An Archaeological Desk-Based Assessment: Sir Charles Parsons School, Westbourne Avenue, Walker, Newcastle-upon-Tyne, Tyne and Wear

Central National Grid Reference: NZ 2903 6513

Site Code: SCW 08

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1. NON-TECHNICAL SUMMARY

- 1.1 An archaeological desk-based assessment was undertaken ahead of the proposed redevelopment of Sir Charles Parsons School, Walker, Newcastle-upon-Tyne. Commissioned by Sir Robert McAlpine Limited, the assessment was researched and written September-November 2008 and revised February 2009 by Pre-Construct Archaeology Limited.
- 1.2 The site lies in the Walker suburb of Newcastle, east of the city centre, and is centred at National Grid Reference NZ 2903 6513, covering an area of 2.73 hectares. To the south and west, the site is bounded by housing fronting onto Ennerdale Road and Westbourne Avenue, respectively, while to the north-west lies St. Albans Roman Catholic Primary School and to the north and east lies a large area of open ground known as Waverdale Open Space.
- 1.3 The western portion of the site is currently occupied by the buildings and associated grounds of Sir Charles Parsons School, which is of modern origin. The eastern portion of the site comprises open scrubland and pasture, this the south-westernmost part of Waverdale Open Space, an area known to have been used for refuse tipping in the mid 20th century. One consequence of this was that the denes of a network of converging streams, one of which crossed the south-eastern portion of the site, were infilled to create relatively flat land.
- 1.4 In the development proposals, the majority of the existing school is to be demolished, with new build in the north-eastern part of the site, with associated access routes and extensive car parks in the other areas. The site does not lie within a conservation area and there are no scheduled monuments or listed buildings within its boundaries. Although the site lies only *c*. 400m south of the line of Hadrian's Wall, its main archaeological interest is for post-medieval and early modern industrial archaeology; mid 19th century mapping shows that it lay immediately adjacent to Delight Pit, an outlying working north of the core of Walker Colliery. An overground waggonway serving that pit crossed the site on a NW-SE alignment, and this ran along a substantial embankment constructed probably from colliery waste to bridge the dene. The waggonway was part of a network of such features associated with post-medieval and early modern coal mining in the area.
- 1.5 In summary, the potential at the study site for archaeological remains of all prehistoric eras, as well as the Roman, Anglo-Saxon and medieval periods, is considered low. The area of the former dene is considered to have low to moderate potential for palaeoenvironmental remains. There is low potential for non-industrial post-medieval and early modern remains, while there is high potential for industrial remains of post-medieval and early modern date, with particular potential for remains of a 19th century, possibly earlier, colliery transport system. Any such industrial remains are likely to be of local or regional importance. The structural fabric of the buildings of Sir Charles Parsons School is considered to be of negligible architectural value.
- 1.6 An important consideration regarding the possible survival of sub-surface remains of the former waggonway in the north-western portion of the site is the extent of disturbance that may have been caused by construction of the existing school. To the south-east of the currently developed area, geotechnical investigations have demonstrated 'made ground' up to depths of as much as *c*. 8.50m in the area of the former dene, although much of this is evidently colliery waste and likely includes the material which formed the waggonway embankment, rather than being modern refuse.

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2. INTRODUCTION

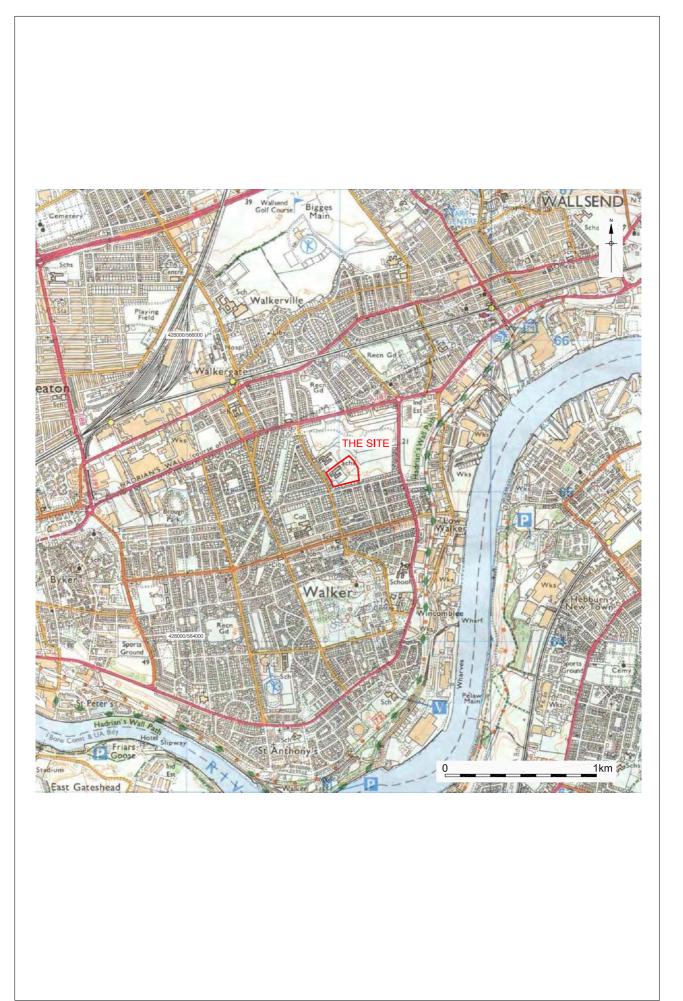
2.1 General

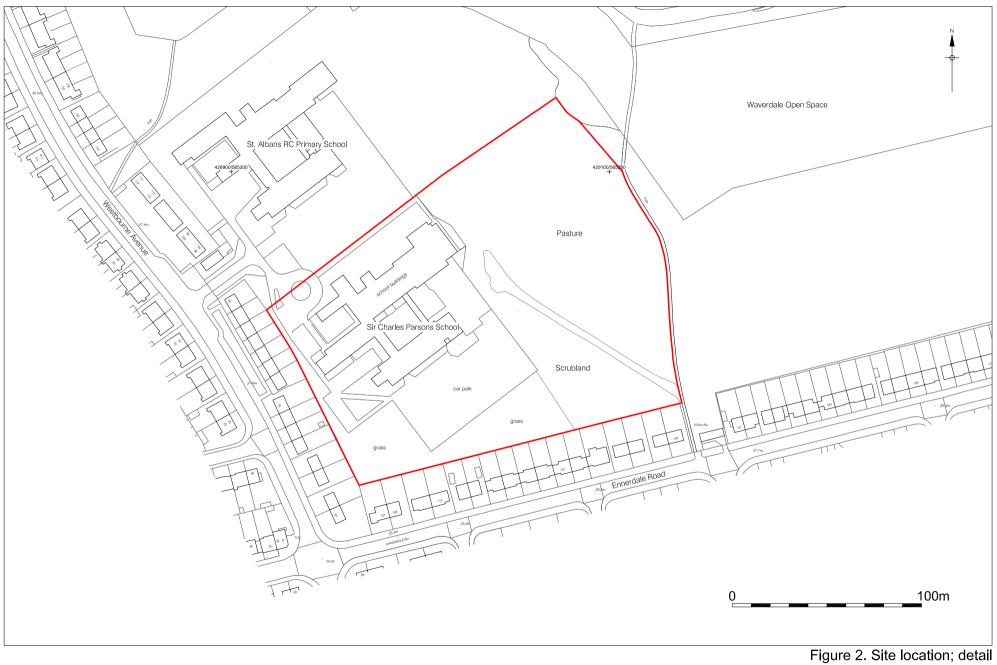
- 2.1.1 This archaeological desk-based assessment (DBA) has been commissioned by Sir Robert McAlpine Limited, ahead of the proposed re-development of Sir Charles Parsons School, Walker, Newcastle-upon-Tyne. The school is to be re-developed as part of the national Building Schools for the Future (BSF) programme.
- 2.1.2 The proposed re-development area, covering 2.73 hectares, lies within the Walker suburb of Newcastle, east of the city centre. It comprises the existing grounds of Sir Charles Parsons School and an adjacent area of scrubland and pasture; this area (red-lined on Figure 2) is hereafter referred to as 'the study site'.
- 2.1.3 The undertaking of the DBA was a requirement of the Tyne and Wear Specialist Conservation Team, which identified that the study site is of potential archaeological interest. Specifically, the site has particular potential for post-medieval and early modern industrial activity, in the form of 19th century, perhaps earlier, colliery waggonway remains. The DBA was compiled according to a Specification¹ issued by the Tyne and Wear Archaeology Officer and was researched and written September-November 2008 by Pre-Construct Archaeology Limited (PCA). The report was revised in February 2009 when geotechnical site investigation results were available.
- 2.1.4 The DBA was compiled following a visit to the study site and an examination of readily available documentary and cartographic sources. A 'wider study area', with a radius of 1km from the centre of the study site, was examined to establish the potential for archaeological remains at the site itself. The purpose was to formulate an assessment of the impact of the proposed development upon the potential archaeological resource at the site, in order to inform the planning process. There may be a requirement for a further stage of archaeological work in light of the findings of the DBA.
- 2.1.5 The **O**nline **A**cces**S** to the Index of Archaeological Investigation**S** (OASIS) reference number for the project is: preconst1-51607.

2.2 Site Location and Description

2.2.1 Walker is an eastern suburb of Newcastle, *c*. 3km from the city centre, occupying an elevated plateau overlooking a sharp bend in the Tyne (Figure 1). With the exception of early coal mining activity, the area was largely agricultural until the mid 19th century, when the riverside area developed rapidly at the heart of the Tyneside shipbuilding industry. From the 18th century onwards, Walker Colliery, the core elements of which lay *c*. 500m south of the study site, was very much the focus of the industrial township.

¹ Tyne and Wear Specialist Conservation Team 2008. The Specification forms Appendix D to this report.





Scale 1:2,000

- 2.2.2 Since the 1930s, Walker has become subsumed into the urban sprawl of Newcastle, and now forms a core element of the densely populated east end of the city. Within this lies the study site, quadrilateral in shape and 2.73 hectares in size, centred at NZ 2903 6513 (Figures 1 and 2). The western portion is currently occupied by the buildings and associated grounds of Sir Charles Parsons School, while the undeveloped eastern portion comprises the southwesternmost portion of the large area of open ground known as Waverdale Open Space.
- 2.2.3 To the south and west, the site is bounded by housing fronting onto Ennerdale Road and Westbourne Avenue, respectively, while to the north-west lies St. Albans Roman Catholic Primary School and to the north and east lies the remainder of the Waverdale Open Space.
- 2.2.4 A complex of school buildings, exclusively of modern date, occupies much of the western portion of the site. The remainder of the developed area comprises access routes, car parks and playgrounds, mostly surfaced with concrete and tarmac, with some soft landscaping, including a strip of neat grassland along the southern margin. Beyond a fence, the undeveloped eastern portion of the study site comprises rough scrubland and pasture, part of Waverdale Open Space, as described.
- 2.2.5 Plates 1-5 (forming Appendix B) show the main elements of the study site during compilation of the DBA.

2.3 Planning Background

- 2.3.1 The proposed re-development of Sir Charles Parsons School forms part of the government's Building Schools for the Future (BSF) initiative. In Newcastle, this is being delivered and partly funded by Newcastle City Council's private sector partner Aura, which is also designing, building and maintaining the schools. Sir Robert McAlpine Limited is one of the Aura partners. At the time of writing it is proposed to build a new Sir Charles Parsons School on the existing site, to the north-east of the existing school and taking in the south-westernmost corner of Waverdale Open Space (Figure 17).
- 2.3.2 The Tyne and Wear Specialist Conservation Team, attached to the Historic Environment Section of Newcastle City Council, undertakes archaeological development control in Newcastle. A DBA of the archaeological potential of the Sir Charles Parsons School site was required, with the work being commissioned by Sir Robert McAlpine Limited, as part of the planning process of the Local Planning Authority, the City Council.
- 2.3.3 Statutory protection for archaeological remains is principally enshrined in the Ancient Monuments and Archaeological Areas Act 1979, as amended by the National Heritage Act 1983 and subsequent. Nationally important sites are listed in a schedule of monuments and are accorded statutory protection. Details of scheduling are held on the list maintained by the Department for Culture, Media and Sport (DCMS). For other components of the historic environment, the Planning (Listed Buildings and Conservation Areas) Act 1990 amends the Town and Country Planning Act 1971 and provides statutory protection to listed buildings and a control to preserve the character and appearance of conservation areas.

2.3.4 The study site does not lie within one of the eleven conservation areas in Newcastle and there are no scheduled monuments, listed buildings or historic parks and gardens within its boundaries or within its immediate vicinity. Planning policy and legislation that may be of relevance to heritage issues for the proposed development site is summarised below.

National Planning Policy Guidance and Legislation

- 2.3.5 *Planning Policy Guidance Note 16: 'Archaeology and Planning'* (PPG16)² provides advice concerning the safeguarding of archaeological remains within the planning process. PPG16 is informed by the principle that archaeology represents a finite and non-renewable resource and that its conservation, either by preservation *in situ* or preservation by record (through archaeological excavation) should be the primary goal of archaeological resource management. Implicit in PPG16 is the process for determining archaeological risk on a development site through assessment. DBAs usually form a baseline consideration of the archaeological potential of a proposed development site.
- 2.3.6 The following legislation and national planning policy are also taken into account:
 - *Planning Policy Statement 1: Delivering Sustainable Development 2005* (PPS1).³ This states that development plans should take into account the enhancement of built and archaeological heritage;
 - Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.

Regional Planning Guidance

2.3.7 Advice on a strategic level is provided by *RSS1: Regional Spatial Strategy for the North East*,⁴ which was published in July 2008 and which covers the whole North East region. It specifically recognises the importance of the historic environment and *Policy 32 'Historic Environment'* seeks to conserve and enhance the historic environment of the region, by various means, including by seeking to preserve archaeological remains *in situ* where they are scheduled and similarly where they are of local and regional importance, if appropriate.

Local Planning Guidance

2.3.8 At a local level, the Development Plan framework is provided by the *Newcastle City Unitary Development Plan* (UDP), adopted in 1998.⁵ The UDP contains the following general policies:

POLICY C04. DEVELOPMENT THAT WOULD HARM SITES OR AREAS OF ARCHAEOLOGICAL INTEREST AND THEIR SETTINGS WILL NOT BE ALLOWED.

This policy underlines that archaeological remains are a finite asset and care must be taken to ensure that archaeological sites and monuments and areas of potential archaeological importance are not needlessly destroyed. This applies to all periods including the industrial, which is significant in the Newcastle and Tyneside context. It sets out the three categories of archaeological sites and areas of interest in the City:

 scheduled ancient monuments - these being worthy of preservation because of their national significance;

² Department of the Environment 1990.

³ Office of the Deputy Prime Minister 2005.

⁴ Available at the North East Assembly website.

⁵ Available at the *Planning Portal* website.

- other important sites, monuments and areas including sites known only from aerial photographs, Roman, post medieval and industrial features, some of which may also be listed buildings. This category includes sites and areas where there is considerable potential archaeological interest including areas which have consistently yielded dense scatters of artefacts, prehistoric flints, early urban and village cores and areas of early industrial development;
- substantially undeveloped and undisturbed areas where archaeological interest or potential has not, as yet, been established.

POLICY C04.1. THE FOLLOWING SITES AND AREAS OF ARCHAEOLOGICAL INTEREST IDENTIFIED FOR THE PURPOSE OF POLICY C04 INCLUDE:

Scheduled ancient monuments

7. Hadrian's Wall, Vallum and associated works.

Other sites and areas of archaeological interest, as defined on the Proposals Map 18. Unscheduled areas of the known and presumed line of Hadrian's Wall, Vallum, Ditch and fortifications.

POLICY C04.2. WHERE A PROPOSAL MAY AFFECT A SITE OR AREA OF ARCHAEOLOGICAL INTEREST, THE DEVELOPER WILL BE REQUIRED TO SUBMIT AN APPROPRIATE ASSESSMENT OF ITS POTENTIAL IMPACT UPON THE ARCHAEOLOGICAL REMAINS AND WHERE NECESSARY UNDERTAKE AN ARCHAEOLOGICAL EVALUATION.

This policy highlights the need to take archaeological considerations into account at the preplanning stage before the development control process and stresses that potential conflict between the needs of archaeology and development can be reduced if developers discuss their preliminary plans with the City Council and County Archaeologist in advance. It emphasises that an archaeological assessment will be needed to support a planning application should it require the loss of remains or the removal of artefacts from a site and underlies that it should clearly state the means of preservation or recording if that is the agreed intention.

POLICY C04.3. WHERE ASSESSMENT AND EVALUATION HAVE ESTABLISHED THAT PROPOSED DEVELOPMENT WILL ADVERSELY AFFECT A SITE OR AREA OF ARCHAEOLOGICAL INTEREST, DEVELOPERS WILL BE REQUIRED TO PRESERVE ARCHAEOLOGICAL REMAINS IN SITU UNLESS THIS IS CLEARLY INAPPROPRIATE OR THE DESTRUCTION OF THE REMAINS IS DEMONSTRABLY UNAVOIDABLE, IN WHICH CASE A PROGRAMME OF ARCHAEOLOGICAL WORKS SHALL BE SUBMITTED TO AND AGREED WITH THE COUNCIL BEFORE THE START OF DEVELOPMENT.

This policy deals with the category of site which includes the numerous known sites of archaeological interest and sensitivity which do not have the status of scheduled monuments but which may still be worthy of preservation because of their national or local significance. These may be known only from aerial photographs, or comprise sites of industrial or post-medieval archaeology, such as collieries, railways or farm buildings (including listed buildings).

The policy notes that when an application is made to develop such a site, the Council, in consultation with English Heritage and the County Archaeologist, will weigh up its relative importance (national/ local) against other material considerations including the actual need for the proposed development in that particular location. Should permission be granted and it is not possible to preserve the remains *in situ*, then the developer should make appropriate and satisfactory provision for their excavation and recording. Planning permission may be granted subject to conditions which provide for excavation and recording before development takes place, again in consultation with the County Archaeologist.

POLICY C04.4. WHERE PROPOSED DEVELOPMENT WOULD INVOLVE LARGE SCALE GROUND DISTURBANCE IN CURRENTLY UNDEVELOPED AREAS DEVELOPERS WILL BE REQUIRED TO SUBMIT A PRELIMINARY ARCHAEOLOGICAL ASSESSMENT TO IDENTIFY ANY SITES OR POTENTIAL AREAS OF ARCHAEOLOGICAL INTEREST.

