIM0012.5	SW	ST-121 mid-excavation
CIM0013.5	SW	ST-121 mid-excavation
CIM0014.5	SW	ST-121 mid-excavation
CIM0015.5	NE	ST-121 Red brick barrell vaulted cellar
CIM0016.5	SE	ST121 Red brick barrell vaulted cellar
CIM0017.5	S	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0018.5	SW	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0019.5	SW	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0020.5	SW	ST-121 Gable end of triple vaulted red brick barrell vaulted cellar
CIM0021.5	SW	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0022.5	N/A	Void
CIM0023.5	SW	ST-121 Truncated basement crown
CIM0024.5	SW	ST-121 Truncated basement crown
CIM0025.5	SW	ST-121 Truncated basement crown
CIM0026.5	NE	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0027.5	NE	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0028.5	SW	ST-121 Triple vaulted red brick barrell vaulted cellar

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**Title: Archaeological Monitoring Report, Utility Slit Trenching Investigations – Future Luas Works – Luas Broombridge (BXD) Dublin.**

Photo No	Direction Facing	Description
CIM0029.5	SW	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0030.5	SW	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0031.5	NE	ST-121 Triple vaulted red brick barrell vaulted cellar
CIM0032.5	SE	NW facing section of ST-121
CIM0033.5	E	NW facing section of ST-121
CIM0034.5	E	NW facing section of ST-121
CIM0035.5	SW	ST-121 Gable end of triple vaulted red brick barrell vaulted cellar
CIM0036.5	SW	ST-121 Truncated basement crown
CIM0037.5	SW	ST-121 Truncated basement crown
CIM0038.5	SW	ST-121 Georgian buildings matching footprint of triple vaulted red brick cellar
CIM0039.5	SE	ST-121 Georgian buildings matching footprint of triple vaulted red brick cellar
CIM0040.5	SE	ST-121 Georgian buildings matching footprint of triple vaulted red brick cellar
CIM0041.5	SE	ST-121 Georgian buildings matching footprint of triple vaulted red brick cellar