

NAU Archaeology

Report № 1520

Memorial Gardens, Norwich: Historic Building Recording

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Prepared for

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Figure 1 Site Location

Location: St Peter's Street/Market Place, Norwich
District: Norwich
Grid Ref.: TG 2292 0851
NHER No.: 26202
Dates of Fieldwork: July–October 2008

Summary

From late July until October 2008 metric survey and historic building recording were undertaken by NAU Archaeology at the Memorial Gardens, between City Hall and Market Place, Norwich. The recording took the form of a measured CAD survey achieved via rectified photography. Each element of the monument and gardens was then numbered and its condition recorded. These data are recorded in drawings and spreadsheets presented separately from this report.

An archaeological watching brief was also undertaken during geotechnical investigations below the concrete floor of the undercroft/store below the gardens. This work indicates that all archaeological remains below the undercroft were destroyed during its construction.

1.0 Introduction

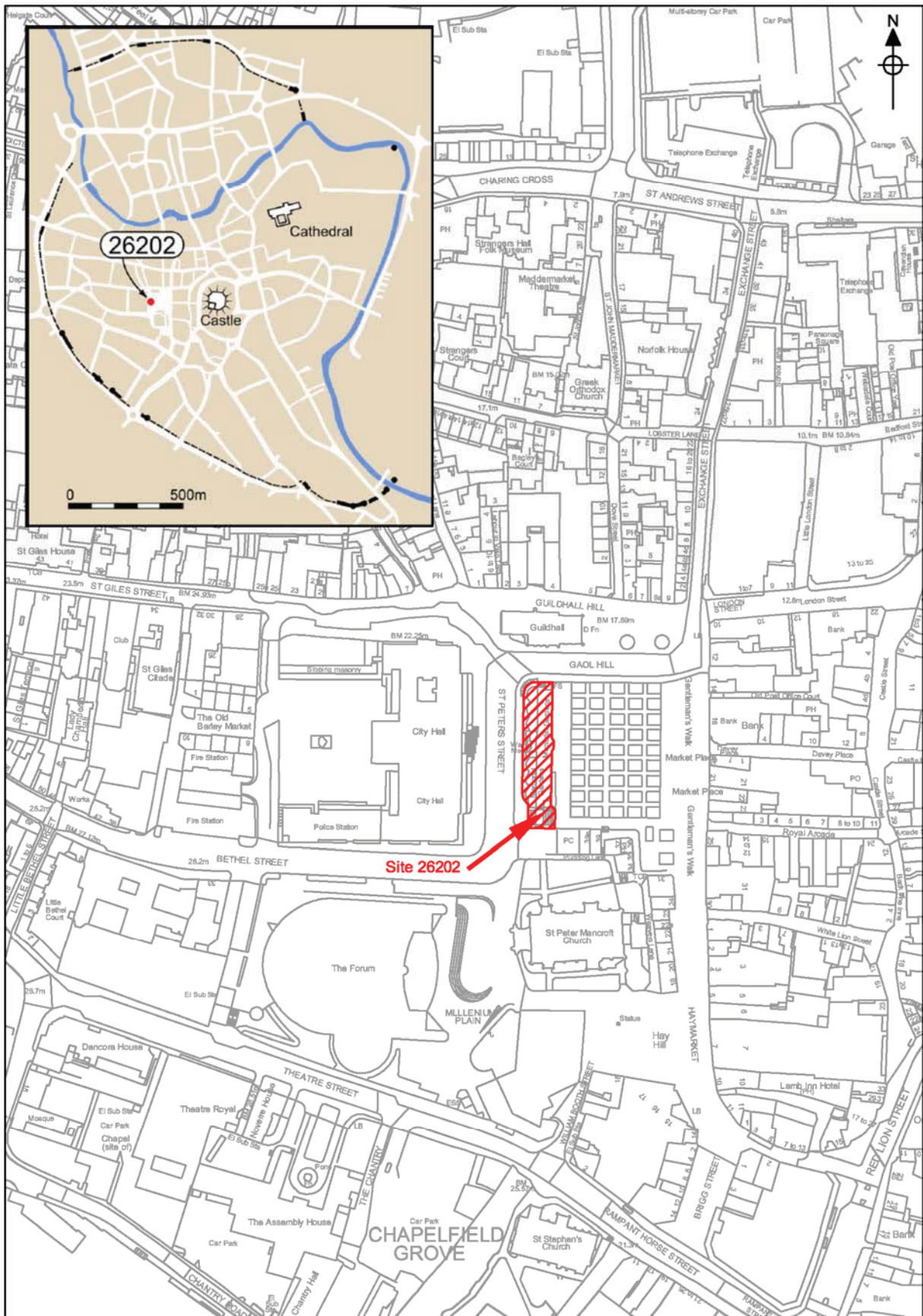
In February 2007, Norfolk County Council issued a brief for an historic building recording project at Norwich City Memorial Gardens, St Peter's Street, Norwich (Heywood 2007; Fig. 1). The brief was issued in response to a bid for funding by Norwich City Council for extensive repair and refurbishment of the gardens and repositioning of the monument.

