URS

Phase 1 Ryhope to Doxford Park Link Road

Cultural Heritage Deskbased Assessment

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Prepared for: Homes and Communities Agency

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1 INTRODUCTION

1.1 Foreword

URS Infrastructure & Environment UK Limited (URS) has been commissioned by the Homes and Communities Agency (HCA) to undertake an archaeological desk-based assessment for Phase 1 of the proposed Ryhope to Doxford Park Link Road (RDPLR) (herein referred to as the proposed development). The results of this assessment will be used to inform the scope of archaeological evaluation if required.

1.2 Site Location and Land Use

The application site is located within a rolling agricultural landscape within the grounds of Ryhope General Hospital. The site is to the west of Ryhope village, approximately 3 miles south of Sunderland, and comprises managed grassland and areas of scrub. The ground level rises steeply from Stockton Road at the south-east, and is generally level throughout the hospital grounds, before rising gradually towards Burdon Lane in the north-west.

Ryhope Dene and Cherry Knowle Dene are located to the south of the application site, stretching from the coastal edge towards the village of Burdon to the west.

1.3 Proposed Development

Phase 1 of the RDPLR will commence at the existing Stockton Road roundabout and head in a north-westerly direction for approximately 650 m, terminating at a new roundabout. The new roundabout will provide access to future residential development sites north and south of the road and will allow for the potential extension of the link road in the future. There will also be two intermediate traffic signal crossroad junctions providing access to the proposed St Benedict's Hospice and Ryhope Hospital developments north of the road.

The link road will be a single carriageway road with two lanes in each direction throughout. The carriageway will be approximately 14 m wide, tapering out at the junction approaches to allow for the central islands.

A total of four bus stops will be provided: one on each side of the link road at each of the two intermediate traffic signal junctions. Three-metre wide combined footway/ cycleways will be provided along each side of the new road, generally set back behind a two-metre wide verge. The combined footway/ cycleways will link to proposed dropped kerb crossings on the northern and southern arms of the Stockton Road roundabout.

An attenuation pond will be located to the south of the link road, the drainage for which will run adjacent to Stockton Road.

1.4 Geology

The underlying geology comprises glacial till, sealing Roker Dolomite (formerly Upper Magnesian Limestone) in the south-eastern part of the site and Ford Formation (formerly Middle Magnesian Limestone) in the north-west (British Geological Society (BGS) Sheet 21, Sunderland, solid and drift editions, 1:50,000 scale and http://www.bgs.ac.uk/geoindex).

1.5 Aims and Objectives

The aim of the assessment was to assess the heritage resource within the development area through the collation of existing written, cartographic, photographic and electronic evidence in order to identify the likely character, extent, quality and significance of the known or potential



heritage resource. The aim was also to identify potential constraints associated with the proposed development.

The specific objectives of the desk-based assessment were:

- to identify known heritage assets within or in the vicinity of the proposed development;
- to identify areas with the potential to contain any unknown heritage assets;
- to provide information on the historic landscape character of the proposed development and the surrounding area; and
- to identify areas disturbed by modern activity that might have affected the survival of the potential heritage resource.

2 METHODOLOGY

2.1 Sources of Information

2.1.1 National Heritage List for England

Data sets containing details of designated assets were obtained from the National Heritage List for England.

2.1.2 National Monument Record

Vertical aerial photography was commissioned from the National Monument Record (NMR).

2.1.3 Tyne and Wear Historic Environment Record

A search of the Historic Environment Record (HER) was undertaken to identify and obtain records of all undesignated assets, find spots, archaeological fieldwork events and cropmarks within the application site and a 500 m search area from the site's boundary. Assets have been identified in this report by a Primary Record Number (PRN) and represented in Figure 2; they are referred to in bold in the text (e.g. **1000**) and catalogued in Appendix 1.

2.1.4 Tyne and Wear Archives

Original documentary and cartographic research was undertaken at Tyne and Wear Archives.

2.1.5 **Sunderland City Council**

Aerial photography held at Sunderland City Council was consulted.

2.1.6 Study Areas and Asset Identification

For undesignated assets, a search was undertaken of the Tyne and Wear HER for the route corridor plus a 500 m buffer either side (see Figure 2).

For designated assets, both statutory and non-statutory (Scheduled Monuments, listed buildings, Conservation Areas), a defined study area was not used, rather information was gathered during the walkover survey with regard to an assessment of landform and the visual impact upon the setting of heritage assets.

Cultural heritage assets within the wider area are referenced where it is relevant to place the site in its wider historical and archaeological context.



2.1.7 Site Visit

A site visit was carried out on 26th January 2012. This was undertaken in order to observe and record current ground conditions and conduct a thorough site walkover to assess the potential for archaeological deposits to be present within the site.

The site visit also assessed landform, and potential visual and setting impacts to and from the site with regard to specific heritage assets.

2.1.8 Assessment of Value

The sensitivity or importance of identified heritage assets has been determined by professional judgement guided by statutory and non-statutory designations, national, regional and local policies, archaeological research frameworks and the modified criteria for Scheduled Monuments used in England by the Secretary of State for Culture, Media and Sport (Department for Culture, Media and Sport (DCMS), 2010). Guidance provided in Planning Policy Statement (PPS) 5 states that some heritage assets have a level of interest which justifies a statutory designation and therefore particular procedures apply to decisions that involve them. Other heritage assets which are not statutorily designated but which are of heritage interest are also a material planning consideration (PPS 5, paragraph 5).