This policy highlights that large-scale works, which cause extensive disturbance of ground such as open casting, the construction of major highways and substantial areas of new development may affect areas with as yet unidentified archaeological interest. The City Council will be guided by the advice of the County Archaeologist in this matter.

2.3.9 As previously mentioned, a Specification for this DBA was prepared by the Tyne and Wear Archaeology Officer. Despite its relative proximity to important Roman period sites, it is for post-medieval and early modern industrial archaeology that the study site has particular potential. Mid-19th century mapping shows that that the site lay immediately to the south-east of Delight Pit, an outlying working north of the core elements of Walker Colliery. A waggonway ran across the site from north-west to south-east, continuing towards the Tyneside industrial settlement area of Low Walker. The date of origin of the waggonway is uncertain but by the time the Ordnance Survey 1st edition was surveyed in 1858, the route was evidently out of use.

3. AIMS AND OBJECTIVES

- 3.1 The key objectives of the DBA are:
 - to assess the impact of the proposed development upon the historic environment;
 - to identify parts of the study site for which further archaeological work may be appropriate;
 - to assist in the formulation of recommendations for any further archaeological work considered necessary to inform the planning decision.
- 3.2 In order to address the first objective, the DBA must first analyse the character and extent of known or potential archaeological sites that may be affected by the proposal **and** provide an evaluation of their importance. It should aim to assess the likely scale of impacts, both construction-related and operational, arising from the proposal. From this position, it should then be possible to outline appropriate mitigation measures to avoid, reduce or remedy adverse impacts on the historic environment, thereby addressing the second and third key objectives.
- 3.3 In addition, the Specification for the DBA stresses the need to undertake the project with reference to the *North East Regional Research Framework for the Historical Environment* (NERRF),⁶ a document that highlights the importance of research as a vital element of development-led archaeological work. In setting out key research priorities for all periods of the past, the NERRF allows archaeological projects to be related to wider regional and national priorities for the study of archaeology and the historic environment.
- 3.4 Key research priorities for the post-medieval (PM) period in the NERRF that are of particular relevance to this assessment are:

PM1. Early coal industry and coal use:

To ensure improved targeting of archaeological evaluation there should be a survey of documentary evidence and cartographical evidence for early mining in order to identify precise locations.

Development controlled commissioned fieldwork should also be aware of the potential for the buried remains of colliery buildings on later sites.

Sub-surface mine workings may survive. These may be revealed by modern deep ground disturbances in advance of other surface developments. It is essential that appropriate archaeological monitoring processes be put in place to record such remains.

PM2. Early railways:

Ongoing research needs to recognise the role of the North East in the development of the early railways, with several key areas of investigation having been identified.

Investigations should focus on the early waggonways and pre-locomotive hauled lines, whilst also recognising the potential archaeological importance of terminals, and specifically the development of coal staithes. Existing landscape features along the course of known early waggonways require survey, which if possible, should include railway formations, track beds and gradients.

The routes of early railways should be plotted on the HERs of the region, through archival research on early documentary and cartographic sources.

3.5 The results of the DBA will be used to make an informed decision on the necessity, or

otherwise, for an archaeological mitigation strategy in relation to the proposed development.

⁶ Petts and Gerrard 2006.

4. METHODS OF ASSESSMENT

4.1 Research and Data Collection

- 4.1.1 Several sources of data relating to the study site and the wider study area were consulted during the research phase of the DBA, which incorporated a map regression exercise and consultation of the Tyne and Wear Historic Environment Record (HER).
- 4.1.2 While full details of all the material examined for the DBA are set out in Section 10, listed below are the principal sources of information which facilitated compilation of the DBA:
 - The Tyne and Wear HER, maintained by the Tyne and Wear Specialist Conservation Team, at West Chapel, Jesmond Old Cemetery, Jesmond Road, Newcastle-upon-Tyne, was visited (by appointment) in September 2008.
 - Tyne and Wear Archives, Blandford House, Blandford Square, Newcastle-upon-Tyne, was visited in September 2008.
- 4.1.3 Two geotechnical site investigation reports⁷ provided important additional data, including additional historic map evidence, which required the DBA to be revised in February 2009.

4.2 Site Visit

- 4.2.1 In addition to the research described above, a site visit was undertaken, in October 2008, in order to carry out a thorough visual inspection of the study site, and its wider historic environment.
- 4.2.2 During the site visit, a photographic record of the study site was compiled in digital format and a representative selection of the photographs is included herein (Plates 1-5, forming Appendix B).

⁷ Arc Environmental 2008 and Parsons Brinckerhoff 2009.

5. GEOLOGY AND TOPOGRAPHY

5.1 Geology

- 5.1.1 The solid geology of the part of Tyneside in which the study site lies is formed by the Westphalian Coal Measures of the Upper Carboniferous. In general the rocks comprise a succession of shales and sandstones riddled with numerous coal seams. Towards Wallsend, the solid geology is specifically formed by sandstone beds high in the Middle Coal Measures.⁸
- 5.1.2 In this area, the underlying rocks are overlain by an often relatively thin mantle of glacial debris, mainly Glacial Till, generally known as 'boulder clay', deposited by the ice sheets that covered the area during the last glacial period.

5.2 Topography

- 5.2.1 The area of the study site lies at *c*. 26m AOD, with localised variation on the site itself, as described below. In the wider area, ground level falls away to the south and east towards the main geographical feature in the vicinity, the River Tyne. The varying course of the river means that it bounds the Walker area to the south and east, flowing in a roughly north-south direction *c*. 1.0km to the east of the study site before turning eastwards at Wallsend.
- 5.2.2 The study site extends into Waverdale Open Space, which is well documented as having been the site of substantial tipping, after the Second World War and up to the 1970s, of domestic and industrial waste, including incinerator waste.⁹ By infilling the denes¹⁰ of several converging streams, one of which is depicted crossing the south-eastern portion of the study site on 18th-19th century mapping (for example, Figures 6-9), this refuse tipping created the existing relatively flat landform of Waverdale Open Space. In addition, however, there is strong evidence that earlier activity also significantly altered the natural topography of the southern central portion of the study site, as discussed in due course.
- 5.2.3 The streams in the vicinity of the study site are generally known as tributaries of 'Stott's Burn' (Figures 5 and Figure 7), which converged to the east, beyond Waverdale Avenue, before discharging into the Tyne in an area occupied since the industrial era by shipyards, particularly Swan Hunter. 'Miller's Burn' is the name given to a tributary to the north-west, this has given its name to playing fields, 'Miller's Dene Recreation Ground', on the north side of Fossway.
- 5.2.4 Today the study site is relatively flat, with just a slight fall in ground level from north-west to south-east. The highest part is the developed north-western corner, at *c*. 27.20m AOD. Along southern margin of the site ground level lies at *c*. 26.0m AOD, while in the north-eastern corner ground level is at *c*. 25.60m AOD. The lowest part of the site is a slight depression, at *c*. 24.80m AOD, in the grassland close to the eastern boundary (Figure 3). This lies along the route of the former dene; geotechnical investigations have established the presence of a sinuous corridor of sub-surface 'made ground' representing the infilled dene (Figure 3), demonstrating that the natural topography of the site has been much altered.

⁸ Johnson 1997.

⁹ RPS Clouston 1998.

¹⁰ 'Dene' is a familiar term throughout Northumberland and Durham meaning a typically steep-sided, wooded valley through which a burn (stream) runs.

- 5.2.5 In determining the extent of modern refuse tipping on Waverdale Open Space, the Ordnance Survey 2nd edition (Figure 10) is particularly useful in that it shows the 50 foot (*c*. 15.25m OD) contour defining the main dene of Stott's Burn, along with, for some of its course, the dene of the south-western tributary, this the burn which ran across the study site. Therefore, when considered in relation to existing ground level midway along the eastern site boundary of the study site, as described above, there is every indication that, in this area specifically, the dene has been infilled with a thickness of at least *c*. 9m of modern material. This and greater depths of material have also been encountered by geotechnical investigations undertaken on the main portion of Waverdale Open Space, to the north-east of the study site, at the convergence of the main, roughly west-east, branch of Stott's Burn and its south-western tributary, a depth of more than 11m of modern dumped material was recorded by boreholing.¹¹
- 5.2.6 As previously intimated, there is strong evidence to indicate that, prior to waste tipping in the modern era, described above, previous historic activity was responsible for infilling of the dene in the southern central portion of the study site. This activity relates to a late post-medieval or early modern colliery waggonway that ran on a NW-SE alignment across the site, exiting roughly midway along its southern boundary. While the feature is depicted in detail on mapping as early as 1840 (Figure 7), as discussed in greater detail in Section 6, 'spot heights' (feet above sea level but shown in m OD on Figure 3) depicted on the 1908 edition of the Ordnance Survey map (extract¹² shown inset on Figure 12) indicate that, by that date, the embankment carrying the waggonway had been raised to a height of c. 27.25m OD at the point where it crossed the burn. By this time the watercourse was culverted below the embankment, which, it is suspected, would probably have been created largely with colliery waste. Another spot height to the north-west, this at c. 27.67m OD, gives an indication of the waggonway gradient at that time. These values are more than 1m higher than ground levels in the same locations today, indicating not only the substantial dimensions of the embankment but also that the feature was certainly reduced in height by modern landscaping.
- 5.2.7 Geotechnical investigations at the study site do indicate substantial depths, up to *c*. 8.50m, of infilled material within the former dene, but these lie on the north-west side of the waggonway embankment (CP1 and CP3 on Figure 18). The nature of the material ash and brick rubble suggests that this was either derived from 19th century, possibly earlier, colliery activity, or from the early 20th century, when a refuse destructor is known to have occupied this precise location, rather than being the result of post-Second World War tipping, as has clearly been the case further to the north-east on Waverdale Open Space.

¹¹ Parsons Brinckerhoff 2009.

¹² Map extract provided by Mark Berriman of Arc Environmental.

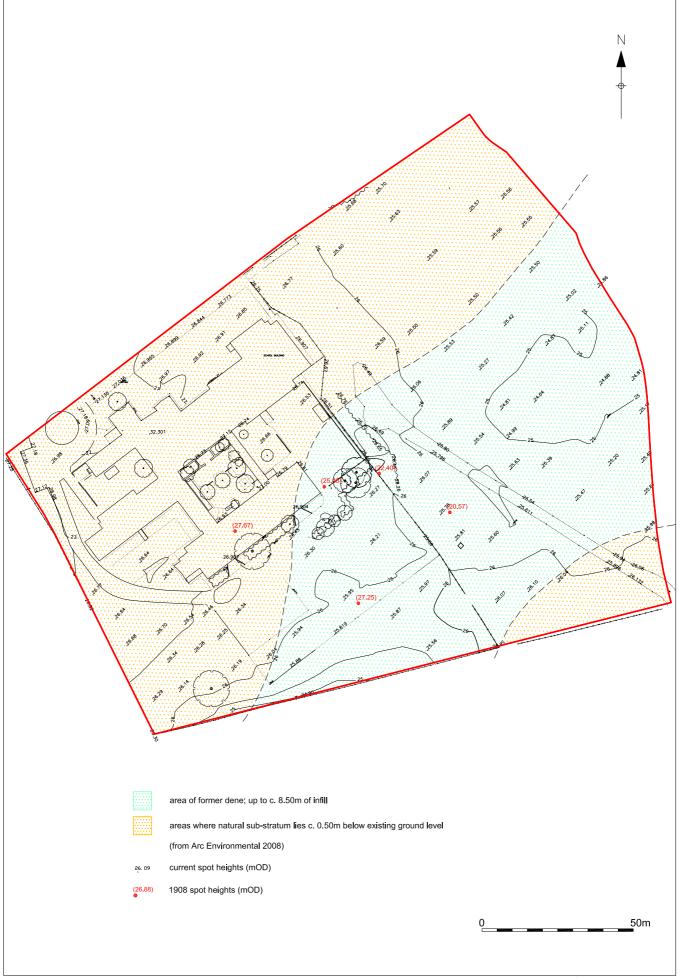


Figure 3. Site topography Scale 1:1,250

6. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

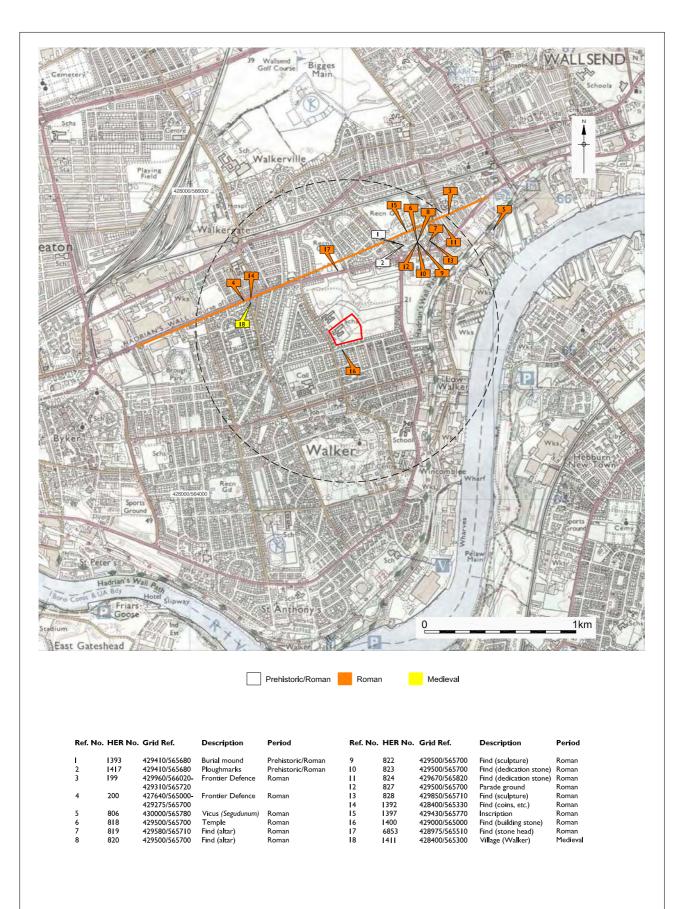
6.1 Introduction

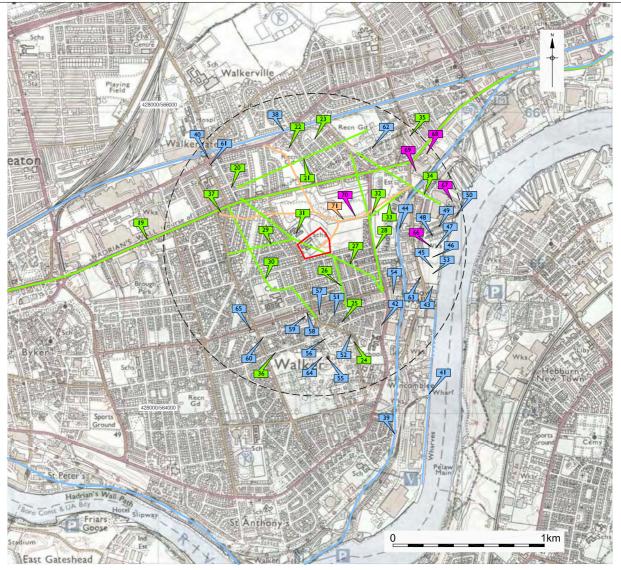
- 6.1.1 In order to assess the archaeological potential of the study site, a programme of documentary and cartographic research was undertaken. The starting point for this research was the Historic Environment Record (HER) maintained by the Tyne and Wear Specialist Conservation Team. A 'wider search area' of radius 1.0km from the study site was established. All HER entries within this area were examined and those of relevance were mapped (Figures 4 and 5 use a numerical sequence of reference numbers for clarity, cross-referenced to the following text, with HER numbers listed in the table below the plot). These entries are discussed in summary below, in the period/era sub-sections, while further details appearing in the catalogue of HER entries forming Appendix A. HER information has been supplemented by data gathered from a variety of other sources, such as archaeological, documentary and cartographic.
- 6.1.2 The purpose of this study is not to set out a comprehensive history of land use in the area. The broad intention is only to predict and extrapolate likely archaeological conditions within the study site from finds and research in the vicinity. However, analysis of archaeological discoveries made nearby are important, as is an examination of existing historical and archaeological records relating to the site, since it is recognised that finds and sites entered onto the HER are at best a small and unrepresentative sample of the total buried heritage.
- 6.1.3 Time scales used in this section:

Prehistoric				
Palaeolithic	450,000–12,000 BC			
Mesolithic	12,000–4,000 BC			
Neolithic	4,000–2,300 BC			
Bronze Age	2,300–700 BC			
Iron Age	700 BC–AD 43			
Historic				
Roman	AD 43–410			
Anglo-Saxon	AD 410–1066			
Medieval	AD 1066–1485			
Post-medieval	AD 1486–AD 1830			
Early Modern	AD 1830-AD 1939			
Modern	AD 1940-present			