The proposed scheme was prompted largely by the poor condition of the reinforced concrete undercroft, which is overlain by the masonry element of the memorial and gardens. The undercroft has suffered drainage problems for many years, which have led to the corrosion and failure of the steel reinforcing.

The objectives of this historic building recording project were threefold: to make a detailed record of the memorial and hard landscaping of the gardens prior to their dismantling and re-erection; to generate drawings (plan and elevations) with each element numbered; and to undertake a detailed condition survey of each element of the gardens and monument.

2.0 Historical Background

Construction of the Memorial Gardens was completed in 1938 and was undertaken as an adjunct to the construction of Norwich City Hall. The design and construction of City Hall were under the overall control the architects C.R. James and S.R. Pierce (Pevsner and Wilson 1997, 262–64, 313). It was thought that James and Pierce were also responsible for the design and construction of the Memorial Gardens, although other evidence points to the architect Robert Atkinson being responsible for the design (NPS 2008).



0 200 m

Figure 1. Site location showing. Scale 1:2500.

The marketplace itself was a Norman creation (Priestly 1987). In the late 11th century the Norman conquerors chose to transform Norwich into a royal and ecclesiastical centre. Tombland, the principal marketplace of the Late Saxon town was dominated from the east by the new Cathedral Priory and from the west by the royal Castle (Fig. 1). West of the castle a large new marketplace was laid out. Around the castle, primarily between it and the marketplace, lay the castle fee, the area of the city directly under royal control. West of the marketplace a new borough was laid out, often referred to as the 'French Borough'. The medieval marketplace extended well to the south of St Peter Mancroft church, almost as far as modern Rampant Horse Street. Excavations prior to the remodelling of Market Place during 2005 failed to yield any evidence relating to the Norman marketplace (Davies 2007). This was in large part due to a major phase of landscaping that took place c.1500, probably around the same time as the construction of a large and elaborate market cross, which dominated Market Place until its demolition in 1732. Substantial remains of the market cross were uncovered in 2005. These included the parts of the octagonal foundations and elements of the superstructure toppled into an adjacent large pit. Market Place was again substantially remodelled in 1938 following the construction of City Hall (see below). This episode of landscaping also probably removed traces of the early medieval marketplace.

During the 17th–19th centuries Market Place was encroached upon by the construction of buildings of various kinds around its margins. By the early 20th century the municipal offices were housed in a range of buildings on the site of what is now the Memorial Gardens and the western edge of Market Place. These buildings included reused parts of the Victorian fish-market and a structure of sheet corrugated steel that housed part of the City police force (Priestley 1987, 29). In response to the disparate nature of the municipal office buildings, the city began purchasing property between St Peter's Street, Bethel Street and St Giles Street in the 1920s. The fire station had been built at the western end of this block by 1934 and demolition of the remaining buildings was well underway by 1935. After much controversy over costs and design, City Hall was completed in 1938. The former municipal buildings east of St Peter's Street were then demolished, the Memorial Gardens built and Market Place resurfaced with new, more permanent stalls laid out for the first time in regular rows. The 1930s arrangement of stalls remained in place until new fixed stalls were constructed in 2005–06.

Elements of the foundations of various buildings were uncovered during the 2005 excavations on the western side of the marketplace (Davies 2007). Those in the northern and central parts of Market Place were post-medieval and Victorian, some relating to the aforementioned fish-market built around 1860 (Priestley 1987, 25). The date of the building remains uncovered on the western edge of Market Place is less clear, some may have been 15th–16th-century, with later additions (M. Boyle, pers. comm.).