This is qualified further in policy HE9.1 of PPS 5, where a hierarchy attributed to the value of individual assets on the basis of their designated or non-designated status is established. Scheduled Monuments, protected wreck sites, Registered battlefields, Grade I and II* listed buildings and Grade I and II* Registered Parks and Gardens, and World Heritage Sites are accorded the highest significance, whilst Grade II listed buildings and Grade II Registered Parks and Gardens of Special Historic Interest are accorded a slightly lower value. Table 2.1 summarises the factors for assessing the value of heritage receptors.

Table 2.1: Factors Determining the Value of Cultural Heritage Assets

Value	Factors for determining the value		
Very High	Remains of international importance, such as World Heritage Sites		
	Other buildings or sites of recognised international importance.		
	Grade I and Grade II* listed buildings		
	Scheduled Monuments		
	Undesignated assets of schedulable quality and importance		
	Historic landscapes of international sensitivity, whether designated or not		
	Extremely well preserved historic landscapes with exceptional coherence, time-depth or other critical factor(s)		
	Designated historic landscapes of outstanding interest		
High	Grade II listed buildings		
	Conservation areas of exceptional quality		
	Other assets that can be shown to have exceptional or particularly important qualities in their fabric or historical association		
	Assets that can contribute significantly to acknowledged international or national research objectives		
	Undesignated landscapes of outstanding interest		
	Undesignated landscapes of high quality and importance, and of demonstrable national sensitivity		
	Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s)		



Value	Factors for determining the value		
Medium	Historic buildings that are of special interest and can be shown to have important qualities in their fabric or historical association		
	Conservation areas		
	Historic Townscapes with historic integrity		
	Undesignated assets that contribute to regional research objectives		
	Undesignated assets not of schedulable quality but with good survival and rare in the region		
	Designated special historic landscapes that would justify special historic landscape designation, landscapes of regional sensitivity		
	Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s)		
Low	Undesignated assets of local importance and/ or modest quality		
	Assets compromised by poor preservation and/or survival or contextual associations		
	Assets of limited value, but with the potential to contribute to local research objectives		
	Robust undesignated historic landscapes		
	Historic landscapes with specific and substantial importance to local interest groups, but with limited sensitivity		
	Historic landscapes whose sensitivity is limited by poor preservation and/or survival of contextual associations		
	Landscapes with little or no significant historical interest		
Not significant	Buildings of no architectural or historical merit		
	Buildings of an intrusive character		

3 PLANNING POLICY

3.1 National and Local Policies

National policy regarding the cultural heritage resource is outlined in the Government's PPS 5: Planning for the Historic Environment (Department for Communities and Local Government (DCLG), 2010). This document has been used in the preparation of this chapter, alongside the accompanying Practice Guide issued by English Heritage (English Heritage, 2010).

PPS 5 outlines planning policies on the conservation of the historic environment and how to implement the policies for use by developers, local authorities and other heritage professionals. The policies stated in the PPS are a material consideration in the planning process and can be directly applied by the decision-makers when considering a proposal related to heritage assets or heritage related consent regimes.

Policy HE9.1 (of PPS 5) outlines the main tenet of this historic environment policy:

"There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be."

The statement also applies to non-designated assets which are identified as being of heritage value and that the absence of a designation does not indicate a lower significance. Each asset should be assessed on its own merit and an informed decision made.



PPS 5 states that it is the significance of a heritage asset which requires conservation. When submitting an application, the local authorities should require the applicant to 'provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance'. The level of detail given should be proportionate to the importance of the heritage asset. Guidance as to what makes up the significance of a heritage asset can be found in English Heritage's Conservation Principles publication (English Heritage, 2008) and is broadly defined as the value of the asset to future generations because of its heritage interest, which can be evidential, historic, aesthetic or communal.

Where a proposal is demonstrated to have a harmful impact upon the significance of a designated heritage asset which is less than substantial harm, in all cases the local planning authorities should:

- (i) "weigh the public benefit of the proposal against the harm; and
- (ii) recognise that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss". (policy HE9.4)

The government has also recently released the draft National Planning Policy Framework (DCLG, 2011) which it is anticipated will eventually replace PPS 5. Although still a draft, this document is considered to be a material planning consideration and has been consulted during the production of this report. The draft document supports those policies encompassed within PPS 5.

The City of Sunderland Emerging Core Strategy (as agreed for consultation March 2010) states that the land to the south of Sunderland is identified as a strategic development location. However, local planning policy is still provided by the Sunderland City Council Unitary Development Plan (UDP) (adopted 1998). The proposed Phase 1 RDPLR site is designated as 'Reserved for Transport Corridor' in the existing UDP (Sunderland City Council, 1998). In response to the government's review of the planning process, UDPs are being replaced by the Local Development Framework. Relevant policies saved during this transitional period include:

- Policy B4 Development within and adjacent to Conservation Areas;
- Policy B9 Preservation of the character of buildings of special architectural or historic interest:
- Policy B10 Development in the vicinity of listed Buildings;
- Policy B11 Protection of archaeological heritage;
- Policy B12 Preservation of Scheduled Monuments;
- Policy B13 Sites of local archaeological significance; and
- Policy B14 Archaeological assessment and evaluation.