6.2 Prehistoric and Palaeoenvironment

6.2.1 There are no HER entries for the various prehistoric eras on the study site.





Post-medieval

Modern

Undetermined

Ref No	HER Ref.	Grid Ref.	Description	Period	Ref No.	HER Ref.	Grid Ref.	Description	Description
19	1191	436480/569030- 425530/564110	To ll Road	Post-medieval	41	4203	429830/564680- 429740/563530	Waggonway (Low Wa k er)	Early modern (industrial)
20	4 84	428480/565490	Collery (Walker, Gosforth Pit)	Post-medieval (industrial)	42	4205	429470/564580	Brick Works	Early modern (industrial)
21	4 85	429380/565870-	Waggonway (Gosforth Pit-Fair Pit)	Post-medieval (industrial)	43	4208	4298 0/564840	Shipyard	Early modern (industrial)
		428520/565490		. ,	44	4216	429590/565220	Brickfield	Early modern (industrial)
22	4 86	428860/565750	Windmill	Post-medieva	45	4217	4298 0/564960	Shipyard	Early modern (industrial)
23	4 87	429030/565810	Colliery (Walker, Fair Pit)	Post-medieval (industrial)	46	4218	4298 0/565030	Shipyard	Early modern (industrial)
24	4206	429290/564470	Colliery (Walker, B Pit)	Post-medieval (industrial)	47	4219	429830/565090	Copperas Works	Early modern (industrial)
25	4207	429210/564600	Colliery (Walker, Ann Pit)	Post-medieval (industrial)	48	4220	429810/565170	Brick Works	Early modern (industrial)
26	4209	429 60/565030-	Waggonway (Delight Pit-Low Walker)	Post-medieval (industrial)	49	422	429850/565230	Copperas Works	Early modern (industrial)
		429240/564700		. ,	50	4222	429960/565300	Boatyard	Early modern (industrial)
27	4210	429480/564800-	Waggonway (Gosforth & Delight Pits-	Post-medieval (industrial)	51	4264	429 60/564650	School	Early modern
		428540/565420	Low Walker)	. ,	52	4286	429270/564520	Blacksmiths	Early modern (industrial)
28	4211	429270/565710-	Waggonway (East Pit-Low Walker)	Post-medieval (industrial)	53	5022	4298 0/564920	Shipyard	Early modern (industrial)
		429480/564800			54	6213	429550/564790	School	Early modern
29	4212	428890/565150-	Waggonway (Delight Pit-Old Walker)	Post-medieval (industrial)	55	6218	429110/564370	Church	Early modern
		428460/565050			56	6219	429100/564490	Chapel (Methodist)	Early modern
30	4213	428460/565360-	Waggonway (Gosforth Pit-Low Walker)	Post-medieval (industrial)	57	6220	429060/564650	Chapel (Wesleyan Methodist)	Early modern
		429040/564630		. ,	58	622	428980/564660	Chapel (RC)	Early modern
3	42 4	428910/565190	Colliery (Walker, Delight Pit)	Post-medieval (industrial)	59	6222	428970/564640	School	Early modern
32	4215	4294 0/565320	Colliery (Walker, East Pit)	Post-medieval (industrial)	60	6223	428690/564500	nn	Early modern
33	4265	429620/565470-	Waggonway (East Pit-Walker)	Post-medieval (industrial)	6	7885	428340/565640	Chapel (Methodist)	Early modern
		429390/565290			62	7886	4294 0/565750	Farmstead	Early modern
34	4266	429310/565720-	Waggonway (Stott's House Farm-	Post-medieval (industrial)	63	9905	429730/564900	Public House	Early modern
		429860/565380	Waker)		64	9907	429080/564370	Memoria	Early modern
35	494	429660/565830	House	Post-medieval	65	9911	4286 0/564550	Library	Early modern
36	6224	428770/564400	House	Post-medieval	66	787	429800/565100	Pillbox	Modern
37	7884	4284 0/565330	Farmstead	Post-medieva	67	2093	429940/565400	Oil Refinery	Modern
38	186	424720/563830-	Railway	Early modern (industrial)	68	4942	429750/565750	Offices	Modern
		436710/569100	,		69	5106	429700/565600	Power Station	Modern
39	2146	433500/567260-	Railway	Early modern (industrial)	70	5503	429300/565300	Anti-aircraft Battery	Modern
		426390/564850		,	71	11113	428400/565500-	Watercourse (Stott's Burn)	Undetermined
40	4182	428330/565680	Toll House	Early modern			430000/565400		

Early modern

- 6.2.2 A watercourse depicted at the site on the earliest detailed mapping is a natural stream (burn), part of the network of such features that converged to form Stott's Burn, which discharged further to the east into the River Tyne. Prior to industrial era and modern landscaping, these features would have occupied possibly steep-sided denes, which, if present during prehistory, may have been a focus for various human activities.
- 6.2.3 Indeed there are some indications of potential prehistoric activity within the wider search area. For example, south of Stott's House Farm, in the north-eastern portion of the wider study area, stood likely prehistoric earthwork features, known as 'Stott's House mounds' (Figure 4, Ref. 1). These were published in 1732 by the antiquarian John Horsley as burial mounds or 'tumuli and appear on the Ordnance Survey 2nd edition from the 1890s. One was excavated by George Jobey prior to its destruction in 1964. Although Jobey recorded no evidence for function, probable prehistoric ploughmarks (Figure 4, Ref. 2) were recorded on the former ground surface beneath the mound; similar marks have also reportedly been found underlying the Roman fort (*Segedunum*) at Wallsend. The broad suggestion of these findings is that cultivation was taking place in the general area during the prehistoric period.
- 6.2.4 The precise period of origin of the former watercourse at the site is unknown although is likely to be of considerable age. Such features often contain alluvial sediments that can provide at least two categories of palaeoenvironmental information. Firstly, such material can demonstrate the former direction of watercourses, phases of alluvial deposition, as well as giving good indications of buried or eroded landscapes. Secondly, such deposits can inform the study of changes to the surrounding environment, which can be revealed by analysis of palaeoenvironmental data usually in the form of sediments, pollen, molluscs, micro and macrofossils.
- 6.2.5 In summary, the potential for prehistoric remains at the study site is considered **low**, and the potential for palaeoenvironmental remains is considered **low** to **moderate**, although any such deposit would lie at considerable depths (greater than 8m) below existing ground level due to early modern and modern infilling of the burn.

6.3 Roman

- 6.3.1 There are no HER entries of the Roman period on the study site but 15 within the wider study area (Figure 4 and Appendix A). By far the most notable is Hadrian's Wall, which runs SW-NE across the northern portion of the wider study area, *c*. 400m beyond the study site.
- 6.3.2 The Wall, constructed on the orders of the Roman Emperor Hadrian from AD 122, marked the northern frontier of the Roman Empire. As originally planned it ran from *Pons Aelius* in Newcastle, but at some stage it was decided to build an extension from the original terminus at the Tyne Bridge a further 3½ miles (5.6km) further east to a new fort, the aforementioned *Segedunum*. A broad earthwork known as the Vallum, comprising a wide ditch with two flanking banks, was constructed to the south of the Wall. This earthwork was not constructed along the stretch of Wall from *Pons Aelius* to *Segedunum*, presumably as the River Tyne was considered to serve the purpose of the Vallum in this area.¹³

¹³ Breeze and Dobson 2000, 60.

- 6.3.3 The Wall and its associated features represent the best-preserved frontier of the Roman world and consequently the Hadrian's Wall Military Zone was designated a UNESCO World Heritage Site in 1987. Although the urban areas of Newcastle were initially excluded from the World Heritage Site, in 1997 the scheduled portions of the Wall in the city were included. This followed the production of a management plan by English Heritage in 1996,¹⁴ which identified, for the first time, three distinct areas: the 'archaeological core' of the Wall and Vallum (the World Heritage Site), the surrounding 'buffer zone' and the outer 'visual envelope'.
- 6.3.4 HER entries 199 and 200 cover the section of the Wall corridor within the wider study area (Figure 4, Refs. 3 and 4). HER 199 covers the section from *Segedunum* fort to St. Francis Presbytery on Stott's Road in Walker, while HER 200 continues to the south-west from Stott's Road to Tunstall Avenue, west of Brough Park stadium in Byker. St. Francis Presbytery has long been thought to be the site of Milecastle 1 on the Wall. Within the stretch of the Wall corridor covered by these two HER entries there are five scheduled sections, some with more than one distinct element (see Appendix A). The closest to the study site is SAM 28(7), this being a 171m length of the stone curtain wall in Miller's Dene playing fields.
- 6.3.5 A programme of archaeological monitoring undertaken during 2001 on land just north of Fossway, this *c*. 400m north-west of the study site, recorded deposits that have been attributed to the upper fill of the Wall Ditch.¹⁵ An archaeological evaluation undertaken in 2006 at the junction of Fossway and Whinneyfield Road, again *c*. 400m north-west of the study site, also probably encountered the upper fill of the Wall Ditch.¹⁶
- 6.3.6 Like all the *vici* identified at forts along the Wall, the civilian settlement at Wallsend was positioned to the south of the Wall, within the area directly protected by the fort, Wall and Vallum. While the full extent of the *vicus* (Figure 4, Ref. 5) has not been established at Wallsend, it is fairly certain that the study site lies more than 0.5km to the south-west of its presumed limits as defined by the HER. The HER reports that defensive ditches and a possible earth bank formed the western boundary of the vicus *c*. 65m from the fort and that investigations in 2002, in advance of a new dry dock at Swan Hunter's Shipyard, revealed evidence of a sequence of earthwork defences *c*. 75m south of the fort, these forming elements of a defensive cordon most probably defining the south side of the *vicus*.
- 6.3.7 An area to the west of Wallsend fort and *c*. 0.7km north-east of the study site has long been suspected as being a focus of Roman religious activity, and potentially the site of a temple (Figure 4, Ref. 6). To the east of Stott's Road, a former area of allotment gardens to the west of the street of Philiphaugh yielded mostly in the 1890s a group of altars, dedication slabs and sculptures representing at least three deities (Figure 4, Refs. 7, 8, 9, 10, 13). Stone foundations were noted by the tenant of one allotment, these aligned east-west and north-south, and potentially indicative of a temple. The HER reports that the presence of a parade ground (Figure 4, Ref. 12) has also been postulated in this area, since one discovery in the allotments, part of a statue of Minerva (Figure 4, Ref. 13), was found in association with an altar dedicated to Jupiter (Figure 4, Ref. 7).

¹⁴ English Heritage 1996.

¹⁵ Tyne and Wear Museums 2001.

¹⁶ Tyne and wear Museums 2006.

- 6.3.8 The remaining HER entries for the Roman period in the wider study area relate to chance finds of artefactual material. The first was the recovery in the mid 19th century of a group of objects (Figure 4, Ref. 14), including coins, found in debris of the Wall in Walker. The second was a stone head (Figure 4, Ref. 17) found in the 1930s, one of a group of a type known as 'Celtic Heads' found in proximity to the Wall in its eastern sector.
- 6.3.9 In summary, despite the relatively proximity of the study site to Hadrian's Wall, the potential for Roman remains there is considered **low**.

6.4 Anglo-Saxon

- 6.4.1 No entries relating to Anglo-Saxon activity are recorded in the HER for the study site or within the wider study area. Neither is there any documentary evidence to suggest settlement or exploitation of the land in the vicinity of the study site during this era.
- 6.4.2 In summary, the potential for remains from the Anglo-Saxon period at the study site is considered **low**.

6.5 Medieval

- 6.5.1 There are no records in the HER for the medieval period at the study site and just one within the wider study area, this being the medieval village of Walker (Figure 4, Ref. 18), which lay *c*.
 0.5km to the north-west of the study site. The location of the village is derived from mid 18th century mapping, which shows 'Walker' adjacent to Hadrian's Wall with a triangular 'Town Green' to the south. By the mid 19th century, maps depicted a small settlement there as 'Old Walker' (for example, Figure 8).
- 6.5.2 Part of the 12th century barony of Morpeth, the settlement was named *Waucre* in the mid 13th century and the name is thought to derive from 'Wall Carr' meaning the carr (marsh) by the Wall. The settlement had five taxpayers in 1296, seven in 1312 but only two in 1336. The township was subinfeudated at an early period to the family of Baret and eventually it passed to the Fenwick family and it remained in their possession until 1692.
- 6.5.3 Only slight traces of ridge and furrow ploughing, probably dating to the medieval period, have been noted in the Walker area in the past, while firm archaeological evidence of medieval settlement is largely absent. While the study site itself was almost certainly not settled during the medieval period, the land may have been utilised for agriculture and any remains from this era, if present, could include for example improved agricultural soils, field boundaries or the remains of ridge-and-furrow ploughing, all of moderate archaeological significance at best. In summary, the potential for archaeological remains of medieval date at the study site is considered **low**.

6.6 Post-medieval and Early Modern (including map regression)

6.6.1 With regard to general settlement and agricultural activity, rather than early industry, there are just a handful of HER entries for the post-medieval period within the wider study area. These are summarised in the following paragraph.

- 6.6.2 A section of the turnpike road (Figure 5, Ref. 19) ran north-eastwards towards North Shields. A corn mill stood to the north of Hadrian's Wall (Figure 5, Ref. 22), while Cosyn's Hall (Figure 5, Ref. 35), a 17th century dwelling later renamed Carville Hall, stood on the north-eastern margin of the wider study area. Scrogg House (Figure 5, Ref. 36), which stood *c.* 0.8km to the southwest of the study site, was of 18th century date at least, appearing on Isaac Thompson's estate plan of Walker from 1745 (Figure 6). Walker East Farm (Figure 5, Ref. 37) stood just south of Hadrian's Wall, possibly from as early as the late 17th century until its demolition in the 1930s.
- 6.6.3 The remaining HER entries designated as post-medieval in terms of the chronological timescales adopted for this assessment actually refer to early industrial sites, three of these almost certainly being amongst the earliest workings of Walker Colliery, namely Ann Pit (Figure 5, Ref. 25), B Pit (Figure 5, Ref. 24), these located *c*. 0.5km SSE of the study site, and Gosforth Pit (Figure 5, Ref. 20), this an outlying working, located just north of Hadrian's Wall. The dates at which Ann and B Pits were sunk are uncertain, although the online catalogue of the collections of the North of England Institute of Mining and Mechanical Engineers (NEIMME) lists a colliery report book with an '*Estimate of the cost of bringing a level from Stots Row to Walker Pit and completing the sinking of two pits, by Enoch Hudson, John Barnes, John Bullock, Mark Hobson and Richard Peck', dated April 1713,¹⁷ 'Valuations of stock at Walker Colliery',¹⁸ dated February-April 1737, and a report and account book containing an 'Account of coal carried by waggon from pits on the Walker Estate to Walker Colliery Staith, 1766-1774'.¹⁹*
- 6.6.4 From this evidence, at least an 18th century origin is certain for the earliest workings of Walker Colliery. Another document in a colliery report and account book²⁰ establishes the date of Gosforth Pit of Walker Colliery rather more firmly, this being 'Description of the sinking of Gosforth Pit [Walker], by Ralph Elliot, 14 April 1780-13 January 1782'. Several maps of this period, such as Gibson's colliery plan of 1788 and Lambert's similar plan of 1807, certainly depict Walker Colliery, although these are not at sufficient scale to be able to provide additional information of note, so the maps are not included herein.
- 6.6.5 The majority of the HER entries in the wider study area are directly or closely related to post-medieval or early modern industrial development in Walker (Figure 5 and Appendix A). One entry of post-medieval industrial origin lies within the study site, this being the route of a former colliery waggonway (Figure 5, Ref. 27) that ran south-eastwards from Gosforth Pit of Walker Colliery, crossing the study site on a NW-SE alignment, and continued towards the core workings in 'Low Walker' (by the 19th century, possibly earlier, the term Low Walker had come to mean the industrial settlement area developing to the south-east of the study site, in the vicinity of Ann and B Pits, and extending to the riverside). It is possible that this route was constructed at the time of the sinking of Delight Pit (Figure 5, Ref. 31), which lay immediately to the north of the site, in the area now occupied by St. Albans Primary School.

¹⁷ NEIMME Reference NRO 3410/For/1/4/196 ('For' indicating part of the Forster collections). Colliery Report Book (1717-1779).

¹⁸ NEIMME Reference NRO 3410/For/1/4/173. Colliery Report Book (1717-1779).

¹⁹ NEIMME Reference NRO 3410/For/1/19. Colliery Report and Account Book (1766-1835).

²⁰ As above.

- 6.6.6 The date at which the Delight Pit adjacent to the study site was first worked is uncertain but a report and account book contains a document from 1824 containing queries by a Matthias Dun regarding 'the best methods of working Charlotte, Delight and Engine Pits, Walker Colliery'.²¹ If the Delight Pit mentioned in that document was the working adjacent to the study site (Lawson's Main Colliery in nearby Byker also had a Delight Pit, although that probably lay some distance further west), then at least an early 19th century origin is documented. However, given the known 18th century origin for the earliest workings of the colliery, as previously described, an 18th century date of origin for Delight Pit is also possible. To the south of the study site, the associated waggonway branched, with both elements running into Low Walker, one route (Figure 5, Ref. 26) running SSE towards the earliest workings of Walker Colliery and the other (Figure 5, remains as Ref. 27) running south-eastwards towards the Walker riverfront.
- 6.6.7 Many of the other post-medieval industrial HER entries also refer to elements of the network of colliery waggonways that existed across the wider study area as coal extraction increased markedly in the 18th century. Of note are a waggonway (Figure 5, Ref. 30) which ran *c*. 300m to the west of the study site, originating at Gosforth Pit, Walker Colliery and running past 'Old Walker', as depicted on the Ordnance Survey 1st edition (Figure 8), and into Low Walker. However, that route evidently pre-dated the sinking of Gosforth Pit, since it appears on Thompson's plan of 1745 (Figure 6). A branch of that waggonway ran to the north-west, to serve a working annotated as 'Banks Colliery'. After the convergence of the two waggonways, the route ran to 'Winkham Lee Staith' (later Wincomblee) on the Tyne. On Thompson's plan, the study site itself encompasses parts of four separate land parcels, 'Broad Bush', 'North Woods', 'Belsvs Pasture' and 'Wrangham's Close'.²²
- 6.6.8 Immediately north-west of the study site, another waggonway (Figure 5, Ref. 29) ran WSW from Delight Pit, crossing the line of the previously described route (Figure 5, Ref. 30) from Gosforth Pit. To the east of the study site was East Pit of Walker Colliery (Figure 5, Ref. 32) this served by two waggonways (Figure 5, Refs. 28 and 33), one running southwards into Low Walker, the other running north-eastwards to the developed riverfront extending north towards Wallsend. Another outlying working of Walker Colliery, Fair Pit (Figure 5, Ref. 23) was linked to Gosforth Pit by another waggonway (Figure 5, Ref. 21) running north of and parallel with Hadrian's Wall. A document²³ from October 1775 contained within a volume of colliery memoranda describes a boring at Fair Pit, Walker Colliery, establishing that that working was operational by the late 18th century. The date of origin of East Pit is uncertain but it may also date to the late 18th century and has been designated as post-medieval industrial for the purposes of this assessment. Another waggonway (Figure 5, Ref. 41) that served the Low Walker riverfront has been designated as early modern industrial, although it too may have had a late 18th or early 19th century origin.

²¹ NEIMME Reference NRO 3410/For/1/19. Colliery Report and Account Book (1766-1835).

 ²² NEIMME Reference NRO 3410/For/1/4/68. A Colliery Report Book (1717-1779) contains a report dated 1741-42 regarding the amount of coal from Sir Thomas Wrangham's Colliery at Byker.
 ²³ NEIMME Reference NRO 3410/Bud/27/204. ('Bud' indicating part of the Buddle collections). Colliery Memoranda

²³ NEIMME Reference NRO 3410/Bud/27/204. ('Bud' indicating part of the Buddle collections). Colliery Memoranda (1752-1840).