The Lutyens memorial is of Portland stone and originally stood at the eastern end of the Guildhall. It was moved into its present position in 1938. The inscriptions on the western face must have been altered soon after 1945, possibly by removing the carved blocks and turning the old inscriptions to face into the monument. The bronze vase-like features atop the monument once reputedly held gas flares. During survey and recording work on the monument a passer-by reported that one

of their relatives had worked on refurbishing the monument in 1995–96 for the now-defunct Woods Memorial masons.

The memorial gardens are principally of Clipsham stone, with steps and paving of York stone. The northern multi-curved planting bed retaining wall is of brick with a stone-effect Portland cement render. The southern multi-curved planting bed retaining wall is a complete replacement of the rendered brick original in pre-cast concrete and was put in place approximately 15 years ago. The rubbish bins and planters are probably also of pre-cast concrete or reconstituted stone and were not part of the original design.

3.0 Survey and Recording Method

3.1 Generation of the Plan

In general terms the plan supplied is based upon that generated by the NPS Land Survey Team. The major details that the original plan lacked were those related to individual steps and paving slabs, wall blocks and other elements. In order for each paving slab or other element to be numbered they needed to be shown on the plan. It was decided that hand measurement of block dimensions and joint widths was the easiest and quickest way to add detail relating to the walls, light, flag pole and planter bases. Working on the general assumption that the corners of most blocks and other elements are right-angles the joins were then drawn onto the AutoCAD plan.

Without the use of a 'cherry picker'-type mobile elevated platform rectified photography of the planar detail was not possible. Even if a platform had been used there would have been many access problems to be overcome due to the many steps in and around the Memorial Gardens. With one exception the plan generated by the NPS Land Survey Team was an accurate and appropriate base to build on. This exception was in the area of element C033, the north-eastern end of the low wall behind the monument whose dimensions and shape were incorrect. This small area was resurveyed.

Gathering data on the detail of the York stone paving slabs was a little more problematic. At first an attempt was made to capture data for the corners of each slab using a Total Station Theodolite. It proved impossible to sufficiently counter minor errors caused by movement of the hand-held target prism. This led to the slabs having an irregular appearance on the initial survey plots. It was therefore decided that hand measurement of the slabs and slab joints was the best solution. The steps were also hand measured.

After individual element details were added to the plan, print-outs were produced at a scale of 1:50 which were used as a basis of the condition recording.

3.2 Generation of the Elevations

Rectified photography was the principal technique employed in the generation of the elevations. First, a series of reflective targets were placed at regular intervals across the elevations. The targets were positioned in such a way that overlapping digital photos contained two targets from the preceding and two targets from the subsequent photograph in the corners of the shot. Where possible two intermediate targets were also placed in the central upper and lower margins of

the photograph. For the larger elevations each photograph covers a length of approximately 3m with at least a 20% overlap in coverage on the left and right margins. Four photographs were taken of each elevation tile to allow for exposure bracketing and the capture of images in both .jpeg and .raw (Canon) format. The advantage of this is that .jpeg format digital images degrade in quality slightly each time they are opened and saved and therefore are not considered stable enough for long-term digital archiving.

The second part of the rectified photography process was the collection of three-dimensional spatial data for each target. This was achieved by using a Total Station Theodolite with dual infra-red/laser distance measurement capabilities. As reflective targets were used, direct measurement to the targets in infra-red mode were possible. Nevertheless in order for accurate data for each target to be obtained the angle at which the beam strikes the target cannot be too oblique. Thus the instrument had to be set up multiple times for each elevation. All survey data were related to two fixed control points (Stations 1 and 2) also used by the NPS Land Survey Team in the generation of their plan. The position of the Total Station Theodolite was determined for each set-up, or 'free station', in relation to the control points using multiple backsight readings and a combination of resection and intersection. The standard deviation on each set-up was 6mm or less. Data for the upper and lower margins of each elevation were also captured using the Total Station Theodolite's direct laser measuring capability.

Once accurate spatial data for each target were acquired, each elevation tile photograph was rectified using Monobuild software. No attempt was made at separate lens corrections. Each rectified photograph tile was then brought into a three-dimensional AutoCAD drawing showing the targets and upper and lower elevation margins as surveyed. The image was then repositioned and resized according to the target data and positions. The outline of each block or element was then 'head up' digitised from the photograph using two-dimensional ploylines. Tiled A3 print-outs at a scale of 1:20 were then produced for each elevation. These were then used for condition recording in the field.