The assessment methodology also follows standard guidance as defined by English Heritage, with specific reference to:

- Conservation Principles Policy and Guidance (English Heritage, 2008); and
- The Setting of Heritage Assets: English Heritage Guidance (English Heritage, 2011).



4 ARCHAEOLOGICAL AND HISTORICAL BASELINE

4.1 Overview

There six designated cultural heritage assets within the 500 m radius study area, all comprising listed structures associated with Ryhope Pumping Station which is a scheduled monument. There are no designated assets located within the footprint of the proposed route corridor.

There are 14 undesignated with the 500 m study area; although none are located within the footprint of the proposed route corridor. Cultural heritage assets within the 500 m study area are listed in Table 4.1 below and presented on Figure 2.

Assets that have been identified within the 500 m study area are identified in **bold** where referenced in the following baseline text. Cultural heritage assets identified in the wider study area are included in the baseline in order to place the application site in a broader archaeological and historical context, and are referenced in regular text.

Table 4.1: Assets within the 500 m study area

HER No.	Site Description	Period	Designation	Value
11607	Tunstall Vale, possible rectilinear enclosure identified from aerial photography	Undated although likely to be prehistoric	Undesignated	Low
11231	Ancient woodland of Ryhope Dene and Cherry Knowle Dene	Post-medieval (1600 AD)	Undesignated	Medium
12657	Site of ridge and furrow, located within Ryhope village	Post-medieval	Undesignated	Low
2960	Ryhope, Stockton Bridge. A road bridge carrying the Sunderland to Stockton Road over the North Eastern Railway, Durham and Sunderland Branch, (SMR 2895).	Early Modern	Undesignated	Low
2961	Ryhope, Lime Kiln	Early Modern	Undesignated	Low
2962	Ryhope, Limestone Quarries; marked as 'Old' on the 1st edition OS mapping, so out of use by 1856	Early Modern	Undesignated	Low
2963	Burdon, Limestone Quarry, marked as 'Old' on the 1st edition OS mapping, so out of use by 1856	Early Modern	Undesignated	Low
2964	Burdon, Limestone Quarry, marked as 'Old' on the 1st edition OS mapping, so out of use by 1856	Early Modern	Undesignated	Low
2895	The North Eastern Railway Durham and Sunderland Branch	Early Modern	Undesignated	Low
2959	Ryhope Dene Viaduct; carried the Londonderry, Seaham and Sunderland Railway over Ryhope Dene.	Early Modern	Undesignated	Low



HER No.	Site Description	Period	Designation	Value
4964	Ryhope Water Pumping Station (inc. Engine House Grade II*) built to provide water to the Sunderland area	Early Modern	Scheduled Monument and Grade II*	Very High
7202	Ryhope, Water Pumping Station chimney	Early Modern	Grade II*	Very High
7203	Ryhope, Water Pumping Station, cooling ponds and reservoir	Early Modern	Grade II	High
7204	Ryhope, Water Pumping Station, superintendent's house	Early Modern	Grade II	High
7205	Ryhope, Water Pumping Station, walls, piers, gates, railings	Early Modern	Grade II	High
URS01	Ryhope, Water Pumping Station, cottages	Early Modern	Grade II	High
11609	A pond is shown on An Eye Plan of the township of Ryhope 1869	Early Modern	Undesignated	Low
11610	Ryhope, Mill Hill, Mill House is shown on Ordnance Survey first edition 1856	Early Modern	Undesignated	Low
11611	Ryhope, Mill Hill, Ryhope Mill is shown on An Eye Plan of the township of Ryhope 1869	Early Modern	Undesignated	Low
5089	Ryhope, township boundary stone between Ryhope and Tunstall	Undated	Undesignated	Low



4.2 Designated Assets

Ryhope Pumping Engine is located approximately 230 m east of the proposed route and is designated a scheduled monument (4964). The scheduling covers the engines, the Grade II* engine house, the Grade II* chimney and the cooling ponds either side of the engine house, which are both Grade II listed. Within the setting of the monument lies the Superintendent's house and the former workers' cottages, both buildings are designated Grade II. The wall, railings and gate piers which run along the southern perimeter are also designated Grade II.



Plate 1: View to the North; Ryhope Engine House with Boiler House (centre) and chimney

The engine and boiler house are built in an Italianate-gothic style in English bond with ashlar dressings, topped with a Welsh slate roof with stone gable copings and a ventilator roof. The engine house comprises two high storeys plus a basement with the single storey boiler house attached to the west. All windows have stone mullions (the returns have longer windows with corniced surrounds and central ball finials) and are set within bays defined by giant pilasters with continuous cornice and finials on stepped panels above pilasters. The eastern gable end of the engine house has brick parapet walls with ashlar coping with side steps leading to a panelled door. The doorcase is ashlar with panelled pilasters and a semi-circular overlight set in a high entablature.

The boiler house has four cross gables on pilasters which support gable-edge projection, with double doors set into a recessed plane on each gable end. The pumping equipment is located inside and contains the original engines by R & W Hawthorne.

The Grade II* chimney (HER **7202**) is situated to the west of the boiler house. It is a tall tapered octagonal brick structure with high-panelled plinth supports, prominent cornice and ornamental cast-iron cresting.





Plate 2: Grade II* Engine House eastern gable end.

Plate 3: Grade II* chimney: High panelled corniced plinth supports





The cooling ponds (HER **7203**) are situated on the north-western and south-eastern sides of the engine house. The Grade II ponds are edged with rock-faced snecked stone walls with ashlar coping. A large reservoir is located along the north-eastern edge of the complex and is currently grassed over.