- 6.6.9 With a colliery waggonway known to have been present upon the study site, it is considered worthwhile to include relatively detailed background information on such features, which formed a crucial part of colliery infrastructure in the North-East of England. Indeed prior to the rapid increase in mechanisation in the early to mid 19th century, such features were very much the forerunner of the modern railway system.²⁴ Early wooden overground 'railways' probably originated in Nottinghamshire in the early 17th century, although by 1608 three short routes of this kind were in place in south Northumberland, transporting coal to staithes.²⁵ As the coal trade expanded greatly in the North-East in the later part of the 17th century, this period witnessed a significant increase in the number of waggonways in south Northumberland, and on Tyneside and Wearside. By 1670, flanged wheels had been added to help guide the waggons, with the addition of protective metal strips to the rails by 1716. Across the North-East, the heyday of these forerunners of the railways proper was arguably between the mid 18th century and the first decade of the 19th century. Their widespread use throughout the coalfields of the North-East in the 18th century was linked directly to the need to move coal quickly and efficiently for export, especially to London.
- 6.6.10 In terms of technology, colliery waggonways had their origin in the simple horse and cart, with wooden rails initially being laid down in the early 17th century to facilitate the movement of wheeled vehicles in overground colliery transport systems. In the North-East, the vehicles were initially known as 'wains', this word eventually being replaced by 'waggons'. A standard unit of weight, the 'Newcastle chaldron', was employed when colliers were being loaded, estimated in the early years using a combination of 'bolls', 'wains' and 'cartloads'. Into the 19th century, the Newcastle chaldron came to be estimated using waggons supposedly having a standardised capacity of 53 hundredweight.²⁶
- 6.6.11 The early systems were usually designed so that full waggons would travel under their own weight, on a gradual downhill incline, with horses pulling the empty vehicles uphill to the coal workings for reloading. By 1797 the self-acting inclined plane was in operation at Benwell in Newcastle, this using the principle that the weight of a loaded waggon going downhill could be utilised to pull an empty waggon back uphill. Early rails were typically of oak, ash or birch, usually approximately 4 inches square, with sleepers between, with a variety of gauges in use. Early lines were single track, with a buffer zone to either side where lines passed through private property. Double-tracked lines were certainly in existence in the 18th century, although many remained single track, facilitating vehicular movement with a series of sidings and passing places. The waggons were also initially made entirely of wood, with a brake to regulate the downhill descent, while from the mid 18th century wooden axles were replaced by iron ones and cast-iron wheels were eventually introduced. Upgrade of the rails was inevitable, with 1794 often guoted as being the date of the first recorded use of two-foot long malleable iron rails, at Walbottle Colliery in Newcastle. A survey of 1810 noted that although 'traditional' wooden waggonways remained in extensive use in the Tyneside area, replacement of wooden rails with metal ones was taking place on most routes.²⁷

 ²⁴ For the most part, the works of Lewis 1970 and Warn 1976 are used as a basis for this summary.
 ²⁵ The wharves at which coal was transferred from waggonways to water-going vessels were known locally throughout the North-East as 'staithes'. Atkinson 1966.

²⁶ 1 hundredweight (cwt) = 112 lbs; 20 hundredweight = 1 ton.

²⁷ Atkinson 1968.

- 6.6.12 To date there has been only a handful of examples of detailed archaeological investigation of former colliery waggonways, two of which in Tyne and Wear both of likely late 18th century date have led to published papers, underlining the significance of these structures in terms of post-medieval and early modern industrial archaeology. The first reported on an excavation at Lambton D Pit in 1995, which uncovered the substantial and well preserved remains of a timber waggonway, dating from *c*. 1780-90.²⁸ It comprised oak rails with a gauge of 4'2" and with a series of pegged 'points' and flanges to direct and keep waggons on the rails. Waggonways required constant maintenance due to their relatively simple construction and heavy usage, and the example at Lambton D Pit showed evidence of piecemeal repair and replacement of parts. The second reported the findings of an excavation in 2002 at Rainton Bridge, near Houghton le Spring, which revealed a waggonway that could predate the example at Lambton D Pit.²⁹ Although timber preservation was poor in this case, the excavation was able to determine the rail gauge, and identify a series of re-cut ditches and fencelines that would have demarcated the surrounding wayleave.
- 6.6.13 These previous pieces of archaeological work have largely confirmed theories regarding general construction of late 18th century waggonways, in that initial groundworks involved laying down linear banks of ballast, often small-coal and ash, upon which wooden sleepers were placed and to provide gradients as required. Wooden rails were then laid down and pegged into place, before a further layer of fine ballast was deposited on and around the sleepers as protection. Further ballast could be added to raise or effectively conceal the rails, with provision sometimes made for a path and, more usually, drainage gutters either side.
- 6.6.14 Thomas Oliver's estate plan of 1840 (Figure 7) clearly shows the previously described colliery waggonway (Figure 5, Ref. 27) running south-eastwards from Gosforth Pit, passing Delight Pit to the west (although the working is not named), traversing the portion of the study site now occupied by the complex of school buildings and continuing into Low Walker. Within the study site the route is depicted as being embanked as it crossed the course of a tributary of Stott's Burn (part of Ref. 71, Figure 5). Colliery waste is likely to have been used to infill the watercourse, with the flow almost certainly culverted below the embankment. A borehole (CP1 on Figure 18) sunk during geotechnical investigations in 2008 within the former dene on the north-east side of the waggonway embankment recorded natural clay at a depth of 8.50m below existing ground level, overlain by 4.25m of dense crushed brick, in turn overlain by 3.55m of black ash, wood and brick rubble, with 0.70m of red ash overlain by tarmac of the existing surface. While this material would be entirely consistent with waste derived from 19th century colliery activity, it may also have been deposited during early 20th century usage of this part of the site, as described in due course.
- 6.6.15 South-west of the waggonway, the burn formed the boundary between two land parcels, 'Wrangham's Close' and 'Broad Bush', while on the other side of the waggonway, 'Bessy's Pasture' and the adjacent land parcel occupied by Delight Pit lay to the north of the burn, while 'North Woods' lay to the south. It may be reasonable to suggest that the waggonway crossing the study site replaced the route to the west (Figure 5, Ref. 30), as shown on Thompson's plan of 1745 (Figure 6), perhaps because of the sinking of Delight Pit.

²⁸ Ayris *et al.* 1998.

²⁹ Glover 2005.

- 6.6.16 By the time the Ordnance Survey 1st editions (Figures 8 and 9) were surveyed in the 1850s, Gosforth Pit of Walker Colliery (annotated 'Old Shaft') was evidently abandoned and at least some of the waggonway routes in the Walker area were probably no longer in use. The route that traversed the study site is annotated 'Old Wagonway' on the 1st editions, probably indicating that it was out of use, in terms of its original purpose, although the route would have certainly remained in use as a footpath or crude road. South of the study site it split into two, one route running roughly southwards to the Colliery School in Low Walker, the other continuing the original line of the route to the industrial core of the riverside settlement.
- 6.6.17 It is uncertain whether or not Delight Pit remained operational at the time of the Ordnance Survey 1st editions. While Bell's map of the Newcastle coal district from 1847 (not reproduced herein) annotates both Gosforth and Delight Pits as 'Old Pit', there is no indication on the 1st editions that Delight had been abandoned; if it remained productive, it is difficult to envisage how the waggonway was also not in use. The larger scale 1st edition map shows that Wrangham's Close, Bessy's Pasture, Broad Bush and North Woods were now fields numbered '130', '106', '141' and '107', respectively. The pithead buildings and various small land parcels of Delight Pit ('105' collectively), beyond the north-western corner of the study site, are shown in some detail on this map, as is the embankment carrying the waggonway over the tree-lined burn in the southern central portion of the site and this indicates an embankment of considerable scale as confirmed by later map evidence, discussed in due course.
- 6.6.18 The smaller scale 1st edition Ordnance Survey map gives a clear idea of the landscape in which the study site was set by that date, an essentially rural setting having various elements of industrialisation forced upon it. Low Walker was relatively well developed by this time, with shipyards (Figure 5, Refs. 43, 45, 46 and 50) on the riverfront and other early modern industrial activity prominent such as 'Wincomblee Brick and Tile Works' (Figure 5, Ref. 42) and a brickfield near East Pit (Figure 5, Ref. 44). Little is known of these last two works, although it would seem they were exploiting the need for raw manufacturing and building materials during a period of industrial proliferation. The introduction of industrial facilities in Low Walker inevitably required housing and associated amenities for the increased population, with Christ Church (Figure 4, Ref. 55), a Wesleyan Methodist Chapel (Figure 4, Ref. 57) and Walker Colliery School (Figure 4, Ref. 51) all appearing on the Ordnance Survey 1st edition.
- 6.6.19 By the time the Ordnance Survey 2nd editions were surveyed in the 1890s (Figures 10 and 11), Walker was increasingly urbanised, with the study site by then lying on the very edge of a semi-rural northern margin of the developed area. A short distance to the south lay terraced housing set out within a grid of streets, North and Middle Streets and Eastbourne and Westbourne Avenue, this development north of a new main road, Welbeck Road, aligned WSW-ENE, following re-design of the road network in the settlement area. To the west ran Scrogg Road, this running from the line of Hadrian's Wall in the north to Welbeck Road, with a cluster of dwellings, 'North Lodge', 'Manse', *etc.* on its eastern side. To the north of the study site, Delight Pit possibly remained operational, although Ann, B, Gosforth and East Pits of Walker Colliery were all seemingly abandoned by this time. There is some indication that, south of the burn, one section of the former waggonway route had been upgraded into a made-up road, meeting the junction of the aforementioned Eastbourne Avenue and North Street.

Tolest Dorth Moor Thistley Field TEST MOOR Butchers Close NORTH LONG FLATTS. 24. Intake. 27 FIELD South Jong Hatts 19 WALKER Dorth Selby's Close Bunnans Dook West EAST lour Stony Hals STONYFLATS 24 C Stopab Close MARK'S CLOSE 34 35 Benergano Nook 38. 48 landes Sere NORTH WranghamisClu Sanah Close Vorth Hood 100 47. Had Had 50 6.10 46 Gibson's Tack FISHERS IIILI 50 West hlyran Wadon Horse Falst Six acres Pasture w/western HORSE RASTINE 60 59 nth arren Meadow Diab Com Lone 65 Low Cow Lone Sorth Crev Clese do B THE SCROG 51 Ativale Ewe Close 16 Armstrong's Closes

Figure 6. Thompson, 1745 Scale 1:7,500

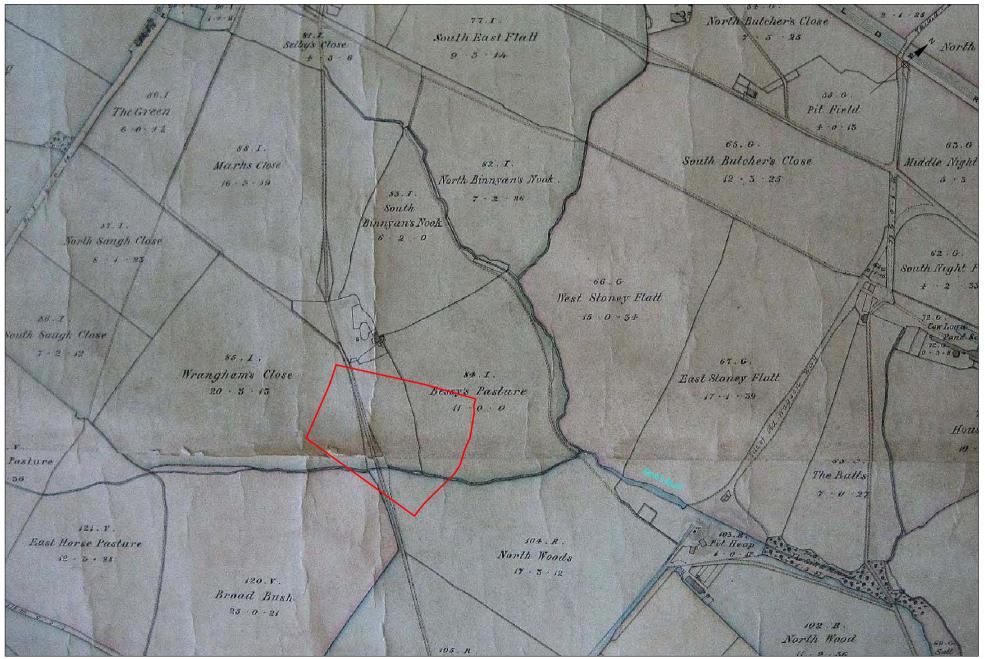


Figure 7. Oliver, 1840 Scale 1:5,000

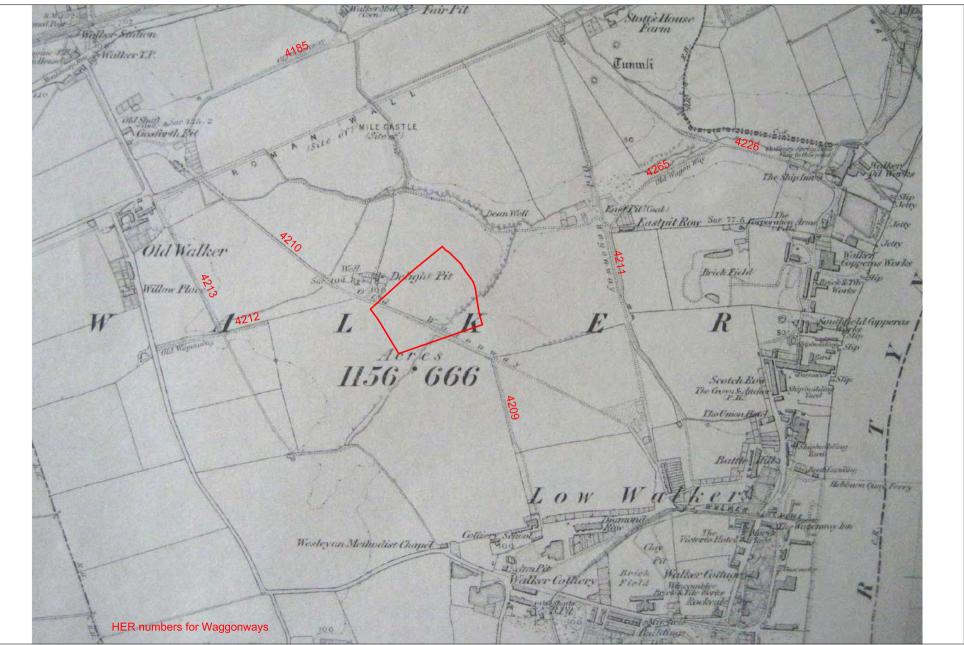
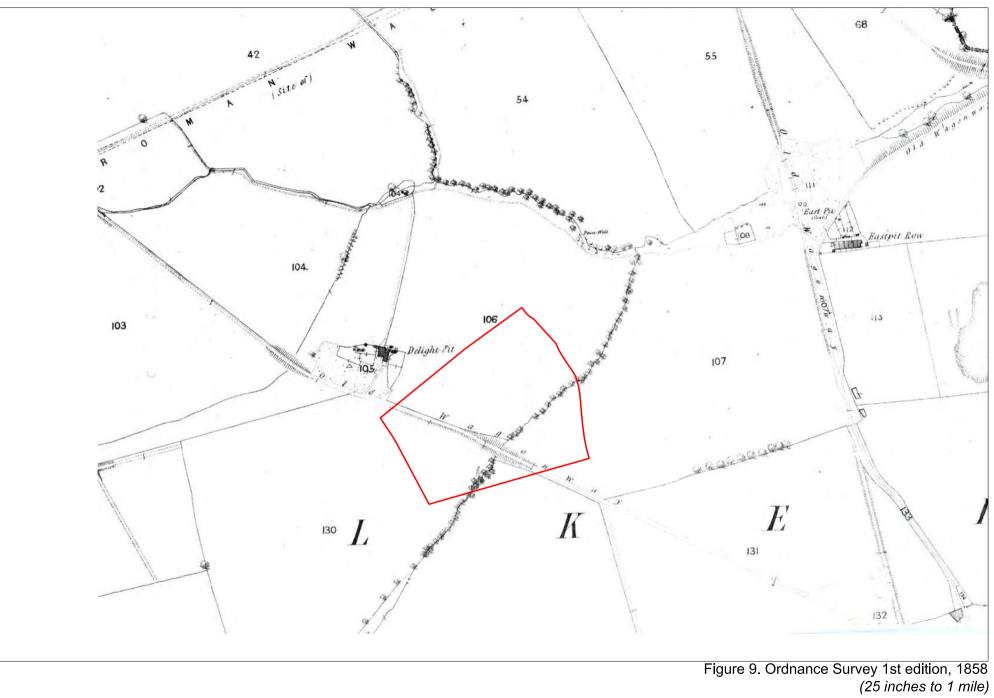
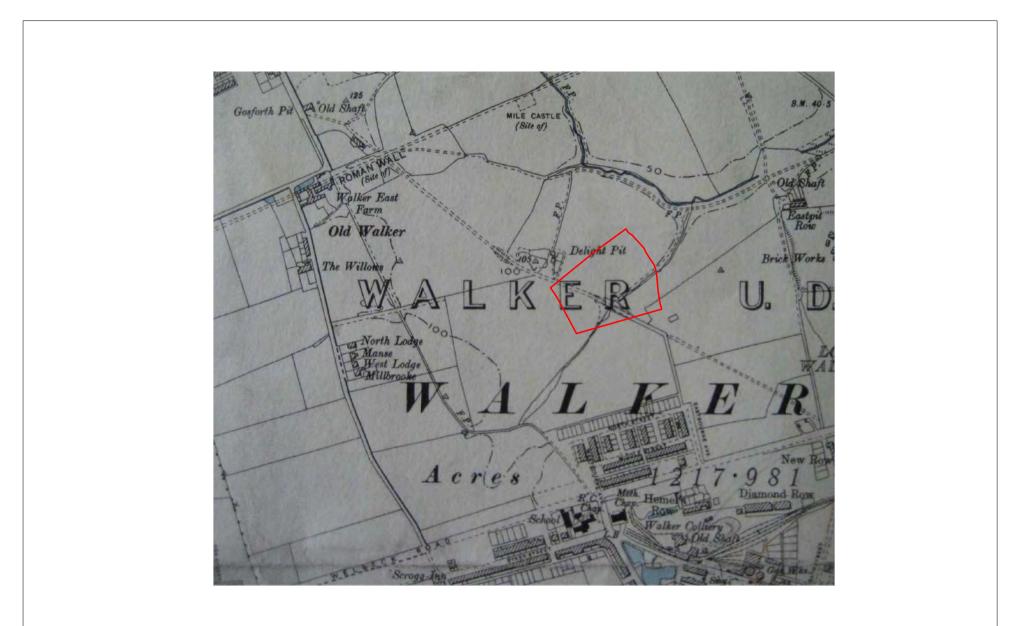


Figure 8. Ordnance Survey 1st edition, 1858 (6 inches to 1 mile) Scale 1:7,500



Scale 1:4,000



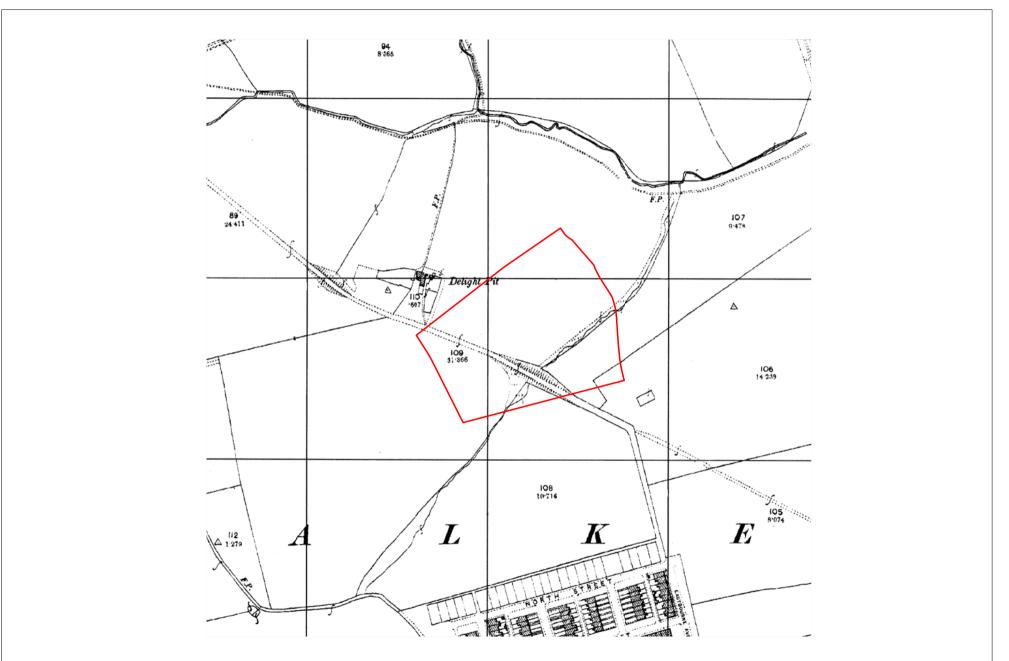


Figure 11. Ordnance Survey 2nd edition, 1897 (25 inches to 1 mile) Scale 1:4,000

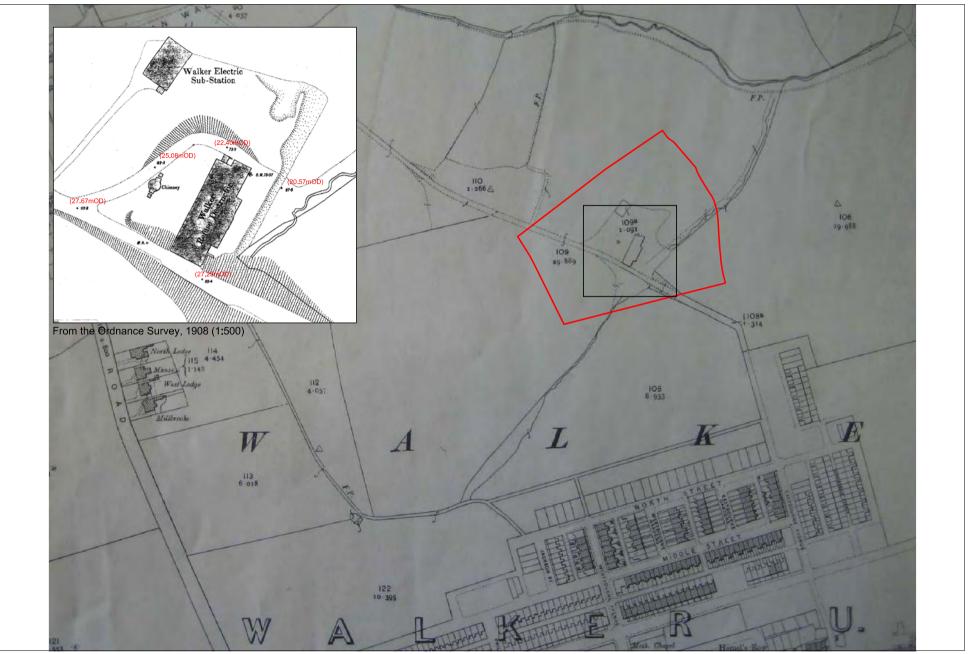


Figure 12. Ordnance Survey, 1912 Scale 1:4,000

- 6.6.20 The Newcastle and Tynemouth Railway (Figure 4, Ref. 38), part of the North Eastern Railway and running north of Hadrian's Wall, was granted consent in 1836, while its Riverside Branch (Figure 5, Ref. 39) opened in 1879, both routes being important elements of early modern era infrastructure. Other HER entries (Figure 5 and Appendix A) of this era in the northern portion of the wider study area are a toll house at Walker Turnpike (Figure 5, Ref. 40) on the Newcastle to North Shields Road, and a Methodist chapel in Walkergate (Figure 5, Ref. 61). In Low Walker are: a blacksmiths' premises (Figure 5, Ref. 52), another Methodist Chapel (Figure 5, Ref. 56), a Roman Catholic Chapel (Figure 5, Ref. 58), schools (Figure 5, Ref. 54 and 59), a memorial to a local sporting hero (Figure 5, Ref. 64), and the Scrogg Inn (Figure 5, Ref. 60). Walker Library (Figure 5, Ref. 65), on Welbeck Road, opened in 1908.
- 6.6.21 The Ordnance Survey 'Special Edition' of 1912 (Figure 12) demonstrates the demise of Delight Pit beyond the north-western corner of the study site. The former pithead and ancillary buildings are no longer present on a land parcel, '110'. North-west of the burn, two large fields either side of the former waggonway route are, collectively, '109', while to the south-west of the burn are two large fields, collectively '108', with '108a' being the probable built-up road, initially continuing the former waggonway route then diverting southwards into Walker. To the south of the study site, additional back-to-back terraced housing has been added along the by now extended Middle Street and Welbeck Road.
- 6.6.22 The 1912 map is also of note as it shows two buildings south-east of the former pit, roughly centrally within the study site; the larger of the two is rectangular in shape and abuts a former waggonway route, while the smaller, squarish structure lies further north, with a circular feature shown between the two. Although the buildings are not named on the 1912 map, the Ordnance Survey Town Map (at 1:500) of Newcastle from 1908 (extract shown inset on Figure 12) shows these buildings to be 'Walker Refuse Destructor' and 'Walker Electric Sub-Station', respectively, with the aforementioned circular feature being a chimney associated with the refuse destructor. As previously discussed, the 1908 map is also particularly informative as it depicts a number of spot heights (feet above sea level; but shown on Figure 3 and 12 in m OD). Two heights on the disused waggonway embankment confirm that the incline was downwards from north-west to south-east, while two heights on an access route running around the northern end of the refuse destructor indicate a road sloping down steeply towards the burn. Elevated ground levels in the area of the refuse destructor may have due to dumping of colliery waste - perhaps from nearby pit heaps - or even demolition material from the former pithead buildings of Delight Pit; it seems likely that the refuse destructor was built upon a substantial platform of such material, overlooking what remained of the burn to the south-east.
- 6.6.23 In summary, the potential for archaeological remains of the post-medieval and early modern industrial eras is considered **high**, due to the presence of a former colliery waggonway route that is known to have crossed the study site. By the mid 19th century, probably earlier, the waggonway ran south-eastwards from Gosforth Pit of Walker Colliery, which dates from the early 1780s, past Delight Pit, which lay immediately to the north-west of the site, and into Low Walker. In the southern central portion of the site, a substantial embankment, formed from probable colliery waste, carried the route across an ancient burn, with the watercourse itself probably being culverted below the feature. By the early 20th century the embankment stood more than 1m higher than existing ground levels at the point at which it crossed the original (underlying) route of the burn.

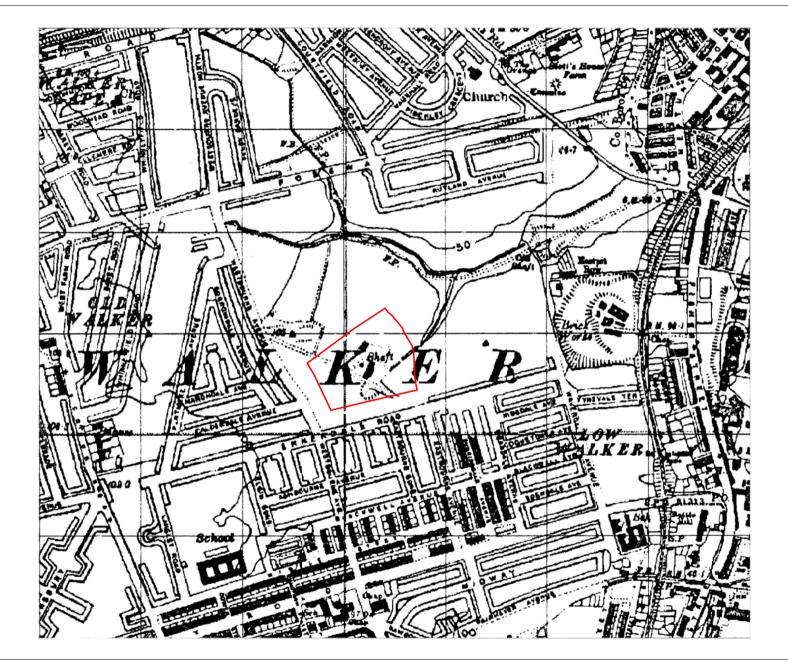
6.6.24 Any sub-surface remains derived from a potential late 18th or early 19th century manifestation of the waggonway route would be of **high** archaeological significance, with later 19th century evidence being of somewhat lesser significance. If, at this location, the waggonway embankment was raised gradually over time – as seen during other investigations of such features - archaeological remains of the earliest version of the waggonway could conceivably survive below the existing ground level, despite the fact that the embankment ultimately stood more than 1m higher that existing ground levels in the area of the former dene. Cartographic evidence indicates that by the early 20th century a refuse destructor and electricity sub-station were operational within the central portion of the site; any evidence of these features would be of **low** to **moderate** archaeological significance at best.

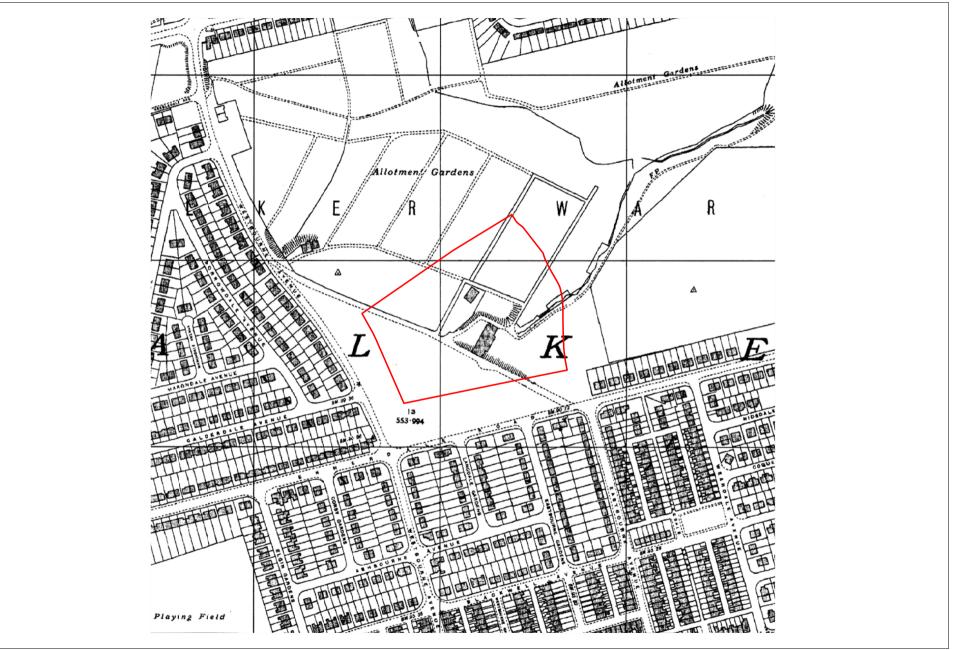
6.7 Modern

- 6.7.1 For the modern era, there are no HER entries within the boundaries of the study site. There is a handful of modern era HER entries (Figure 5 and Appendix A) in the eastern portion of the wider study area, the closest being a Second World War anti-aircraft battery (Figure 5, Ref. 70), *c*. 200m to the north-east on, what is now, the Waverdale Open Space. The installation is shown in detail on a 1946 RAF aerial photograph and this indicates a static heavy anti-aircraft battery typical of the middle and later years of the War.³⁰ Such a facility would have used large cannon and large calibre ammunition to combat Luftwaffe high-altitude heavy bombers; in this case the industrial riverside of the East End of Newcastle was an obvious target. The layout depicted on the 1946 AP is broadly typical of such an installation; the command post was a rectangular semi-sunken concrete or brick structure, in this case with four hexagonal concrete gun emplacements arranged in a semi-circle around it.
- 6.7.2 The Ordnance Survey 1938 edition (Figure 13) usefully depicts the built-up nature of Walker immediately prior to the Second World War, with the study site as the south-westernmost portion of, what is now, Waverdale Open Space. Westbourne Avenue is in place to the west of the study site, but, to the east, Waverdale Avenue is not yet complete. Ennerdale Road is in place to the south, with additional housing beyond that road. The dene of Stott's Burn is still very much in evidence on the main portion of the open space, while at the study site itself, the tributary burn appears to have been infilled on the south-western side of the former waggonway route. The annotation 'Shaft' seems to refer to the aforementioned chimney associated with the Walker Refuse Destructor.
- 6.7.3 The Ordnance Survey 1941 edition (Figure 14) shows the refuse destructor and electricity substation in the central portion of the study site, now served by more defined access routes. On the south-west side of the former waggonway route, the burn has certainly been infilled and this work appears to have removed the embankment on the south-western side of the route, on the approach to the southern boundary of the site. Apart from the former waggonway route and the refuse destructor, the southern portion of the site remained as undeveloped fields, while the northern portion was occupied by allotment gardens, part of an extensive arrangement extending westwards to Westbourne Avenue and northwards to housing along Fossway.³¹ This era is likely to have seen the onset of significant infilling of the dene of Stott's Burn.

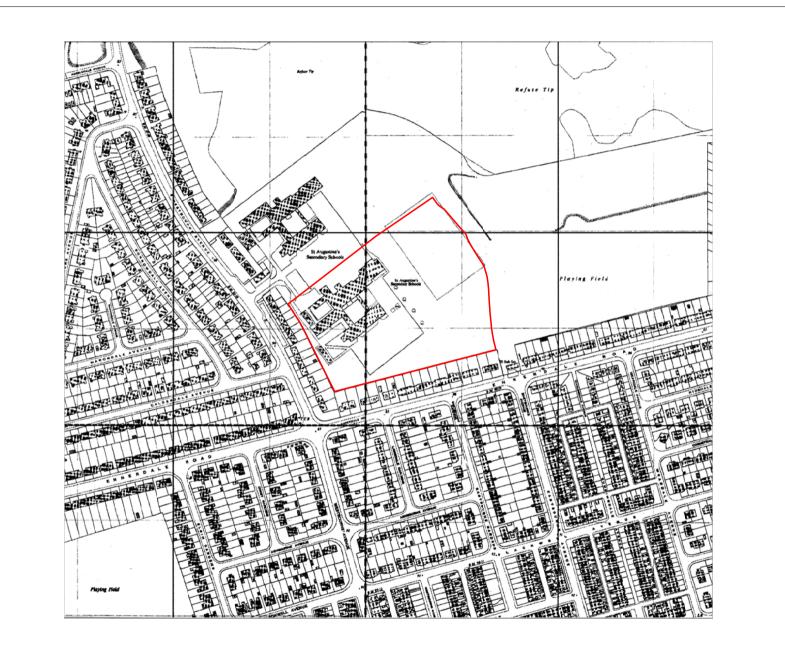
³⁰ Pre-Construct Archaeology 2009.

³¹ The allotments presumably represent the Second World War 'Dig for Victory' campaign. Introduced by the British government, the campaign called for every man and woman in Britain to keep an allotment garden.









- 6.7.4 The Ordnance Survey 1952 edition (Figure 15) shows just the electricity sub-station surviving in the central portion of the study site. Sub-division and other detail, including numerous small buildings - presumably sheds - is depicted within a very well defined area of allotment gardens in the north-eastern portion of the site. The route of the former waggonway is annotated 'Track', with the embankment approaching the southern site boundary still very much evident, although less pronounced on the south-western side as previously indicated. A small land parcel has been delineated on the eastern side of the route adjacent to the southern site boundary and this contains two very small buildings. This edition clearly demonstrates the extent of infilling of the dene of Stott's Burn to the north-east of the site.
- 6.7.5 By the 1964 edition of the Ordnance Survey (Figure 16) the eastern portion of the study site had been developed as one element of St. Augustine's Secondary Schools, with the remainder of the school complex immediately to the north-west. Land to the north and north-east of the school complex is annotated 'Refuse Tip', demonstrating that the former dene had now been substantially infilled, while to the east of the study site a 'Playing Field' had been created.
- 6.7.6 Sir Charles Parsons School, a secondary special school for students aged 11-19 with severe and profound and multiple learning difficulties, opened in 1999, occupying the existing southern element of St Augustine's School, with the northern portion becoming St. Albans RC Primary School. In 2007 Sir Charles Parsons School was designated a Science College. The school is named after Sir Charles Algernon Parsons (1854–1931), one of Britain's greatest engineers, famous for his design and developemnt of turbine engines. The current complex of school buildings, all of late 20th century date, occupies the western portion of the study site, and the existing structures are of **negligible** architectural value.
- 6.7.7 The potential for sub-surface archaeological remains of the modern era at the site is high, although these would mostly likely relate either to demolition of the buildings shown on the mid 20th century Ordnance Survey maps or construction of the current school buildings and would be of negligible archaeological significance.