3.3 Condition Recording

The first stage of condition recording was to number each individual element of the monument and gardens visible in plan and section. For ease of reference the gardens were divided up into fifteen zones labelled A to O. Within each zone each element was assigned a three-digit number beginning at 001. In general, elements visible in plan were labelled first, starting at the south-western corner and running south-north. Elevations were then numbered starting in the upper left-hand corner and running in columnar fashion from left to right. There are some minor inconsistencies in the element numbering caused by misnumbering and by elements which appeared as one on the rectified photographs being confirmed as two after recoding and vice versa. Where possible these mistakes were corrected by renumbering all or large parts of a zone. Where this was likely to be too time consuming and recording had progressed too far to make it practical, elements were renumbered using alphabetical suffixes e.g. F075A, F075B and so on. In general, in situations where it was difficult to tell if individual blocks carried through or under other elements it has been assumed they are separate elements and given a new number. This problems was chiefly encountered in the bases for the planters and lights. This means that once dismantling commences it may become

apparent that some elements have two numbers. A record of double-numbered elements will need to be kept during dismantling.

The condition recording itself consisted of the annotation of print-outs of the plan and elevations with the following damage codes:

Algae Growth	G
Spalling	Sp
Movement Joint	MJ
Open Joint	O
Encrustation	E
Pocketing/Erosion	PE
Staining	St
Displacement/Movement	DM
Previously pieced in repairs	PR
Mortar Loss	ML
Mechanical Damage	MD

The annotations were then digitised on individual colour-coded layers onto the AutoCAD plan and elevations. Either after or in tandem with this process a spreadsheet was created detailing the damage to each element. In the description column of the spreadsheets 'eastern', 'northern' and so on refer to damage recorded in plan, 'left', 'right', 'upper' and 'lower' to damage recorded in section.

3.4 General Photographic Recording

Elevations were not produced for the northern and southern multi-curved planting bed retaining walls. These walls and other elements, including the bins, benches and the interior of the undercroft, were recorded as part of a more general photographic survey. This survey also included more general photographs of the monument, gardens and their setting. The photographic survey included the use of high-quality digital photography and black-and-white film to create a stable archive record. Descriptions of each frame taken during the general photographic recording were listed and, where appropriate, labelled onto a layer of the AutoCAD plan.

'Social History' photographic recording of the contents and subdivisions within the undercroft was not possible, as the contents had already been removed and many elements stripped out prior to the commencement of the survey.

4.0 The Geotechnical Survey

An archaeological watching brief was carried out during the geotechnical survey that took place below the undercroft's floor slab (Harrison Geotechnical Engineering 2008). Natural geologically generated sand and gravels or chalk were encountered directly below the extant floor. This means that within the footprint of the memorial Gardens themselves all below-ground archaeological remains were removed during the construction of the undercroft.

5.0 Conclusions and Comments

5.1 The Lutyens Memorial

Traces of various phases of pipe-work and electrical services can be seen around the monument, some of these may related to the gas flares, others were undoubtedly part of various floodlighting systems.

It is clear that during the relocation of the monument in 1938 the outlying paving slabs (elements G089 and G095, possibly elements G090 and G096) were quite roughly cut to fit around the planter bases for elements G045 and G059. This will need to be taken into account in designing the monument's relocation.

5.2 The Memorial Gardens

Upon close inspection the stonework elements of the gardens are revealed to be in a worse condition than they might appear. Movement of multiple elements has occurred at most of the right-angled extremities of the gardens, and mortar loss is very common throughout. Many of the ashlar blocks have chips to their corners that must have occurred during erection or transit.

The exception to this are the southern steps, which, given that they are arguably the most used element of the gardens, appear relatively unworn. The mortar used in and around the southern steps is also in good condition and is characteristically different to that used in all other parts of the gardens. It is possible, therefore, that the steps have already undergone substantial renovation.

In addition to erroneously ascribing the gardens to James and Pierce, the Listing Description also states that one of the lamp-posts is a replacement. If this is the case then it is a high-quality, seamless repair that has weathered in well. The fact that one lamp-post may be a replacement was not picked up during the recoding.

5.3 Below-ground Archaeology

A brief for archaeological excavation has been issued in relation to the southern half of the narrow strip between the eastern terrace wall of the gardens and the recently renewed Market Place paving (Hamilton 2007). It is possible that the foundations of medieval and later structures may survive in this area, as well as truncated pits containing waste relating to market-related activities. This area will need to be the subject of an archaeological excavation if any significant remodelling of surface levels in it are planned as part of the proposed works.

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