Plate 4: The Superintendent's House

The Grade II Superintendent's House (HER **7204**) is located at the entrance to the complex. This is constructed from brick with ashlar quoins and dressings with a Welsh slate roof with stone gable copings and brick chimneys. The house is 2-storey with a central door in a corniced stone surround. All windows have stone mullions and transoms.



Plate 5: Former workers' cottages and coach house



On the western edge of the complex are three former workers cottages and coach house (**URS01**) which are Grade II listed (National Heritage List). As with the Superintendent's House, the cottages are constructed from brick with a Welsh slate roof and ashlar dressings. The cottages are 2-storey with through-eaves dormers on the upper floor. The gabled south front has the coach-house door on the ground floor with a 2-light plain sash above.



Plate 6: Gate piers and ornate gates and railings

The south-eastern stretch of the boundary wall and entrance gates site is listed Grade II. The low serpentine walls have chamfered ashlar coping, and terminate at the entrance gate in four panelled ashlar piers, each with a plinth, cornice and obelisk finial. The ornamental gates are cross braced with dog bars with similar style railings on top of the wall.





Plate 7: Railing detail

4.2.1 **Setting**

The Engine House is set back from the nearest road and its setting is defined by the visual and spatial relationship with other structures associated with the pumping station. Long-range views do not form a key component of the setting of the monument; rather it is the visual links with the boiler house, chimney, cooling ponds, reservoirs and residential structures that contribute to the significance of the asset.

It is likely that although in cut, the proposed road will be visible from the rear (south-western) face of the cottages (**URS01**) at ground level, and certainly visible from the first floor. This will not however result in a significant impact to the setting of the structure which is defined by views to the east towards the pumping station.

4.3 Undesignated Assets

4.3.1 **Prehistoric period**

Approximately 490 m north of the proposed Phase 1 RDPLR is the site of a possible enclosure at Tunstall Vale (HER **11607**). This archaeological area was identified through an analysis of aerial photography which suggested the presence of a rectilinear enclosure containing a curvilinear (possibly structural) feature. This is the only known asset dating (possibly) to the prehistoric period located within the 500 m study area, however early and later prehistoric activity is well documented in the wider area.

Flint scatters have been recorded along the north-east coast and at least three sites have been identified in the wider area. Wymer (1977) notes three (Mesolithic) sites in the Ryhope area, one with two finds, a second site with 20 finds and a third with an unrecorded total, which may suggest that they were quite numerous (Coupland 1923; Preston 1933; Raistrick 1933a and 1933b; Wymer 1977). The NGRs quoted by Wymer are general estimates and his records cannot be directly related to those found in the HER, which also has records of three collections of Mesolithic flints in the Ryhope area (Tyne and Wear HER 227, HER 226, HER



225). The presence of these scatters, and other finds along the coastline, indicates that Mesolithic groups were living along the limestone uplands of the Durham coast (ARS, 2008).

The ancient woodland of Ryhope Dene (HER 11231) forms a green corridor to the south of the proposed development. A flint scatter comprising an arrow head, chips and cores (HER 228) has been recorded in the fields on both sides of the Dene. It is likely the flints date to the Neolithic/ early Bronze Age however no certain date can be attributed as the finds were lost.

Prehistoric evidence from within the wider area includes a stone coffin discovered between Silksworth Hall and Silksworth House in 1879 (HER 231) approximately 2.5 km west of the proposed development. The coffin contained human bones and some weaponry, although the burial date remains unclear. In 1972, during construction of a road at Doxford Park housing estate (adjacent to Silksworth Hall Conservation Area), a large coarse sandstone axe (HER 235) was uncovered, and in 1876 a Bronze Age barrow was excavated at nearby Steeple Hill (HER 159) which contained two skeletons, two food vessels and a cremation.

The later prehistoric period would have been characterised by an increase in woodland clearance and expansion of agriculture, and many of the known settlement areas have been identified through analysis of aerial photography rather than field survey. Two late prehistoric cave burials have been recorded at Ryhope and Whitburn where groups of human burials were found in the late 19th century along with significant numbers of animal bones (domesticated and wild species) (Tyne and Wear HER sites 160, 867, 868) (ArchaeoEnvironment 2009).

It is assessed that there is moderate potential for features and/ or artefacts relating to the prehistoric period to be present within the proposed development site.

4.3.2 Roman period

There is no known Roman activity within the 500 m study area, however the HER records the discovery of an unspecified number of Roman coins during construction works adjacent to Ryhope Bridge (HER 267) and three roman vessels discovered during sand and gravel extraction on the northern (coastal) edge of Ryhope Dene (HER 229).

There is low potential for features and/ or artefacts dating to the Roman period to be present within the proposed development site.

4.3.3 Medieval period

Ryhope is first mentioned in 930 AD when King Athelstan gave the parish of "South Wearmouth" and its appendages to the See of Durham. Its townships included "duas Reofhoppas" and Ryhope is normally taken to be one of the two villages referred to.