7. POTENTIAL IMPACTS

The following potential impacts upon the archaeological resource are considered:

- Loss of, or damage to, archaeological sites and remains.
- Settings and views of and from upstanding remains, listed buildings, scheduled ancient monuments and other archaeological sites affected.
- Changes to ground conditions as a result of changes to the drainage regime, which could affect archaeological or palaeoenvironmental remains.
- Loss of landscape features, structures and areas with historic and cultural associations.
- Other possible impacts, such as noise, vibration, compressions and other changed ground conditions.

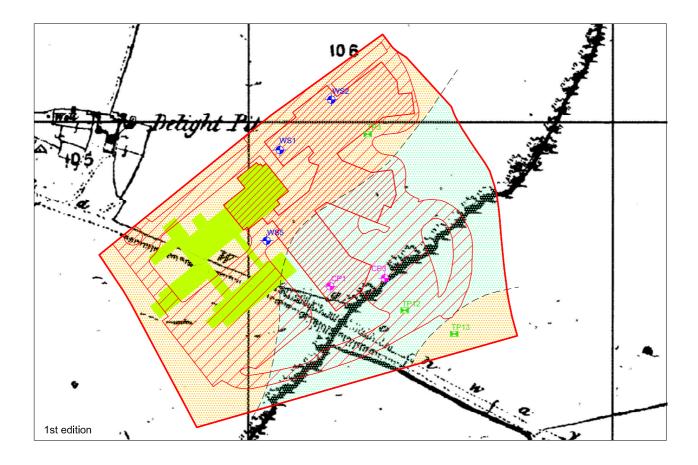
7.1 Loss of, or damage to, archaeological sites and remains

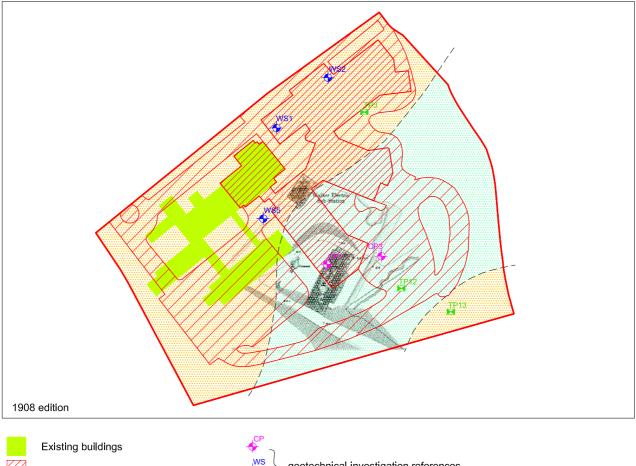
- 7.1.1 The assessment has established that the study site has **high** potential for archaeological remains of the post-medieval and early modern industrial eras, since a former colliery waggonway is known to have run from NW-SE across the area occupied by the existing school, existing roughly midway along the southern site boundary. The route (HER 4210) originated at Gosforth Pit of Walker Colliery but may have been specifically constructed to serve Delight Pit, which lay immediately to the north-west of the site. While mapping from 1840 onwards depicts this route, it is potentially of late 18th century, perhaps earlier, origin. From its earliest available cartographic depiction, the waggonway is shown as running along an artificial embankment, probably created with colliery waste, in order to cross the dene of a tributary of Stott's Burn. Any remains of the waggonway from the post-medieval and early modern industrial eras would be of **high** archaeological significance.
- 7.1.2 There is also some potential for the remains of early modern era buildings within the central portion of the site. These appear on early 20th century mapping and comprised an electricity sub-station, substantial refuse destructor and an associated chimney. Any sub-surface remains of these structures would be of **low** to **moderate** archaeological significance at best.
- 7.1.3 The site lies too far (c. 400m) to the south of the Hadrian's Wall corridor to have anything but **low** potential for Roman period remains. For all other archaeological periods, apart from the post-medieval and early modern industrial eras, the potential for remains is also considered **low**. For palaeoenvironmental remains, which can inform on aspects of ancient human activities, there is at best **moderate** potential, due to the former burn, which flowed unhindered across the southern portion of the site up to the industrial era. However, within the site the feature was culverted beneath the colliery waggonway at a considerable depth below existing ground level, and further to the north-east was eventually buried by substantial depths of modern overburden, possibly with further culverting, when the area was used as a refuse tip in the modern era.

- 7.1.4 The re-development proposals are shown in detail on Figure 17 and in outline on Figure 18, the two parts of the latter using the Ordnance Survey 1st and 1908 editions as basemaps. The main element of the proposals is extensive new build in the central and north-eastern portion of the site, with the remainder occupied by access routes and extensive car parking areas. In general, initial construction groundworks, such as removal of existing buildings, hard surfaces and sub-surface obstructions, the creation of general 'formation levels' and the setting out and consolidation of access roads for plant and machinery, can impact to a greater or lesser degree upon any buried archaeological remains, depending upon the nature and extent of these works. Main construction groundworks, including the excavation of foundation trenches or piling for new buildings, as well as cutting the required network of service trenches, can also cause severe localised impact upon buried archaeological remains.
- 7.1.5 The area of the main new build has generally **low** potential for archaeological remains, lying to the north-east of the former waggonway route. While the north-western portion of the study site, currently occupied by the existing school buildings, certainly has more potential for archaeological remains of the former waggonway, the possible impact of the construction of those buildings on sub-surface remains must be considered. Geotechnical investigations indicate relatively little modern overburden in this area, with natural boulder clay lying at a depth of *c*. 0.50m below existing ground level (Figure 18 and Appendix C). In sum, there is considered **moderate** potential at best for archaeological remains of the former waggonway to survive within the currently developed area the complex of school buildings; if any such remains were to survive they would lie at relatively shallow depths below existing ground level.
- 7.1.6 Geotechnical investigations have established the presence of a sinuous corridor of substantial sub-surface 'made ground' representing the infilled dene in the south-eastern portion of the study site (Appendix C & Figures 3 and 18). Specifically in the area of the former waggonway, the bulk of, if not all, the 'made ground' is likely to comprise material of the waggonway embankment. Further east, towards and beyond the site boundary, infilling of the dene has likely been achieved over time through dumping of a combination of colliery waste and early modern and modern refuse. Ground remediation proposals in this part of the site ahead of the construction programme are unknown existing modern overburden will likely be substantially capped prior to construction.
- 7.1.7 Map evidence indicates that, by the early 20th century, the waggonway embankment stood *c*. 1m higher than existing ground level in the area of the former burn, while mid-20th century mapping appears to confirm that partial removal of the embankment accompanied infilling of the dene, thus achieving the existing ground levels. The embankment may have been built-up in stages during the 19th century, so that, if this were the case, sub-surface deposits in this area could potentially include archaeological remains of the earliest version(s) of the waggonway; these would likely be of timber construction as recorded during previous excavations of early waggonways.
- 7.1.8 In sum, while the area of the former dene as a whole is considered to have **moderate** potential for sub-surface remains of the waggonway, an area of **high** potential is likely to be the southernmost margin of the site, towards and beyond the edge of the former dene, where geotechnical investigations have recorded little or no depth of 'made ground' overlying natural sub-stratum.

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Proposed buildings

Proposed access roads and car parks

area of infilled dene

no infill

geotechnical investigation references

Figure 18. Proposed and existing layouts, basemaps Ordnance Survey 1st and 1908 editions Scale 1:2,000

7.2 Settings and views of and from listed buildings, scheduled monuments, upstanding archaeological remains and any other archaeological sites affected

7.2.1 There are no scheduled monuments, listed buildings or other known archaeological sites on or within the immediate vicinity of the study site, therefore the proposed development will **not** detrimentally affect the setting and view of and from any such monument, listed building or known archaeological site.

7.3 Changes to ground conditions as a result of changes to the drainage regime, which could affect archaeological or palaeoenvironmental remains

- 7.3.1 Precise details of construction groundworks in the proposed development, including foundation design and layout of service networks, are not known at this stage. Dewatering through penetrative construction techniques such as deep piling can lead to degradation and ultimate destruction of sub-surface organic deposits, which can contain particularly significant archaeological, biological and palaeoenvironmental information.
- 7.3.2 While waggonway timbers of 18th or early 19th century date could certainly survive at the study site as at the aforementioned excavations at Lambton D Pit and Rainton Bridge South deeply stratified deposits with good potential for anaerobic survival of biological and palaeoenvironmental material are generally not anticipated above the natural boulder clay substratum. The exception is the area of the infilled dene, where palaeoenvironmental remains could survive, although they would lie at considerable depths (more than 8m is likely) below existing ground level. However, the course of the former burn lies beyond the main new build footprint and therefore the proposals are unlikely to affect any such remains in this respect.
- 7.3.3 In summary, any impact to the study site in this respect is considered **low**.

7.4 Loss of landscape features, structures and areas with historic and cultural associations

7.4.1 In summary, it is considered that the development proposals will not result in the loss of any landscape features, structures or areas with historic or cultural associations.

7.5 Other possible impacts, such as noise, vibration, compressions and other changed ground conditions

7.5.1 Any construction programme - particularly preliminary groundworks - has a short-term impact, in terms of noise and vibration, on the immediate environment of any site.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

- 8.1.1 Although crossed by part of the eastern sector of the Hadrian's Wall corridor and, in terms of settlement focus, of certain medieval origin, the Walker area of Newcastle remains largely synonymous with the intensive post-medieval and early modern industrialisation of the east end of the city. Its situation close to the Tyne made the general area an ideal candidate as a focus of organised early colliery activity, while later industries in the area included chemical production, iron-working and, from the mid-19th century, shipbuilding.
- 8.1.2 Probably unoccupied and largely unused until the post-medieval period, with the possible exception of agricultural usage during the medieval period, it is concluded that the study site has **low** potential for remains from all prehistoric eras, as well as the Anglo-Saxon and medieval periods. Lying *c*. 400m to the south of Hadrian's Wall, the study site has only **low** potential for Roman remains. The course of a former burn in the south-eastern portion of the site has **low** to **moderate** potential for palaeoenvironmental remains, although these would likely lie at considerable depths below existing ground level due to 19th century and later infilling of the dene through which the feature flowed.
- 8.1.3 By the later post-medieval period, the study site lay within an expanse of agricultural land between Old Walker and the River Tyne that was being increasingly exploited for coal extraction. The earliest workings of Walker Colliery lay *c*. 0.5km to the south of the site, these dating from the early 18th century, a period which saw a network of waggonways in place in order to transport coal to staithes on the Tyne.
- 8.1.4 Cartographic evidence from the mid 19th century indicates that an outlying working, Delight Pit, lay immediately to the north-west of the study site, in the area now occupied by St. Albans RC Primary School. This was served by a waggonway that originated further to the north-west at Gosforth Pit of Walker Colliery and which crossed the site between its north-western corner and roughly midway along its southern boundary. In the southern central portion of the site the route was substantially embanked to carry it across the dene, probably through dumping of colliery waste. The route of the waggonway probably remained in use while Delight Pit was operational, and it is likely to have seen some upgrading and refurbishment, but was probably never developed into a formal railway.
- 8.1.5 By the early 20th century, with Delight Pit now abandoned and the pithead area flattened, a refuse destructor and electricity sub-station were built in the central portion of the study site, probably upon a platform of colliery waste. The northernmost part of the site was used as allotment gardens during and after the Second World War, these part of an extensive system of such gardens in the area now known as Waverdale Open Space. The buildings that now form Sir Charles Parsons School are of modern date, built before 1964; originally they formed part of St. Augustine's Secondary School.

- 8.1.6 While the study site can be broadly considered to have high potential for colliery-related archaeological remains, specifically remains of the former waggonway, the potential is variable across the site. In the existing developed area to the north-west, the critical factor regarding survival of any such remains is the extent to which construction of the school may have impacted upon the existing ground level at the time. Here there is moderate potential at best for archaeological remains of the former waggonway to survive; if any such remains were present they would lie at relatively shallow depths below existing ground level.
- 8.1.7 In the southern central part of the site, the area where the waggonway was carried across the former dene on a substantial embankment, 20th century landscaping has undoubtedly removed the upper part of the embankment. While archaeological remains representing the earliest version(s) of the waggonway, these potentially of 18th or early 19th century date, could potentially survive as sub-surface deposits, the majority of the area of the former dene is considered to have **moderate** potential for sub-surface remains of the waggonway. The southern margin of the site retains **high** potential for archaeological remains of the waggonway since this lay on or beyond the southern edge of the dene, where the waggonway potentially ran across the natural ground level of the time.
- 8.1.8 Any sub-surface remains of the colliery waggonway at the study site, this possibly originating in the post-medieval period and continuing into the early modern industrial era, would be of **local** or **regional** importance. As described in Section 3, one of the two key research themes for this assessment, as set out in the NERRF, highlights that while archaeological investigations should focus on early waggonways and pre-locomotive hauled lines, the importance of existing landscape features along the course of known early waggonways, such as railway formations, track beds and gradients, should be given due regard, where appropriate, through survey.
- 8.1.9 The study site does not lie within a conservation area and the proposed development will not directly affect any listed buildings or scheduled monuments and will not directly affect the overall setting of or view to or from any site, building or monument with statutory protection.

8.2 Recommendations

- 8.2.1 Where archaeological remains, as identified or predicted by desk-based assessment, are likely to be encountered at a proposed development site, strategies must be formulated to deal with them.
- 8.2.2 With regard to planning applications, PPG16 states that, where preliminary research suggests survival of archaeological remains:

"...it is reasonable for the planning authority to request the prospective developer to arrange for an archaeological field evaluation to be carried out before any decision on the planning application is taken". and continues:

"Evaluations of this kind help to define the character and extent of the archaeological remains that exist in the area of a proposed development, and thus indicate the weight, which ought to be attached to their preservation. They also provide information useful for identifying potential options for minimising or avoiding damage. On this basis, an informed and reasonable planning decision can be taken."³²

- 8.2.3 Policy C04.2 of the Newcastle UDP establishes that it is necessary to undertake an archaeological field evaluation where a proposed development has potential to impact upon suspected archaeological remains whose extent and importance are not known and where preservation *in situ* is either not achievable or cannot be justified.
- 8.2.4 Given that this DBA concludes that there is moderate to high potential for locally or regionally significant archaeological remains of the post-medieval period and early modern industrial era at the site, it would be in line with both PPG16 and Newcastle UDP policy to undertake an archaeological field evaluation. The aim of any archaeological field evaluation is always to provide information of sufficient quality and detail that reasoned and informed decisions may be made with regard to the preservation, or not, of buried archaeological material.
- 8.2.5 Field evaluation can comprise one or more of the following procedures:
 - geophysical survey;
 - surface artefact collection ('fieldwalking');
 - trial trenching.
- 8.2.6 In this instance, geophysical survey would probably not be a suitable method for determining whether or not archaeological remains were present in the study site largely due to the presence of standing structures, hardsurfaces and the potential for former landscaping activity.
- 8.2.7 In this instance, surface artefact collection is not practicable due to current and previous land use. 'Fieldwalking' is only of use across recently ploughed, harrowed or drilled fields, preferably after a period of weathering has taken place.
- 8.2.8 Trial trenching would be the most appropriate method of archaeological field evaluation at the study site. It is recommended that such a technique be employed in the southern central portion of the site to test for the survival of remains of the former waggonway. While trenching could also be undertaken to the north-west, probably most effectively following demolition of the existing buildings, an alternative strategy for that area might be that development groundworks there are subject to a programme of archaeological monitoring and recording to record any remains of note thus exposed. A decision regarding the requirement for any such work lies with the Tyne and Wear Specialist Conservation Team, which, using the results of this DBA as a baseline, will advise the LPA accordingly.

³² Department of the Environment 1990, paragraph 21.

9. ACKNOWLEDGEMENTS AND CREDITS

Acknowledgements

Pre-Construct Archaeology Limited would like to thank Sir Robert McAlpine Limited for commissioning the desk-based assessment. The liaison role of Eddie Dolphin is gratefully acknowledged, as is the help of Katie Gosling and David Cooke in making available the geotechnical site investigation report

The assistance of Jennifer Morrison, Archaeology Officer in the Tyne and Wear Specialist Conservation Team, is gratefully acknowledged.

Mark Berriman of Arc Environmental is thanked for providing the 1908 Ordnance Survey map extract.

PCA Credits

Research: Adrian Bailey and Robin Taylor-Wilson Original Report: Aaron Goode and Robin Taylor-Wilson Revised Report: Robin Taylor-Wilson Illustrations: Adrian Bailey

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Sources for Maps and Documentary Evidence

Tyne and Wear Historic Environment Record

Maintained by the Tyne and Wear Specialist Conservation Team (part of the Historic Environment Section of Newcastle City Council), the HER takes the form of paper mapping cross-referenced with indexed files containing paper entries ordered numerically. Relevant entries were photocopied during a pre-arranged appointment. A simplified version of the HER is available on–line at *hhtp://sine7.ncl.ac.uk* and this facility was utilised during preliminary research for the DBA. This facility also allows historic versions of the Ordnance Survey map to be examined. In this respect, editions of 1921 (for County Durham) and 1938 (for Northumberland) were of value to this assessment since both showed the Walker area.

Tyne and Wear Archives Service

The Tyne and Wear Archives Service (at The Discovery Museum, Blandford House, Newcastle) is the record office for the cities and metropolitan districts of Newcastle, Sunderland, Gateshead, South Tyneside and North Tyneside. Initially the computerised on-line catalogue at *www.tyneandweararchives.org.uk* was searched for relevant material. Then the search room of the Archives Service was visited and the catalogue of material for Walker examined. Numerous items were requested and examined, with relevant information transcribed and, where appropriate, digital photographs taken. These items were examined:

Plan of the Lordship of Walker. Isaac Thompson, 1745. (Archives Service Ref. D/NCP/19/21).

Plan of Walker Colliery, High Main Seam. No surveyor, c. 1799-1807. (Ref. D/NCP/19/3).

Plan of Walker Estate in the County of Northumberland belonging to the Corporation of Newcastle Upon Tyne. Thomas Oliver, 1840. (Ref. D/NCP/19/4).

*Walker Colliery Lease (*tracing based on the Ordnance Survey 1:2,500 map with overlays of areas around Gosforth Pit and Ann Pit). City Property Office, 1884. Ref. (D/NCP/19/14).

The following Ordnance Survey maps were examined and photographed digitally:

1st edition, 6 inches to 1 mile. Northumberland Sheet XCVIII (surveyed 1858, published 1864).

1st edition, 25 inches to 1 mile. Northumberland Sheet XCVIII.5 (surveyed 1859) and Sheet XCVIII.1 (surveyed 1858, published 1877).

2nd edition, 6 inches to 1 mile. Northumberland Sheet XCVIII NW (surveyed 1894-95, published 1899).

2nd edition, 25 inches to 1 mile. Tyneside Sheet 13 (published 1897).

Special Edition 1912, 25 inches to 1 mile. Tyneside Sheet 13 (published 1912).

Revision of 1941, 25 inches to 1 mile. Northumberland Sheet XCV.10 (published 1941).

Newcastle City Library, Local Studies Section

The City Library, Local Studies Section was visited (this facility was being temporarily housed at Newcastle Civic Centre, during rebuilding of the City Library). Various modern era Ordnance Survey map editions were available for examination. No additional historical maps were available for the study area.

Aerial Photographic Evidence

With the site having been developed in the 20th century as Sir Charles Parsons School, aerial photographic material was not considered to be a likely source of productive information.

Other Online Sources

In addition to those online sources mentioned above, the following websites were consulted for this assessment:

Archaeology Data Service (National Monuments Record) website: http://ads.ahds.ac.uk/

Communities and Local Government website: *www.communities.gov.uk/corporate/*. Consulted for national planning policy regarding heritage.

Durham Mining Museum website: *www.dmm.org.uk.* Consulted for information about the collieries in the vicinity of the study site, particularly Walker Colliery.

MAGIC website: *www.magic.gov.uk/website/magic/.* MAGIC is a partnership project involving six government organisations including English Heritage and Natural England. The website is essentially an interactive map collecting information on key environmental schemes and designations.

Natural England website: *www.naturalengland.org.uk/*. This incorporates information compiled for the '*Countryside Quality Counts*' project, including information on geology, topography and landuse for the various landscape character areas in North East England.

Newcastle City Council website: www.newcastle.gov.uk. Examined on this local government website was a 'Supplementary Planning Document', the 'List of Sites Inscribed on the Newcastle-upon-Tyne Local List of Buildings, Structures, Parks, Gardens and Open Spaces of Special Local Architectural and Historic Interest'.

North East Assembly website: *www.northeastassembly.gov.uk.* Consulted for regional planning policy regarding heritage.

North of England Institute of mining and mechanical Engineers website: www.mininginstitute.org.uk. An online catalogue lists all material in the Institute library, including several 'Special Collections' of coal-mining related documents. *Pictures in Print* website: *www.dur.ac.uk/picturesinprint/.* Consulted for its catalogue, with viewable images, of printed maps and topographical prints of Tyneside before 1860. The following show the wider study area, but are at insufficient scale to be worthy of inclusion herein:

- John Gibson, 1788. 'Plan of the collieries on the rivers Tyne and Wear.....'
- Lambert, 1807. 'Plan of the Rivers Tyne and Wear with the Collieries, Waggon-ways & Staiths.....'
- John Thomas William Bell, 1847. 'Plan of part of the Newcastle coal district in the County of Northumberland.....'

Planning Portal website: *www.planningportal.gov.uk*. Consulted for information regarding local planning policy relating to archaeology and the historic built environment.



SCW 08: HER Entries

Figs. 4 & 5 Ref. No.	HER No.	Grid Reference	Description	Period	Notes	
1	1393	429410/565680	Burial Mound	Prehistoric/ Roman	Two mounds which formerly existed either side of a burn flowing to the south-west past Stott's House Farm. The features were published by Horsley in 1732 as 'tumuli', and later mapped by MacLauchlan. Both appear on the Ordnance Survey 1st edition but only one appears on the 2nd edition. In 1929 Wake investigated the feature and described it as 72 feet in diameter and more than 6 feet high; he uncovered charcoal and a platform of stones and interpreted the feature as a prehistoric barrow. Jobey further investigated the feature in 1964 in advance of its levelling; he described it as a grass-grown mound. Jobey also found early plough marks (HER 1417) but no evidence for either the date or function of the mound was discovered.	
2	1417	429410/565680	Ploughmarks	Prehistoric/ Roman	Possible ploughmarks found by Jobey below the surviving mound (HER 1393) at Stott's House Farm in 1964. These formed the earliest evidence for human activity at the site and, because they predated the Military Way associated with Hadrian's Wall, he concluded they were either of prehistoric or early Roman date.	
3	199	429960/566020- 429310/565720	Frontier Defence	Roman	Hadrian's Wall between Wallsend fort and St. Francis Presbytery on Stott's Road. Contains two scheduled sections: SAM 28(2) - comprising two lengths of curtain wall, the first 88m between Wallsend fort and Benton Way and the second extending 80m east of The Avenue; SAM 28(3) - comprising a 170m length of curtain wall extending from the western end of Tumulus Avenue and running almost parallel with Eastfield Avenue.	
4	200	427640/565000- 429275/565700	Frontier Defence	Roman	Hadrian's Wall between St. Francis Presbytery and Tunstall Road. Contains three scheduled sections: SAM 28(4) - 52m of the curtain wall in the grounds of the presbytery and 100m - in three sections - of the curtain wall west of Stott's Road; SAM 28(6) - 30m of the curtain wall in the grounds of The Fosse public house; SAM 28(7) - 171m of the curtain wall in Miller's Dene playing fields.	
5	806	430000/565780 (estimated centre)	Vicus (Segudunum)	Roman	The Roman civilian settlement (<i>vicus</i>) attached to Segedunum fort probably extended along the north bank of the Tyne. Defensive ditches and a possible earth bank formed its western boundary some 65m from the fort and the Branch Wall from the fort to the Tyne formed its eastern boundary. Excavations in advance of a new dry dock at Swan Hunter's in 2002 revealed a sequence of banks and ditches 75m south of the fort, forming elements of a defensive cordon most probably defining the south side of the vicus. These lay parallel to the Roman riverbank, some 160m north of the modern highwater mark.	
6	818	429500/565700	Temple	Roman	One or more temples may have existed in the area of the modern street of Philiphaugh, <i>c</i> . 500m west of Wallsend fort. Altars, dedication slabs and sculpture (HER 819, 820, 822, 823 & 824), representing at least three deities, have been recovered, particularly in a former area of allotment gardens on the western side of Philiphaugh. In one allotment, the tenant noted 'two stone foundations of broad walls, one running east-west and the other running north-south'.	
7	819	429580/565710	Find (altar)	Roman	Altar on a socketed base found in the Philiphaugh allotment gardens in 1892. Inscribed 'To Jupiter, Best and Greatest, the Fourth Cohort of Lingonians, part-mounted, under the command of Julius Honoratus, centurion of the Second Legion Augusta, willingly and deservedly fulfilled its vow'.	
8	820	429500/565700	Find (altar)	Roman	Two fragments of an altar found in the 1890s in the Philiphaugh allotment gardens. Inscribed 'To Jupiter, Best and Greatest, Cornelius Celer, prefect of the Fourth Cohort of Lingonians, set this up'.	
9	822	429500/565700	Find (sculpture)	Roman	Two fragments of a sculptured slab found in the 1890s in the Philiphaugh allotment gardens. Inscribed 'To the god Mercury, the Second Cohort of Nervians from the district ofdedicated and set-up this statuette'.	
10	823	429500/565700	Find (dedication stone)	Roman	Fragments of a dedication slab found in the 1890s in the Philiphaugh allotment gardens. Inscribed 'To the god Mercury'. To the right of the figure of Mercury stands a cock on an altar, to his left a goat.	
11	824	429670/565820	Find (dedication stone)	Roman	Fragments of a dedication slab seen by Horsley prior to 1732. Little of the inscription survived and the item is now lost.	
12	827	429500/565700	Parade Ground	Roman	A parade ground was postulated by the archaeologist E.J. Phillips who suggested that the statue of Minerva (HER 828) may have stood on the parade ground of the fort, since it was found with an official dedication to Jupiter (HER 819) and 'an image of a martial goddess would be appropriate in such a context'. Both objects were recovered from the Philiphaugh allotment gardens.	
13	828	429850/565710	Find (sculpture)	Roman	Fragment of sculpture found in the Philiphaugh allotment gardens in 1892. Comprised a shield with gorgoneion from a statue of Minerva and was found along with the altar to Jupiter (HER 819). Fashioned in local buff sandstone, the style of carving is Celtic.	
14	1392	428400/565330	Find (coins, etc.)	Roman	Small group of bronze objects discovered in debris of the Wall at Walker, probably in the 1860s. Comprised a fibula, four coins of the higher Empire and what was probably a peltate mount later presented to the Society of Antiquaries, this being a superb example of such an object, depicting two griffin's heads and a crouching feline.	
15	1397	429430/565770	Inscription	Roman	Fragment of a Roman inscription seen in 1783 incorporated into a building that became Stott's House Farm.	

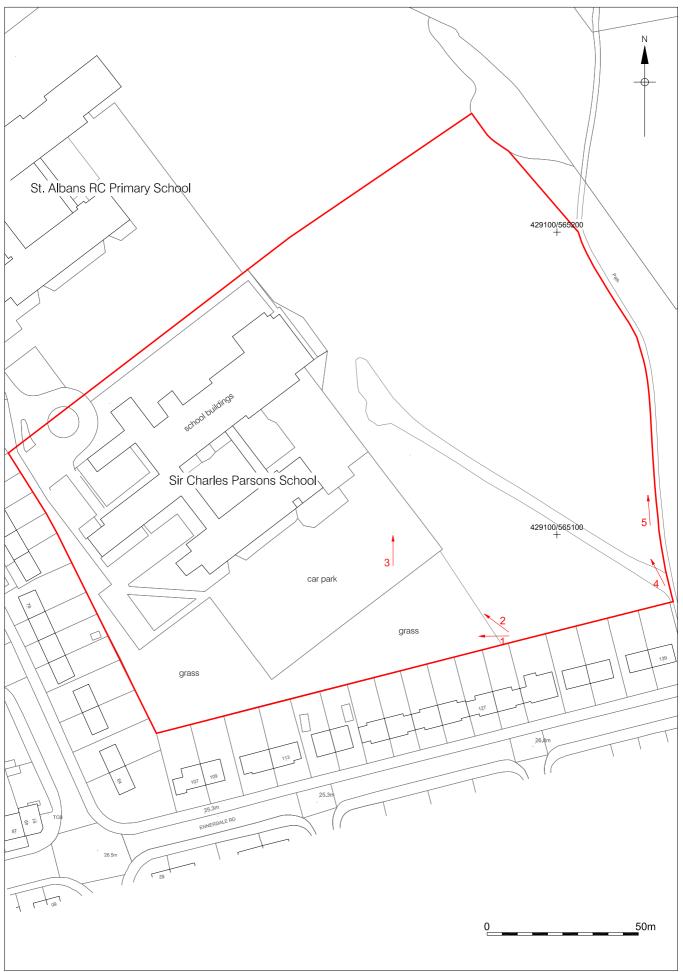
16	1400	429000/565000	Find (building stone)	Roman	Inscribed stone seen by Horsley prior to 1732. Inscribed 'from the second cohort the century of Varius Celer (built this)'. Probably found west of Wallsend fort.	
17	6853	428975/565510	Find (stone head)	Roman	Found in 1936 but not accessed to the Museum of Antiquities until 1975. Third such 'Celtic head' found in the eastern sector of Hadrian's Wall. Triangular in shape with primitive features, such as a broad nose and wide off-centre mouth. Measured 250mm high.	
18	1411	428400/565300	Village (Walker)	Medieval	Medieval village of Walker. Documented from the 12th century.	
19	1191	436480/569030- 425530/564110	Toll Road	Post-medieval	Newcastle to North Shields turnpike road. No date for opening is known, but it is likely to have been in the post-medieval period. Mentioned by Eneas Mackenzie in his 1827 account of Newcastle.	
20	4184	428480/565490	Colliery (Walker, Gosforth Pit)	Post-medieval (industrial)	Documentary evidence gives the date of sinking this pit as 1780-82. Appears on the Ordnance Survey 1st edition, annotated 'Old Shaft'.	
21	4185	429380/565870- 428520/565490	Waggonway (Gosforth Pit-Fair Pit)	Post-medieval (industrial)	This waggonway ran between Gosforth and Fair Pits of Walker Colliery. Appears on Greenwood's map of 1828 but out of use by Bell's plan of 1847 and annotated 'Old Wagonway' on the Ordnance Survey 1st edition, surveyed in 1858.	
22	4186	428860/565750	Windmill	Post-medieval	Walker Mill (Corn)' appears on Ordnance Survey 1st edition, standing close to Fair Pit, Walker Colliery. Documentary evidence indicates that a lease was first granted in 1808.	
23	4187	429030/565810	Colliery (Walker, Fair Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765 and closed in 1920. Fair Pit, which lay to the north of Hadrian's Wall, is documented from at least as early as 1775 and appears on the Ordnance Survey 1st edition from the 1850s.	
24	4206	429290/564470	Colliery (Walker, B Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765, possibly in 1713, and closed in 1920. B Pit may have been one of the first workings. Marked as 'Old Shaft' on the Ordnance Survey 1st edition.	
25	4207	429210/564600	Colliery (Walker, Ann Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765, possibly in 1713, and closed in 1920. Ann Pit may have been the first working. Marked as 'Old Shaft' on the Ordnance Survey 2nd edition.	
26	4209	429160/565030- 429240/564700	Waggonway (Delight Pit-Low Walker)	Post-medieval (industrial)	Possible waggonway on the Ordnance Survey 1st edition. Branches from the Gosforth and Delight Pits Waggonway (HER 4210) and runs SSE into Low Walker.	
27	4210	429480/564800- 428540/565420	Waggonway (Gosforth & Delight Pits-Low Walker)	Post-medieval (industrial)	Shown as an 'Old Waggonway' on the Ordnance Survey 1st edition. Ran south-east from Gosforth Pit, Walker Colliery, served Delight Pit, then continued into Low Walker.	
28	4211	429270/565710- 429480/564800	Waggonway (East Pit- Low Walker)	Post-medieval (industrial)	Shown as an 'Old Waggonway' on the Ordnance Survey 1st edition. Ran south from Stott's House Farm, on the line of Hadrian's Wall, past East Pit, Walker Colliery into Low Walker.	
29	4212	428890/565150- 428460/565050	Waggonway (Delight Pit-Old Walker)	Post-medieval (industrial)	Short length of 'Old Waggonway' shown on the Ordnance Survey 1st edition. Ran WSW from Delight Pit, Walker Colliery crossing with the line of another waggonway (HER 4213), but the working it served, to the south of Old Walker, is not named.	
30	4213	428460/565360- 429040/564630	Waggonway (Gosforth Pit-Low Walker)	Post-medieval (industrial)	Line of waggonway which first appears on Thompson's plan of 1745. Runs from Gosforth Pit, Walker Colliery past Old Walker on the Ordnance Survey 1st edition, but not annotated in any way, so presumably out of use. Ran down to the western end of the developed area of Low Walker as it was in the mid 19th century.	
31	4214	428910/565190	Colliery (Walker, Delight Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765 and closed in 1920. Delight Pit is documented from 1824 but may be of late 18th century origin. It was evidently still working at the time of Ordnance Survey 2nd edition.	
32	4215	429410/565320	Colliery (Walker, East Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765 and closed in 1920. East Pit may date from the late 18th century, although this is uncertain. It is marked 'Old Shaft' on the Ordnance Survey 2nd edition.	
33	4265	429620/565470- 429390/565290	Waggonway (East Pit- Walker)	Post-medieval (industrial)	Shown as an 'Old Waggonway' serving East Pit, Walker Colliery on the Ordnance Survey 1st edition. Ran to the north-east to meet another waggonway (HER 4266).	
34	4266	429310/565720- 429860-565380	Waggonway (Stott's House Farm-Walker)	Post-medieval (industrial)	The line of probable former waggonway marked on the Ordnance Survey 1st edition. Ran from near Stott's House Farm on the line of Hadrian's Wall to the Walker riverfront. Met the East Pit Waggonway (HER 4265) north-east of that working.	
35	4941	429660/565830	House	Post-medieval	Cosyn's Hall or Carville Hall. Built <i>c</i> . 1635 by John Cosyn a wealthy Newcastle draper. Its fabric incorporated several Roman sculptured stones. Eventually came into the hands of Robert Carr, who renamed it Carville Hall. Appears, in its spacious grounds, on the Ordnance Survey 1st edition. By the 2nd edition the site was covered with terraced housing.	
36	6224	428770/564400	House	Post-medieval	Scrogg House on Scrogg Road. Appears on Thompson's estate plan of 1745.	
37	7884	428410/565330	Farmstead	Post-medieval	Walker East Farm. Appears on Ordnance Survey 1st edition, but supposedly appears on a plan of 1675. Demolished <i>c</i> . 1937. Buildings reportedly incorporated much Roman material.	
38	1186	424720/563830- 436710/569100	Railway	Early modern (industrial)	North Eastern Railway, Newcastle to Tynemouth. An Act of Parliament in 1836 gave consent for a line between Pilgrim Street , Newcastle (although a terminus as never built there) and North Shields. Built by Robert Nicholson, it included the Ouseburn Viaduct and a 3/4 mile long cutting at Heaton.	

39	2146	433500/567260- 426390/564850	Railway	Early modern (industrial)	North Eastern Railway, Newcastle to Tynemouth, Riverside Branch. Opened in 1879 to serve the riverside industries, with stations at Byker and Walker. Passenger trains ceased in 1973. Line now closed and converted into a pathway.	
40	4182	428330/565680	Toll House	Early modern	Walker Turnpike toll house on the Newcastle to North Shields Road. Out of use by the Ordnance Survey 2nd edition.	
41	4203	42980/5364680	Waggonway (Low Walker)	Early modern (industrial)	Depicted in the form of a loop, with both ends on the riverfront, on the Ordnance Survey 1st edition. Northern part is annotated 'Walker Incline'. The 2nd edition shows the route truncated, with only the northern part operational.	
42	4205	429470/564580	Brick Works	Early modern (industrial)	Wincomblee Brick and Tile Works. Appears on the Ordnance Survey 1st edition surveyed in 1858, but not on the 2nd edition.	
43	4208	429810/564840	Shipyard	Early modern (industrial)	Coutts' Shipyard. Subsumed into the Neptune Yard by the time of the Ordnance Survey 2nd edition in the 1890s, it appears on the 1st edition to the east of Battle Hill.	
44	4216	429590/565220	Brickfield	Early modern (industrial)	Appears to the south-east of East Pit, Walker Colliery on the Ordnance Survey 1st edition, and as a 'Brick Works' on the 2nd edition.	
45	4217	429810/564960	Shipyard	Early modern (industrial)	Miller, Ravenhill and Co. Shipyard. Annotated on the Ordnance Survey 1st edition as 'Shipbuilding Yard (Iron)', the company had left the Tyne by 1855 and these works were subsumed into the Neptune Yard by the time of the Ordnance Survey 2nd edition in the 1890s.	
46	4218	429810/565030	Shipyard	Early modern (industrial)	Appears on the Ordnance Survey 1st edition, these works were subsumed into the Neptune Yard by the time of the Ordnance Survey 2nd edition in the 1890s.	
47	4219	429830/565090	Copperas Works	Early modern (industrial)	Southfield Copperas Works. Appears on the Ordnance Survey 1st edition, but evidently out of use by the time of the 2nd edition in the 1890s.	
48	4220	429810/565170	Brick Works	Early modern (industrial)	Probably the site of Hunter's Brick and Tile Works, operational from 1832 to 1921.	
49	4221	429850/565230	Copperas Works	Early modern (industrial)	Walker Copperas Works. Appears on the Ordnance Survey 1st edition, but evidently out of use by the time of the 2nd edition in the 1890s.	
50	4222	429960/565300	Boatyard	Early modern (industrial)	Annotated 'Raft Yard' on the Ordnance Survey 1st edition on the Walker riverfront; this may have been either the name of the premises or its function, but it was evidently out of use by the time of the 2nd edition in the 1890s.	
51	4264	429160/564650	School	Early modern	Walker Colliery School, stood north of Ann Pit, Walker Colliery. Annotated on the Ordnance Survey 1st edition, but not on the 2nd edition.	
52	4286	429270/564520	Blacksmiths	Early modern (industrial)	Appears on the Ordnance Survey 2nd edition, surveyed in the 1890s.	
53	5022	429810/564920	Shipyard	Early modern (industrial)	The Neptune Yard. Begun by John Wigham Richardson in 1860. An order for a train ferry for the Prussian Government in 1865 sparked an increase in production. By 1889 it had produced 178 ships, totalling more than 200,000 tons. In 1903 it amalgamated with Swan Hunter.	
54	6213	429550/564790	School	Early modern	Unnamed school in Low Walker. Appears on Ordnance Survey 2nd edition.	
55	6218	429110/564370	Church	Early modern	Christ Church, Walker. Mid 19th century. Appears on Ordnance Survey 1st edition.	
56	6219	429100/564490	Chapel (Methodist)	Early modern	Methodist Chapel, Walker. Mid-late 19th century. Appears on Ordnance Survey 2nd edition.	
57	6220	429060/564650	Chapel (Wesleyan Methodist)	Early modern	Wesleyan Methodist Chapel, Low Walker. Appears on Ordnance Survey 1st edition.	
58	6221	428980/564660	Chapel (RC)	Early modern	Roman Catholic Chapel, Low Walker. Appears on Ordnance Survey 2nd edition.	
59	6222	428970/564640	School	Early modern	Unnamed, off Welbeck Road, Walker. Appears on Ordnance Survey 2nd edition.	
60	6223	428690/564500	Inn	Early modern	Scrogg Inn on Scrogg Road. Appears on Ordnance Survey 2nd edition.	
61	7885	428340/565640	Chapel (Methodist)	Early modern	Methodist Chapel, Walkergate. Mid-late 19th century. Appears on Ordnance Survey 2nd edition.	
62	7886	429410/565750	Farmstead	Early modern	Stott's House Farm. Described by Horsley in 1732 as 'Bee Houses'. Built on the line of Hadrian's Wall (HER 199). Demolished 1933.	
63	9905	429730/564900	Public House	Early modern	The Royal George Hotel. 19th century public house, noted for its brown tiled ground floor elevations. Appears on the Newcastle City	
64	9907	429080/564370	Memorial	Early modern	Sandstone memorial to Robert Chambers made by George Burn in 1869. Chambers was a 19th century Tyneside hero who died an early death - aged 37 - in 1868 after becoming a world champion in rowing.	
65	9911	428610/564550	Library	Early modern	Walker Library on Welbeck Road. Opened in 1908. Brick and stone Edwardian building with coat of arms of Lady Stephenson above original doorway, she being the wife of the local industrialist who presented the library to the City of Newcastle. Appears on the Newcastle City Council 'Local List of Buildings'.	
66	1787	429800/565100	Pillbox	Modern	Formerly located at a NEEB sub-station.	

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67	2093	429940/565400	Oil Refinery	Modern	The Walker Oil Works, depicted on the Ordnance Survey 1st edition.	
68	4942	429750/565750	Offices	Modern	Offices of Thermal Syndicate (formed in 1903 to develop the technique of fusing quartz). Built <i>c.</i> 1906. Brick with ashlar dressings and slate roof. Free Baroque style. Listed at Grade II.	
69	5106	429700/565600	Power Station	Modern	Neptune Bank Power Station. Generating Hall and possible adjacent boiler house, both now embedded in later buildings. The engine house dates from 1901, designed by Merz and McLellan. This was the first such facility for bulk electricity in the UK.	
70	5503	429300/565300	Anti-aircraft Battery	Modern	Site of a defensive structure from World War Two.	
71	11113	428400/565500- 430000/565400	Watercourse (Stott's Burn)	Unknown	Originally began inland as several burns. The first originated at a pond at the junction of Benfield Road and Shields Road, the second rose to the east of Scrogg Road, these two combining south of Fossway - on the Waverdale Open Space - then continuing east to join a third burn at 'Dean Well' (shown on the Ordnance Survey 1st edition), this third burn having run north-eastwards from Elgin Gardens. The watercourse then continued roughly north-eastwards to meet another burn which roughly followed the line of Stott's Road, in the area of Neptune Road, close to the railway line.	

APPENDIX B PLATES



Location and direction of plates



Plate 1. Southern margin of site, looking west.



Plate 2. Main school building, looking north-west.



Plate 3. North-eastern portion of car park, looking north.



Plate 4. Access road in scrubland east of school boundary, looking north-west.



Plate 5. Pasture forming the eastern margin portion of the site, looking north.

APPENDIX C SUMMARY OF RELEVANT GEOTECHNICAL INVESTIGATIONS

Part of site	Geotechnical reference	Overall thickness of 'made ground'	Nature of 'made ground' (recorded thicknesses)	Depth to natural sub-stratum & nature of deposit
South of dene	TP13	0.60m	Lowermost deposit is black clayey sandy gravel with brick and sandstone fragments (0.40m). Overlain by topsoil (0.20m)	0.60m; light brown, mottled with orange and grey, firm sandy gravelly clay
Within dene	CP1	8.50m	Lowermost deposit is dense crushed and fragmented brick (4.25m). Overlain by black ash, wood and brick rubble (3.55m). Overlain by red ash & colliery spoil (0.60m). Overlain by existing surface tarmac (0.10m)	8.50m; dark brown sandy gravelly clay
	CP3	7.60m	Lowermost deposit is black ash, wood and brick rubble (7.20m). Overlain by topsoil (0.40m).	7.60m; brown sandy gravelly clay with laminated bands
	TP12	3.30m+	Lowermost deposit is dark brown to black sandy gravelly clay with ash, clinker, glass, metal, ceramics (3.0m). Overlain by topsoil (0.30m).	Unknown, but 3.30m+
North of dene	WS1	0.50m	Lowermost deposit is brown sandy gravel (0.40m). Overlain by topsoil (0.10m).	0.50m; yellow, mottled with brown, clay
	WS2	0.60m	Lowermost deposit is orange brown sandy clay (0.40m). Overlain by topsoil & 'unmanaged vegetation' (0.20m).	0.60m; brown, mottled with grey, laminated clay
	WS5	0.50m	Lowermost deposit is dark brown disturbed gravelly clay with brick fragments (0.10m). Overlain by dark brown sandy gravelly clay with brick fragments (0.25m). Overlain by topsoil & 'unmanaged	0.50m; orange brown, mottled with light brown, gravelly clay
	TP3	0.30m	Lowermost deposit is black and grey ashy gravel with whole and half bricks and fragmentsof stone and coal (0.10m). Overlain by topsoil (0.20m)	0.30m; light brown sandy gravelly clay

APPENDIX D SPECIFICATION

TYNE AND WEAR SPECIALIST CONSERVATION TEAM

Specification for an Archaeological Desk Based Assessment of Sir Charles Parsons School, Westbourne Avenue, Walker, Newcastle upon Tyne NE6 4ED

Introduction

The above site is proposed for a replacement school.

The site lies some 260m south of Hadrian's Wall, which is protected as a Scheduled Ancient Monument (SAM 28(7)) and Unesco World Heritage Site. It also lies some 300m south-west of the vicus associated with Segedunum Roman Fort. A stone head of C2 date was found in Walker Dene in 1936 (HER 6853).

The main archaeological interest here however is industrial. Delight Pit (HER 4214) is shown on Ordnance Survey first edition of c.1850. This was served by a waggonway (HER 4210). Could the waggonway survive?

There was a World War Two Heavy Anti Aircraft Battery (Tyne N) in this vicinity.

In accordance with PPG16 and UDP policy C4.2 a Desk Top Assessment is required to appraise the likelihood that important archaeological deposits survive on the site, and assess the impact on those deposits by construction work associated with the proposed development. It will make recommendations for any further archaeological work required.

The assessment must be carried out by a suitably qualified and experienced archaeological organisation. The purpose of this brief is to obtain tenders for this work. The report must be the definitive record for deposition in the Tyne and Wear HER.

The North-East Regional Research Framework for the Historic Environment (2006) notes the importance of research as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past allowing commercial contractors to demonstrate how their fieldwork relates to wider regional and national priorities for the study of archaeology and the historic environment. The aim of NERRF is to ensure that all fieldwork is carried out in a secure research context and that commercial contractors ensure that their investigations ask the right questions.

Archaeological Brief

1. The Assessment must inform the planning authority of the archaeological and historical importance of the site.

2. <u>All</u> relevant <u>documentary</u> (such as local history books, journals, papers, documents, county histories, trade directories, census returns, council minutes, court rolls, wills, newspaper cuttings, historic photographs and postcards, prints and engravings etc.) and <u>cartographic</u> records (including historic mapping, archive plans, surveys, estate plans, tithe maps and OS mapping) relating to the vicinity must be consulted and synthesised.

The archaeological consultant is expected to consult:

Northumberland Archives at Woodhorn, QEII Country Park, Ashington NE63 9YF (open Wed-Sun)

Tyne and Wear Archives at Blandford House, Blandford Square, Newcastle upon Tyne NE1 4JA (tel. 0191 2326789 ext 407)

Newcastle City Library local studies section, Civic Centre, Barras Bridge, Newcastle upon Tyne NE1 8PD (0845 0020336)

National Monuments Record, Kemble Drive, Swindon SN2 2GZ (tel. 01793 414600) www.english-heritage.org.uk/NMR

and any other local resource with relevant information.

Useful websites:

<u>http://museums.ncl.ac.uk/sitelines</u> - **not** to be used instead of visiting the HER in person because it is only updated every six months and does not include event data

http://local.live.co.uk - aerial photographic coverage

http://museums.ncl.ac.uk/archive/index

www.sine.ncl.ac.uk

www.helm.org.uk

www.wellinever.info

www.tynesidelifeandtimes.org.uk

www.magic.gov.uk/website/magic/

www.tomorrows-history.com

www.dur.ac.uk/picturesinprint/

Geological bedrock and drift mapping for the area must be analysed.

There must be a search of aerial photographs. The Museum of Antiquities, University of Newcastle has a collection. Newcastle City Council has a collection (Ian Ayris 0191 2777190 or ian.ayris@newcastle.gov.uk). The NMR at Swindon should be checked.

The County Historic Environment Record housed at the West Chapel, Jesmond Old Cemetery must be consulted. Archaeological contractors are advised that there is a search fee payable for consulting the HER (Access and Pricing Policy available on request). Contractors visiting the HER in person and conducting their own research will be charged the basic search fee of **£50** plus photocopying costs.

Any relevant Building Control Plans for the site must be consulted at Tyne and Wear Archives, to provide information on the location of cellars or basements or other features which may have destroyed or truncated archaeological deposits. The location of the cellars or areas of disturbance must be marked on a plan in the finished report.

The County Industrial Archaeologist, Ian Ayris <u>must</u> be consulted on the industrial aspects of the Assessment (tel. 0191 2777190 or email <u>ian.ayris@newcastle.gov.uk</u>)

Information on nearby listed buildings and Conservation Areas must be included and is available from the HER.

3. The Assessment must describe the land-use history of this part of Walker and assess the probability that archaeological deposits survive on this plot

4. The Assessment must describe the geology, topographic position, soil type and drainage of the site, using geological and soil survey maps. The report must make reference to the anticipated preservation conditions likely to be encountered on the site, especially relating to variables affecting the preservation of biological or organic remains.

5. The archaeological contractor must make at least one site visit and the finished Assessment will briefly describe the current condition of the site. Site photographs must be included in the finished report.

6. The archaeological contractor will assess the impact of the proposed development on archaeological deposits by analysing the plans and foundation designs (where available) for the proposed new building. The commissioning client will provide copies of available plans.

The Assessment Report

The Assessment report must contain and synthesise the results of the analysis of all the sources mentioned above. As far as possible, all maps shown should be at the same scale, to assist in comparing maps of different date and scale, ideally as overlays on a modern base-map, although highlighted enlargements may be used to facilitate the addition of extra annotation.

The report must include a catalogue of features of archaeological or historical interest within or close to the study area. Their location must be shown on a site plan. This must include all sites of interest, not just those currently included in the HER.

A final section of the report should consist of recommendations (in the opinion of the consultant, after assessing all evidence available at the present time) about the type, scale and location of any future archaeological work needed to locate and record historic buildings or archaeological deposits suspected on the site. If evaluation is recommended then the finished report will include a site plan showing the scale and location of suggested trial trenches.

The report must have the following features:-

- 1. Site location plan and grid reference
- 2. List of all sources consulted, and their location
- 3. Details of field visits undertaken by the consultant
- 4. Site photographs
- 5. A card cover with title, date, author, consultant organisation and commissioning client
- 6. Some form of binding which allows easy copying of the report
- 7. Copy of this specification

Four paper copies of the report need to be submitted:

• one for the commissioning client

- one for the planning authority (Newcastle City Council)
- one for deposition in the County HER. A digital copy of the report on CD is also required by the HER – to be sent with the paper report but not attached to it. The report and CD for the HER must be sent by the archaeological consultant directly to the address below. If the report is sent via the planning department, every page of the report will be stamped with the planning application number which ruins the illustrations. Also the HER is often sent a photocopy instead of a bound colour original which is not acceptable.
- one for Mike Collins, English Heritage's Hadrian's Wall Archaeologist (Bessie Surtees House, 41-44 Sandhill, Newcastle upon Tyne NE1 3JF)

OASIS

The Tyne and Wear County Archaeologist supports the Online Access to the Index of Archaeological Investigations (OASIS) project. This project aims to provide an online index/access to the large and growing body of archaeological grey literature, created as a result of developer-funded fieldwork.

The archaeological contractor is therefore required to register with OASIS and to complete the online OASIS form for their desk based assessment at <u>http://ads.ahds.ac.uk/project/oasis/</u>. Please ensure that tenders for this work takes into account the time needed to complete the form.

Once the OASIS record has been completed and signed off by the HER and NMR the information will be incorporated into the English Heritage Excavation Index, hosted online by the Archaeology Data Service.

The ultimate aim of OASIS is for an online virtual library of grey literature to be built up, linked to the index. The unit therefore has the option of uploading their grey literature report as part of their OASIS record, as a Microsoft Word document, rich text format, pdf or html format. The grey literature report will only be mounted by the ADS if both the unit and the HER give their agreement. The grey literature report will be made available through a library catalogue facility.

Please ensure that you and your client understand this procedure. If you choose to upload your grey literature report please ensure that your client agrees to this in writing to the HER at the address below.

For general enquiries about the OASIS project aims and the use of the form please contact: Mark Barratt at the National Monuments Record (tel. 01793 414600 or <u>oasis@english-heritage.org.uk</u>). For enquiries of a technical nature please contact: Catherine Hardman at the Archaeology Data Service (tel. 01904 433954 or <u>oasis@ads.ahds.ac.uk</u>). Or contact the Tyne and Wear Archaeology Officer at the address below.

Jennifer Morrison Tyne and Wear Archaeology Officer West Chapel Jesmond Old Cemetery Jesmond Road Newcastle upon Tyne NE2 1NL

Tel (0191) 2816117 jennifer.morrison@newcastle.gov.uk

Ref:MON58187 February 2008Planning Application:pr

pre-application

For HER use only: Quality control

Sources used:

- Northumberland Record Office
- Tyne and Wear Archives
- Newcastle City Library Local Studies
- Durham Record Office
- local library
- □ Special collections, Palace Green
- D HER
- Building Control Plans
- Goad Insurance plans
- Conservation Officer
- APs

Report content:

- □ site location plan
- grid reference
- use of documentary sources (books/journals/papers/county histories/trade directories/court rolls/census returns/documents etc)
- use of cartographic sources (estate maps/tithe/archive plans/OS)
- Iand-use history
- historic photographs/drawings/engravings
- geology
- anticipated preservation conditions
- evidence of site visit and site photograph
- listed buildings and Conservation Areas
- □ map regression
- plan of cellars/areas of disturbance
- □ catalogue and plan
- impact of proposed development
- recommendations
- trench location plan
- D CD
- OASIS form