Ryhope is subsequently mentioned in The Boldon Book of Bishop Pudsey in 1183 and the survey of Bishop Hatfield in 1380. Approximately 2.5 km south-west of Ryhope is the small village of Burdon which is described with Ryhope in the Boldon Book as containing 27 villeins who formed a class known as bond tenants, cotmen and farmers (Austin and Morris, 1982). All were servants for life, each receiving as wages enough land to support themselves and their family, rendering to their masters money, cattle and "fruits of the earth". By 1380 Ryhope had developed into a small village of about 150 people (Sunderland City Council, 2010).

It is assessed that there is low potential for features and/ or artefacts dating to the medieval period to be present within the proposed development site.



4.3.4 Post-medieval to Early Modern period

Ryhope was ostensibly a farming community and until 1680 there were only two freeholders. In 1680 the "Great Common", which had previously been used by the tenants for grazing their cattle, was split up into plots. The original pattern of long 'crofts' of land leading off the Village Green has changed little and can still be recognised today stretching behind the buildings about the Green (Sunderland City Council, 2010). The proposed development site during the early part of this period would have been predominantly agricultural, characterised by small enclosed fields.

In A Topographical Dictionary of England (Lewis, 1848), Ryhope is described as a chapelry in the parish of Bishop Wearmouth, and of the County of Durham containing 868 inhabitants, of whom 423 are in the township of Ryhope. The village is described as one of the pleasantest in the county, situated on the verge of a fine tract of country, bordered by the ocean. The road from Sunderland to Stockton passes through it, and the railway to Durham and Hartlepool skirts it on the south and east. An earlier historical account confirms this apparent rural idyll and describes Ryhope as a sea bathing place delightfully situated near the German Ocean (Parson and White, 1828).

Industry

For much of the post-medieval period the main sources of power relied on animals, wind and water, and the north-east has a large number of surviving 18th and 19th century tower windmills such as Fulwell, Whitburn, Hart and Easington. To the north of the proposed development area and within the 500 m study area is the site of a former mill at Mill Hill (HER 11611), associated with Mill House (HER 11610) which appears on the first edition OS map dated 1856, and is also referenced on later OS mapping (Figures 3-6). There are no upstanding remains relating to the former mill site.

There are a number of limestone quarries within the 500 m study area and several appear as 'Old' on early OS mapping, suggesting they were no longer in use by the middle of the 19th century. Recorded quarry sites include the Ryhope quarries (HER **2962**) and two further sites towards Burdon (HER **2963** and HER **2964**). In addition, the site of a limekiln is recorded within the study area (HER **2961**).

Limestone was quarried at Ryhope and the surrounding villages from an early date, but was superseded by coal mining, which commenced in 1857 with the opening of Ryhope Colliery, by the Ryhope Coal Company Limited. Whellan's Directory of County Durham (Whellan, 1894) has this account of the mining in the area:

"Here there are nearly 2000 men and boys employed in and about the pit, which is at present working the Maudlin seam, 7 feet thick, at a depth of 270 fathoms. From the Hutton seam below, which is 4 feet thick, the coals are drawn to the level of the Maudlin by means of a drift. The daily output amounts to about 2200 tons, a small quantity of which is converted into coke on the premises".

Whellan describes the village as consisting of pitmen's dwellings 'of uninviting aspect which extend in long rows of nearly a mile in length, and form the north and western portion of the village. The south and south-eastern portion, which is almost built up to the old village, comprises the more important buildings and business places, and presents a somewhat better appearance. Along the main street are built the various chapels, a school, the miners' hall, and numerous shops, including large Cooperative Stores."

The Miners Hall was a large brick building, built in 1880 at a cost of £1,800. It comprised a large lecture hall, with seating for 800, reading, recreation, and billiard room, also committee and secretary's room, along with a library.



Sanitation and Public Health

Ryhope pumping station is located on the western edge of Ryhope village and was built to supply water to the Sunderland area. Outbreaks of cholera were common until the mid 19th century, until people realised the disease was spread by contaminated water and concerns over adequate supplies of clean water grew. Many local water companies were formed, including the Sunderland & South Shields Water Company (est. 1852), who commissioned the Pumping Station. In 1864, the company acquired 1.6 hectares (ha) of land to the west of Ryhope and in May 1865 their engineer Thomas Hawksley began designing the station.

Like similar stations at Cleadon (1863) and Dalton (1877) the station abstracted groundwater. The total cost of construction was £58,416, including £9,000 for the engines. Hawksley was the first engineer to design a water distribution system (in Nottingham in the 1830s) that successfully had the pipes fully charged under pressure, allowing water to be drawn at any time. At Ryhope there are two well shafts, the main one and a 'staple well'. The main shaft is 4.6 m in diameter and 78 m deep. The staple shaft is elliptical measuring 4.3 m by 3 m maximum and approximately 43 m deep (www.engineering-timelines.com).

The water pumped at Ryhope was untreated, and the water company stressed that, "It is the matter of greatest importance that all employees, and especially those who work in or about the wells, engine houses and reservoirs should not only exercise the utmost care and restraint in the matter of expectorating and in their personal habits, but also use every endeavour to see that the wells, well tops, platforms and grounds are kept as sweet and clean as possible". As abstraction here and in other local pumping stations continued, the water table dropped below sea level threatening salt water ingress. The water was also 'hard' from being filtered through the Magnesian Limestone aquifer. Softer water was becoming available more cheaply from the reservoirs at Derwent and Kielder and these factors contributed to the station's closure in 1967 (www.engineering-timelines.com).

Ryhope Pumping Station is the only one of Thomas Hawksley's many such stations to survive with its pair of beam engines in situ and in working order. It is designated a Scheduled Monument and the Engine House and Chimney are Grade II* listed.

Hospitals

Cherry Knowle Hospital (demolished in part in 2011) was constructed in the late 19th century when the Borough of Sunderland decided to open its own hospital in 1891 and set up the Borough Lunatic Asylum (Figure 4), later renamed the Sunderland Borough Mental Hospital (Figure 5). The hospital was built at a cost of £50,000 and is described in a parish history as 'a fine building of brick with stone dressings, with accommodation for 350' (Whellan, 1894).

Ryhope General Hospital began as a wartime emergency hospital during World War II (a hutsmen hospital). Responsibility for both hospitals was transferred in 1948 to the newly created National Health Service (ARS Ltd, 2010).

There is moderate to high potential for post-medieval features to be present within the application site. These features are likely to relate to former field boundaries and are likely to be of local significance.

4.3.5 Modern Period

There are several assets relating to WWII in the wider study area. The Ryhope heavy antiaircraft battery (HER, 12659) is located over 2.5 km north of the proposed development site and was of the standard, 'clover-leaf', pattern with four octagonal emplacements for 4.5 inch guns arranged in an arc to the south-east of the command post. There are also ammunition



stores and an adjacent army camp. This site has been built over but has been plotted by the APTE (NMR, 1462351).

Immediately to the north-west is an octagonal 'chicken-wire' false datum enclosure which presumably surrounded a gun laying radar platform (HER, 12659).

Sited on the coast, along Ryhope Road, is the site of a searchlight battery (HER 5568). During WWII, many of the searchlights in Tyneside were manned by the 225th Anti Aircraft Artillery (Searchlight Battalion) USA, whose headquarters were at Debdon Gardens in Heaton, Newcastle.

Within the footprint of the proposed link road are two undesignated buildings which will be demolished in advance of development. One of the buildings (Building A – Wellfield Villas) appears on OS mapping dated 1952; the other (Building B – Belvedere) does not appear until the mid 1960s.



Plate 8: Building A (Wellfield Villas) 1950s residential property proposed for demolition





Plate 9: Building B (Belvedere) 1960s property proposed for demolition

Building A (Wellfield Villas) is two-storey constructed from brick with the entrances on the gable ends. Windows on both floors are modern with stone lintels. Building B (Belvedere) is two-storey with modern projecting bay window to the rear. It is assessed that there is no heritage value attached to either structure.

There are no significant assets dating to this period within the application site.

4.4 Conservation Areas

Ryhope Village Conservation Area is located on the north-eastern edge of Ryhope village approximately 2 km north-east of the proposed development site (Figure 2). The Conservation Area has 5 character areas, comprising the Village West, the Village East, the Village North Side, the Village Green, and Station Road which forms the southern perimeter of the Conservation Area.

Key characteristics, vistas and views are identified as:

- prominent landmark feature of St Paul's Church, making the area readily identifiable from distant views;
- limited key views out of the Conservation Area, with the exception of those out to sea from St Paul's Churchyard;
- fine wide views across the Village Green in all directions;
- open aspect of village core and irregular street layout gives few vistas of real drama;
 and
- gateways of varying impressions, reflecting contrasting character of development periods of the village.

There are limited views to the west out of the Conservation Area, and the proposed Phase 1 RDPLR will not be visible from the edge of the Conservation Area.



Silksworth Hall Conservation Area is located approximately 2.5 km north-west of the proposed development site. The boundary of the Conservation Area follows the alignment of field boundaries that are present on the fist edition OS map dated 1856. The Conservation Area is bordered by dense vegetation and mature trees, which gives a strong sense of enclosure and limits long range views out of the area.

5 HISTORIC LANDSCAPE

At the time of writing, the proposed development site is not included in a Historic Landscape Characterisation assessment. Any observations relating to historic landscape type or features are based entirely upon site observations, historic mapping and reference to relevant landscape character studies. The following text is taken from Limestone Landscape Historic Environment Audit and Action Plan undertaken by ArchaeoEnvironment Ltd.

Ryhope village and its environs is situated on the Durham Magnesian Limestone plateau, which is broadly characterised by:

- gently undulating low upland plateau of open, predominantly arable, farmland;
- incised denes cut into the coastal edge;
- widespread industrial development with large scale active and disused quarries and landfill sites alongside areas of derelict or recently restored colliery land; and
- varied coastal scenery of low cliffs, bays and headlands.

Field patterns are fairly regular in places but more often fragmented by amalgamation into large arable fields. The shallow calcareous soils of the steeper escarpment slopes have a more pastoral emphasis and contain areas of older, more diverse, Magnesian Limestone grassland. Tree cover is sparse and there is little woodland. Ancient semi-natural ash woodlands are found in the coastal denes and occasionally on escarpment spurs and valley sides together with areas of scrub.

Old agricultural villages are scattered thinly across the landscape. Buildings are of local limestone or carboniferous sandstone with roofs of slate or clay pan tile and are often set around a village green. Mining towns and villages are more widespread and increase in density towards the coast. Many were built on the site of older villages and some retain an older core. Most have a centre of 19th century terraced housing of brick or stone and slate surrounded by estates of post-war public housing.

Settlement edges are often abrupt or fringed by allotment gardens, pony paddocks or industrial estates. The landscape is locally dominated by industrial land use and its associated infrastructure including major roads, railways and transmission lines, particularly in the coastal (A19) and central (A1(M)) corridors.

The landscape has been heavily influenced by coal mining both in its settlement pattern and infrastructure, and parts of the plateau have also been affected by the quarrying of limestone (ArchaeoEnvironment Ltd, 2009).

The proposed development site is dominated by on-site infrastructure associated with Ryhope General Hospital, and by the current A1018/ Stockton Road which forms the eastern boundary. The southern part of the application site is ostensibly scrub, with several clusters of immature trees which appear to be managed but are not part of relict planting arrangement.

Early OS mapping shows the application site located within a landscape characterised by enclosed fields and dispersed farmsteads on the edge of the established settlement at Ryhope



(Figure 3). The principal routes within the landscape include the railway lines to the east and south-east and Burdon lane to the north. The proposed development site crosses several former field boundaries as well as an access lane leading to Field House. The site of Mill House is named to the north of the site along with several disused quarries to the south-west.

By the late 19th century the impact of the increase in industries such as coal mining, was evident. An increase in population resulted in an increase in housing on the edge of Ryhope village, as well as a significant increase of the number of buildings associated with the train station. The field pattern is more open and several boundaries are no longer present. The pumping station has been constructed, as has the lunatic asylum. The proposed development site passes through a predominantly arable landscape, crossing several field boundaries and the access lane that now leads to the hospital (Figure 4).

An extract from an OS map dated 1921 shows the increase in 'urban sprawl' with further housing present on the south-western fringe of Ryhope village, and an increase in the number of buildings associated with the hospital, including Asylum Farm which is located within the route corridor (Figure 5).

There is very little change in land use during the mid 20th century, other than several new buildings constructed within the grounds of the hospital (re-named Cherry Knowle) and the construction of rows of huts associated with the 'Hutsman' style Ryhope General Hospital to the north of the route. Asylum Farm is re-named Wellfield Farm, and additional buildings which include a laundry and incinerator and chimney are located at the southern perimeter of the application site (Figure 6).

There are few surviving features within the application site which could be associated with the remains of a relict archaeological landscape. Those features that do remain include:

- the course of Waterworks Road, which follows the alignment of the trackway which lead to Field House (Figure 3);
- Burdon Lane to the north which remains a well-used principal route through the landscape; and
- north-east/ south-west aligned tree-lined field boundary, located at the northern end of the route in area of proposed roundabout (Figure 3).

All other former field boundaries are no longer extant, or their alignment is now respected by roads within the grounds of the hospital.

5.1 Aerial Photography Assessment

Aerial photographs held by Sunderland City Council were examined in order to assess the potential for as yet unrecorded cultural heritage assets to be present within the application site and the surrounding area. Aerial photographs from the NMR have also been examined as part of this assessment.

Vertical photography taken between 1947 and 1992 has been assessed and compared with early OS mapping. Remnant ridge and furrow marks are visible on an aerial photograph dated 1992 (OS/92058). At least five furrows are visible, aligned NE-SW and located 200 m north of the application site between Ryhope General Hospital and Stockton Road. On the same aerial photograph there is a suggestion of a WNW-ESE linear anomaly in the area of the proposed attenuation pond, however this feature is not visible on earlier aerial views. Several potential features have been identified to the north of Burdon Lane, approximately 500 m north of the proposed development site (Plate 10).



Plate 10 is from an aerial photograph taken during 1972 and shows former field boundaries which appear on the first edition OS, but are no long extant (annotated red lines), alongside potential archaeological features comprising linear, rectilinear and sub-circular features (annotated black lines).

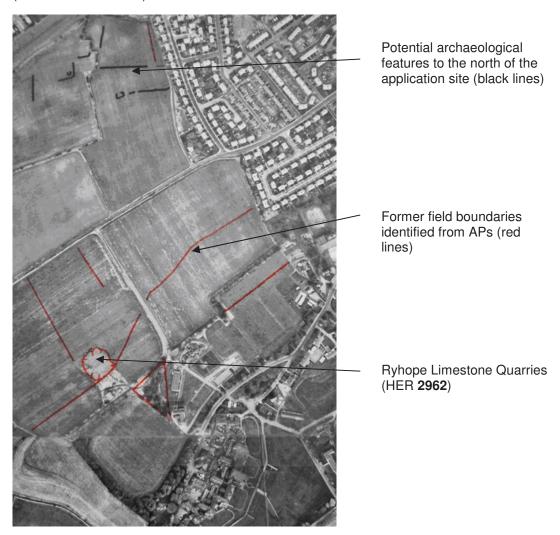


Plate 10: Aerial Photograph (© Sunderland City Council)

6 SITE VISIT

A site visit was undertaken in order to assess current ground conditions, landform and setting. A photographic record of the entire route was maintained. All Chainage (Ch.) locations referenced in the text are approximate.

6.1 Proposed Route Corridor

The walkover survey commenced at the south-eastern edge of the application site (Ch. 0), at the A1018 roundabout with Stockton Road (Plate 11). The site rises steeply from the roundabout before levelling out as the route nears the hospital incinerator site (Ch 150). At the highest point along the proposed route, there are clear long-range views towards Ryhope Dene to the south-east and beyond to the coast. Long range views towards Ryhope Village to the north-east are limited due to the proximity of modern housing estates and structures



associated with Ryhope General Hospital. Views to the north are dominated by hospital buildings, and the Pumping Station Engine House and Chimney are also visible, although the former structure is unlikely to be as visible during the spring and summer (Plate 12).

Ground level falls sharply into a gully at Ch 200 before rising to a small copse of scrub and immature trees (Ch 240) (Plate 13). A corridor of disturbed ground is evident between Ch 210 and Ch 300. Several services cross this area on north-south and east-west alignments and a trench dug feature, which may relate to either previous investigation or services, appears to follow the alignment of the proposed route corridor (Plates 14, 15 and 16). Surface debris includes fragments of ceramic land drains and brick.



Plate 11: View to the south-east taken from side of slope at Ch. 50. Views towards Ryhope Dene and the North Sea





Plate 12: View from highest point (approx Ch. 100) north to Ryhope Pumping Station Engine House and Chimney



Plate 13: View of route to the north-west showing highpoint in foreground, dropping away into a gully and rising again to a small copse of trees



Plate 14: View of proposed route to the north-west from Ch. 210 showing area of disturbed ground





Plate 15: View of route to the north-west showing area of trench disturbance and services at Ch. 230.





Plate 16: View of route to the north-west showing area of trench disturbance, relating to previous investigation and/ or services between Ch. 220 and 280

Between Ch. 300 and 400 is a well maintained grassed area which is relatively flat and shows no evidence of previous disturbance (Plate 17).





Plate 17: View of route to the north-west showing well maintained grassed area between Ch. 300 and 400, plus two buildings from demolition within footprint of proposed Phase 1 RDPLR.

Further along the route, to the north-west of Waterworks Road is a lesser road which is lined by an avenue of tall mature trees which are the late 19th century remnants of a formal planting scheme associated with the construction of the Sunderland Borough Lunatic Asylum (visible on the northern edge of the Asylum on Figure 4). Beyond this lies an arable field and the site level rises gradually to a tree lined field boundary, which is at Ch. 600 and the location of the proposed roundabout (Plate 18).

Part of the tree lined boundary alignment at Ch. 600 has been altered during the 20th century; however the section that falls within the footprint of the proposed route corridor follows the alignment shown on the first edition OS. There is no hedgerow or ditch associated with the boundary (Plate 19).





Plate 18: View to the north-west from Ch. 550 showing rise is topography and tree lined field boundary at Ch. 600



Plate 19: Tree lined field boundary at Ch. 600 – location of proposed roundabout

Along this section of the proposed route, the structures associated with Ryhope Pumping Station are clearly noticeable, and in particular the Grade II former workers cottages are clearly visible from current ground level (Plates 20 and 21).





Plate 20: View of Ryhope Pumping Station Chimney and former workers cottages, taken from approximate position of north-bound carriageway at Ch. 500



Plate 21: View of Ryhope Pumping Station Chimney and former workers cottages, taken from approximate position of south-bound carriageway at Ch. 550

6.2 Attenuation Pond

The area of proposed drainage is currently an area of rough pasture located adjacent to Stockton Road (Ref Figures 3-6). The area is bordered to the east and west by a hedgerow and to the south by dense vegetation comprising mature trees and hawthorn. The northern



edge has low earthworks associated with former field boundaries visible on first edition OS mapping, but is otherwise not enclosed. Ground level rises slightly to the north towards the hospital buildings, but is generally even. The southern perimeter of the hospital buildings is marked by a low (< 2 m) earth bund which is likely to have derived from ground levelling within the hospital grounds.



Plate 22: Proposed drainage area, view to the west

There is no evidence of recent ground disturbance within the application site. Slight variations in vegetation within the central part of the drainage site, for example areas of denser scrub and taller grass, could indicate a greater depth of anthropogenic deposits.



Plate 23: Informal pathways within proposed drainage area; variations in vegetation density are visible in background (centre to left). View to the west



7 CONCLUSIONS

It is concluded that the Phase 1 of the proposed RDPLR will have no adverse effect upon the setting and significance of designated assets within the 500 m study area or the wider area.

The Ryhope Pumping Station Scheduled Monument and listed buildings have a clearly defined spatial and visual relationship which defines their setting, and this will not be affected by the proposed development.

There will be no impact upon the setting of Ryhope Village Conservation Area due to the distances involved and the limited views out of the Conservation Area. Similarly there will be no impact to Silksworth Hall Conservation Area due to the enclosed nature of its setting created by the dense vegetation and mature trees at its borders.

There is potential for archaeological remains to be present within areas of the proposed development site unaffected by previous development, intensive landscaping or disturbed by service trenches. The areas of archaeological potential include the area north-west of Waterworks Road and the area of the proposed attenuation pond.

Archaeological remains which may be present within the proposed link road are likely to relate to post-medieval agricultural activities, including former field boundaries and associated enclosures. The area of the attenuation pond also has the potential to contain post-medieval remains associated with former field boundaries, and given the application site's proximity to Ryhope and Cherry Knowle Dene there is also a potential for prehistoric features and artefacts to be present.

8 RECOMMENDATIONS

It is recommended that a programme of geophysical survey is undertaken across those parts of the application site unaffected by modern disturbance; specifically the areas for survey should target:

- the proposed attenuation pond;
- proposed route between Ch. 300 to 400; and
- proposed route between Ch. 450 to 600.

All work will be undertaken in accordance with a Specification approved by the Archaeology Officer for Tyne and Wear.



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Maps

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Figures

Plot Date:

