The Network Rail (Buxton Sidings Extension) Order – Environmental Statement

TRANSPORT AND WORKS ACT 1992

TRANSPORT AND WORKS (APPLICATIONS AND OBJECTIONS PROCEDURE) (ENGLAND AND WALES) RULES 2006

THE NETWORK RAIL (BUXTON SIDINGS EXTENSION) ORDER

ENVIRONMENTAL STATEMENT – VOLUME II
Technical Appendix G: Historic Environment

The Network Rail (Buxton Sidings Extension) Order

Environmental Statement

Volume II: Technical Appendices

September 2016

Network Rail

ISSUE AND REVISION RECORD

REVISION	DATE	ORIGINATOR	CHECKER	APPROVER	DESCRIPTION
00	14/04/16	Owen Raybould	Laurence Hayes	Laurence Hayes	First draft for client review
01	17/05/16	Owen Raybould	Laurence Hayes	Laurence Hayes	Second draft for legal review
02	25/07/16	Owen Raybould	Laurence Hayes	Laurence Hayes	Final draft for review
03	02/08/2016	Owen Raybould	Laurence Hayes	Laurence Hayes	Final

TABLE OF CONTENTS

Annexes

ABBREVIATION LIST

Status	**Monument type**
CA	Conservation Area
BAT	Battlefield Site

Period	
BA	Bronze Age (c. 2,000 – 600 BC)
e. MED	Early Medieval (411 AD –1123 AD)
IA	Iron Age (c. 600 BC – 43 AD)
MESO	Mesolithic (10,000 – 4,000 BC)
MED	Medieval (1124 AD –1500 AD)
MOD	Modern (1901 AD – Present)
NEO	Neolithic (c. 3,500 – c. 2,000 BC)
PALAEO	Palaeolithic (500,000 – 10,000BC)
PMed	Post-medieval (1501 AD – 1900 AD)
PREH	Prehistoric (500,000 BC – 43 AD)
RB	Romano British (43 AD – 410 AD)

Abbreviation	**Definition**
AOD	Above Ordnance Datum (above sea-level)
AP	Aerial Photograph
BGS	British Geological Survey
CIfA	Chartered Institute for Archaeologists
DCC	Derbyshire County Council
DBA	Desk-based Assessment
DMV	Deserted Medieval Village
EH/HE	English Heritage/Historic England
Eval.	Evaluation Trial Trenching
Geophys.	Geophysical Survey
HER	Historic Environment Record
HLC	Historic Landscape Character(isation)
LiDAR	Light Detection and Ranging
NHLE	National Heritage List for England
NMR	National Monuments Record
NPPF	National Planning Policy Framework
OS	Ordnance Survey
R&F	Ridge and Furrow (earthwork cultivation)
RO	Registered Organisation (with CIfA)
SMS	‘Strip, Map and Sample’
SMV	Shrunken Medieval Village
TBC	To be confirmed
WB	Watching Brief
WSI	Written Scheme of Investigation (method statement)

GLOSSARY

Term	Definition
Historic Environment	"All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora." (NPPF, 2012)
Heritage asset	Elements of the historic environment - including buildings, parks and gardens, standing, buried and submerged remains, areas, sites and landscapes, whether designated or not.
Historic Environment Desk Based Assessment	"A programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate." (the CIfA Code of Conduct, 2014)
Physical impact	Damage to the fabric of a heritage asset, which typically could occur during construction phases. These impacts may be major, for example, where groundworks completely destroy important archaeological remains, to a neutral change to part of a heritage asset, leading to a negligible impact on ability to interpret it, or its context.

1 INTRODUCTION

1.1 The Buxton Sidings Scheme

1.1.1 This historic environment Technical Appendix has been prepared by RSK on behalf of Network Rail as part of the Environmental Statement (ES) for the application for the Network Rail (Buxton Sidings Extension) Order ("the Order"). This Technical Appendix and the ES has been prepared in accordance with the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006. The ES communicates the findings of an Environmental Impact Assessment (EIA) that has been prepared for the proposed Buxton Sidings Extension Scheme ("the proposed Scheme").

1.1.2 The proposed Scheme forms part of the Peak Forest to London Freight Programme ("the Programme") which is one element of the national Strategic Freight Network Programme. The Programme is seeking to increase freight capacity between the Peak Forest and Hope Valley terminals and London via Dore Junction and the Midland Mainline. Once completed, the proposed Scheme will facilitate an increase in the capacity of freight trains using the Peak Forest line from 1,750 tonnes to 2,600 tonnes.

1.1.3 This document sets out the historic environment technical assessment for the proposed Scheme. This assessment addresses the potential for a change in the value of the existing historic environment arising from the proposed Scheme. This Technical Appendix is in support of the Main Statement (see Volume I of this ES). Figures relevant to this Technical Appendix and Annex are presented in Volume III of this ES (ES Figures).

1.1.4 A detailed historic environment baseline 'desk-based assessment' (DBA) and site visit report, accompanies this Technical Appendix as Annex A. Relevant results of the DBA are summarised throughout this Technical Appendix.

1.1.5 Construction of the proposed Scheme is expected to commence between spring 2017 and spring 2018, with the extended sidings becoming operational in spring 2019.

1.1.6 It should be noted that within this Technical Appendix, the Site refers to everything within the red line boundary of the proposed Scheme as depicted in Figure 1.2 (Volume III of the ES).

1.2 Introduction to the Historic Environment

1.2.1 This Technical Appendix assesses likely significant physical effects on known and potential heritage assets from the construction phase of the proposed Scheme as proposed through EIA.

1.2.2 Effects from the operational phase of the proposed Scheme have been scoped out as detailed within the Scoping Report (see Annex B of Volume I of the ES). There

is not considered to be any potential for significant effects from the operational phase of the proposed Scheme due to the existing setting (an operational railway line and sidings) and the distance between the Site and designated heritage features.

1.3 Legislation, Policy and Guidance

1.3.1 National and local historic environment legislation, policies and guidance relevant to the proposed Scheme are summarised below:

Legislation

1.3.2 Table 1.1 summarises the statutory legislation relating to the historic environment and relevant to this Technical Appendix.

Table 1.1: Historic environment: statutory legislation

Legislation	Key Issues
Ancient Monuments and Archaeological Areas Act (1979)	It is a criminal offence to carry out any works on or near to a Scheduled Monument without Scheduled Monument Consent.
Planning (Listed Buildings and Conservation Areas) Act (1990)	No works can be carried out in relation to a listed building without listed building consent. Designation of an area as a 'conservation area' introduces general controls over demolition and development within that area.
Treasure Act (1996)	The 1996 Act defines 'Treasure' as any object that is at least 10% gold or silver, associated coins or groups of coins which are over 300 years old, objects formerly classed as 'treasure trove' (i.e. deliberately deposited items with a high content of gold or silver) and any objects found in association with the above. Any find of 'Treasure' must be reported to the local Coroner.
Burial Act (1857)	Under Section 25 of the 1857 Act, it is generally a criminal offence to remove human remains from any place of burial without an appropriate licence issued by the Ministry of Justice (MoJ), although recent legislative changes indicate that some cases are exempt from this requirement.
Hedgerow Regulations (1997)	A local authority can prohibit the removal of an 'important' hedgerow. Hedgerows can be considered important on grounds of historical or archaeological value or association.

Policy

National planning policy

1.3.3 The National Planning Policy Framework (NPPF) (March 2012) outlines government policy on the treatment of the historic environment within the local planning process, as follows:

> *"Local planning authorities should require an applicant to describe the significance of any heritage assets affected ... Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation" [paragraph 128].*
>
> *"[Local planning authorities] should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible" [paragraph 141].*

Local planning policy

1.3.4 The adopted High Peak Local Plan (April 2016) provides strategic planning guidance on the historic environment. Policy EQ 7 (*Built and Historic Environment*) states:

> *"…. The Council will conserve heritage assets in a manner appropriate to their significance. This will take into account the desirability of sustaining and enhancing their significance and will ensure that development proposals contribute positively to the character of the built and historic environment in accordance with sub area strategies S5, S6 and S7. Particular protection will be given to designated and non-designated heritage assets and their settings, including…….Conservation Areas, Archaeological Sites or heritage features, and locally listed heritage assets…."*

1.3.5 Policy EQ 7 goes on to confirm that the above objectives will be achieved by:

> "…..*Requiring all works that could impact on a heritage asset or its setting or sites with the potential to include assets, to be informed by a high level of historical, architectural and archaeological evidence proportionate to their significance and sufficient to understand the potential impact of a proposal. Where appropriate, the Council may also require historical research and archaeological recording to be undertaken before works to a heritage asset commence*……"

Guidance

1.3.6 This Technical Appendix has been compiled with reference to the Chartered Institute for Archaeologists' ('CIfA') *Code of Conduct* (2014) and *Standard and Guidance for Historic Environment Desk-based Assessment* (2014). Guidance outlined in Historic England's (HE), *Conservation Principles* (2008) and *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets* (2015) has also been followed through composition of the Scoping Report, DBA (Annex A), and ES.

2 APPROACH AND METHODOLOGY

2.1 Introduction

2.1.1 The following section sets out the approach and methodologies used to undertake the EIA for known and potential heritage assets from the proposed Scheme.

2.2 Scope of the Assessment

Technical scope

Construction phase

2.2.1 The assessment includes consideration of designated heritage assets and non-designated heritage assets. During the construction phase of the proposed Scheme direct impacts could occur to identified or previously unknown heritage assets.

Operational phase

2.2.2 Once the proposed Scheme is operational there will be no potential for further direct impacts on heritage assets. Any repairs or maintenance works will occur above ground or within areas where the ground had already been disturbed, investigated and mitigated during construction. Consequently, no effects on heritage assets are anticipated during the operational phase.

2.2.3 No visual impacts are anticipated during the operational phase therefore consideration of operational phase visual impacts has been scoped out of this assessment.

Spatial scope

Construction phase

2.2.4 Physical impacts to heritage assets could potentially occur within the Site for the proposed Scheme.

2.2.5 Known heritage assets are therefore identified for the Site, and also for a 500m buffer (the 'Study Area') (see Figure G1.1 in Volume III of this ES); this data is used to make an assessment of trends and the likely potential for currently unknown heritage assets within the Site boundary. The Site was divided into Areas A – D which are referenced throughout this Technical Appendix, and shown on Figure G1.1 in Volume III of this ES.

Temporal scope

Construction phase

2.2.6 The assessment of physical effects to the historic environment concentrates on impacts which may occur during the construction phase i.e. estimated to commence between spring 2017 and spring 2018, and be completed by spring 2019; and any agreed mitigation will be carried out at pre-construction/during construction phases.

2.3 Methodology

Objectives

2.3.1 The specific objectives of the historic environment DBA (Annex A) and the EIA (this Technical Appendix) are to:

- Establish, from documentary sources, the known heritage assets within the Site and immediate surroundings;
- Make an assessment of the potential for hitherto unknown heritage assets within the Site ;
- Provide an assessment of the importance of potentially impacted heritage assets; and
- Assess the likely impact of the proposed Scheme on the historic environment.

2.3.2 Accordingly, the results of the impact assessment are used as the basis for recommendations regarding the need for, and scope of, any mitigation where necessary, prior to and/or during construction.

Consultation

2.3.3 Derbyshire County Council (DCC) was consulted at the outset with regards to the scope of the EIA and throughout the baseline data collection and impact assessment during the preparation of this Technical Appendix.

2.3.4 No specific comments in relation to the historic environment assessment methodology for the proposed Scheme were included in the scoping opinion received (Secretary of State for Transport, 14/12/15). A copy of this is provided as Annex B in Volume I of the ES.

2.3.5 The DCC Archaeologist (archaeological advisor to High Peak Borough Council) confirmed through subsequent consultation (by email 04/02/2016) that the data sources consulted, study areas and methodology of the historic environment assessment (including the scoping out the assessment of visual impacts) was acceptable.

2.3.6 The DCC Archaeologist was also approached upon completion of the first draft of the ES Technical Appendix and recommendations for further field assessments and the methodology as defined in Annex C are in accordance with comments received (by email 08/02/2016 and 14/04/2016).

Desk Study

2.3.7 A Gazetteer of heritage assets (Annex B) has been compiled using information from the data sources listed below. All heritage assets within the Gazetteer have been allocated a unique reference number, e.g. RSK 1, and are presented on ES Figure G1.1 in Volume III of this ES.

2.3.8 Information and views have been sought from statutory and non-statutory bodies, including:

- The National Heritage List for England (NHLE);
- The regional Historic Environment Records (HER) maintained by DCC for designated and non-designated heritage assets, historic landscape characterisation (HLC) data, and information on locally-listed parks and gardens and conservation areas;
- Derbyshire Record Office in Matlock for mapping and secondary sources;
- Historic Ordnance Survey map coverage;
- British Geological Survey for information on the underlying geological deposits; and
- Digital terrain model derived from Light Detection and Ranging (LiDAR) data (Digital Surface Model (DSM) & Digital Terrain Model (DTM) derived from Environment Agency LiDAR data taken between 1998-2014).

Site Visit

2.3.9 The Site visit was conducted on 13th November 2015. Access was gained to all areas of the proposed Scheme. The aim was to identify and make records of any above-ground heritage assets.

2.3.10 Heritage assets known through desk-based sources were visited and the sites were inspected for any hitherto unknown heritage assets.

2.3.11 The Site was divided into Areas A – D which are referenced throughout this Technical Appendix, and shown on ES Volume III Figure G1.1.

2.4 Assessment Criteria

Evaluation of effects

Value of receptor

2.4.1 The relative importance of each heritage asset within the Site boundary has been determined to provide a framework for comparison. The categories of importance do not reflect a definitive level of significance or value of a heritage asset, but a provisional one based on an asset's sensitivity. Consideration of the asset's combined values permits the assignment of a measure of importance to a given resource and provides an analytical tool that can inform later stages of archaeological assessment and thereafter the development of appropriate mitigation.

2.4.2 The grading of importance of heritage assets is based on the criteria listed in Table 2.1, and is applied in Annex B.

Table 2.1: Criteria for determining heritage asset importance (sensitivity of receptor)

Importance	Definition
High	Assets and structures of acknowledged international / national importance. Examples include World Heritage Sites, Registered Parks and Gardens, Scheduled Monuments, Listed Buildings, Conservation Areas and buildings of recognised international importance.
Medium	Assets and structures of acknowledged regional importance. Examples include historic townscapes, and undesignated assets of value within the county HER.
Low	Assets and structures of acknowledged local importance. Examples include historic (unlisted) buildings, assets of limited value registered in the county HER, and assets compromised by poor preservation.
Negligible	Assets and structures known to be of low archaeological or historical importance. Examples include remains previously subject to large-scale destruction, assets with very little or no surviving archaeological or historic interest and assets which hold little intrinsic archaeological value.

Magnitude of impact

2.4.3 The magnitude of an impact reflects the scale of change which will be caused by the proposed Scheme.

2.4.4 The assessment method recognises that impact magnitude may occur on a sliding scale (Table 2.2); large impacts, for example, where groundworks completely destroy archaeological remains, to a small change to part of a heritage asset.

2.4.5 The magnitude of impact has been identified by examining the proposed Site in relation to the position and extent of known heritage assets.

Table 2.2: Criteria grading for determining magnitude of impact

Level of Magnitude	Definition of Magnitude
Major	Total loss or substantial harm to key elements/features/characteristics of the baseline (pre-development) conditions / the contribution that setting makes to significance is lost such that post development character/ composition/ attributes of baseline will be fundamentally changed / no longer discernible.
Moderate	Partial loss or harm to one or more key elements/features/characteristics of the baseline (pre-development) conditions / contribution that setting makes to significance is reduced such that post development character/ composition/ attributes of baseline will be partially changed / less discernible.
Minor	Minor loss. Degradation arising from the loss/alteration to fabric or setting will be discernible but underlying character/composition/attributes of the baseline condition will be similar to pre-development circumstances/patterns, without affecting interpretation of significance of the asset or the contribution of its setting.
Neutral	No loss or alteration. Change does not affect fabric of asset, contribution setting makes to significance of asset, or extent to which significance can be experienced.

Significance of effect

2.4.6 The significance of effect is calculated through comparison of the importance of each heritage asset against the magnitude of change upon it, according to Table 2.3.

Table 2.3: Matrix system for assessment of effect

		Sensitivity of Receptor			
		Negligible	**Low**	**Medium**	**High**
Magnitude of Impact	**None**	None	None	None	None
	Negligible	None	None	Negligible	Minor
	Minor	None	Negligible	Minor	**Moderate**
	Moderate	Negligible	Minor	**Moderate**	**Major**
	Major	Negligible	Minor	**Moderate**	**Major**

2.4.7 According to this assessment:

- Major and Moderate effects are considered significant, equating to 'substantial harm' in terms of the NPPF [paragraph 133]; and
- Minor and Negligible effects equate to 'less than substantial harm' in terms of the NPPF [paragraph 134].

2.4.8 Where the sensitivity of receptor or magnitude of impact is unknown at the EIA stage, the assessment of effect is recorded as "uncertain".

2.4.9 Identified 'substantial harm' effects are typically mitigated by avoidance through proposed Scheme redesign at assessment stage. Identified 'less than substantial harm' effects are typically mitigated through preservation by record (archaeological excavation and recording), where warranted and achievable.

2.5 Assumptions and Limitations

2.5.1 Despite the limitations of non-intrusive assessments employed in the EIA listed below, professional judgement of archaeological potential has enabled the approval of appropriate further assessment to facilitate full assessment of impacts, and subsequent recommendations for mitigation of effects.

Site visit

2.5.2 Site visits are restricted to surface (i.e. non-intrusive) visual inspection, and can therefore only identify evidence of buried archaeological remains with an above-ground signature. Similarly archaeological remains may be obscured by current land use. Other buried remains may exist.

Data sources

2.5.3 The heritage data from the HER is accumulated from various sources. There are limitations to the dataset:

- The dataset can be limited because datasets represent an uneven coverage of archaeological work, since they are accumulations of information derived from diverse sources which have not been the subject of a coherent survey or research programme;

- Geographic areas with few known archaeological sites may be areas which have not been studied in the past and do not necessarily reflect an area without archaeological remains;

- There can often be a lack of dating evidence for sites;

- Documentary sources are rare before the medieval period, and many historic documents are inherently biased towards certain types of sites; and

- Primary sources, especially older records, often fail to accurately locate sites and can be subjective in any interpretation.

3 BASELINE

3.1 Introduction

3.1.1 The following section sets out the baseline conditions for the Site in relation to the historic environment.

3.1.2 There are 39 known heritage assets, and records for a further six previous archaeological events within the Study Area. Details of heritage assets are listed in the Gazetteer (Annex B), and their locations depicted on Figure G1.1 in Volume III of the ES.

3.1.3 A review of geological, topographical, archaeological and historical background data, HLC data, and previous archaeological work is presented in the historic environment DBA (Annex A); the historic map regression assessment, site visit, and assessment of archaeological potential should be consulted for the full results of the baseline review alongside the Gazetteer (Annex B).

3.2 Existing Baseline Conditions

Designated heritage assets

3.2.1 There are no Scheduled Monuments, Registered Parks and Gardens, or Historic Battlefields within the Study Area.

3.2.2 There are four conservation areas within the Study Area (RSK 1 - 4):

- RSK 1 *Buxton The Park Conservation Area* lies 460m south of the Site boundary;
- RSK 2 The *north west corner of the Fairfield Conservation Area* lies partially within the Site boundary, extending across the proposed temporary access track from the A6 (Area D);
- RSK 3 *Buxton Hardwick Conservation Area* lies 240m south of the Site boundary; and
- RSK 4 *Buxton Central Conservation Area* lies 390m south west of the Site boundary.

3.2.3 There are 14 listed buildings, all grade II, within the Study Area. The nearest listed building, the Church of St Peter (RSK 13), is located 230m east of the Site boundary.

Non-designated heritage assets

3.2.4 There are 14 non-designated heritage assets identified on the regional HER within the Study Area (RSK 19 – 32), one of which (Roman road RSK 24) crosses the proposed temporary access track from the A6 (i.e. within the Site boundary).

3.2.5 The historic map regression exercise, LIDAR assessment, and the site visit carried out during compilation of the DBA (Annex A) for this assessment has added another seven non-designated heritage assets (RSK 33-39) to the gazetteer (Annex B), all of which are located within the Site boundary.

3.2.6 A total of eight non-designated assets are therefore located within the Site boundary. All of these date to either Roman period or the late 19th/20th centuries, listed as follows:

- (RSK 24) Buxton and Melandra Roman Road (possible); see also (RSK 42) watching brief, mineral water pipeline from Buxton Crescent to Waterswallows, by Wessex Archaeology in 2011/2012.
- (RSK 33) Pumping station shown on 1879 OS mapping;
- (RSK 34) Turntable shown on 1898 OS mapping;
- (RSK 35) Engine Shed shown on 1898 OS mapping;
- (RSK 36) Bridge over the Nun Brook in Area D (pre-1841 date);
- (RSK 37) Revetment of tributary of the Nun Brook in Area D (uncertain date);
- (RSK 38) Gateposts in dry stone wall alongside railway (1867); and
- (RSK 39) Earthwork feature identified in LIDAR data.

3.2.7 Dry-stone walls, relating to a pre-1841 field system (of limited heritage value, not assigned RSK ID) have been identified in Areas A and D.

Archaeological potential

3.2.8 There are no known prehistoric-period sites recorded on the Derbyshire HER, nor identified through desk-based assessment/site visit within the Study Area. There is a low overall potential for previously unknown heritage assets of these periods to be preserved within the Site boundary.

3.2.9 The proposed temporary access track from the A6 (Area D) crosses the line of a possible Roman road (RSK 24). There is a therefore a moderate potential for Roman period archaeological remains to be preserved within the Site boundary.

3.2.10 Although there was likely an Early-Medieval/Medieval period presence in the wider area, there are no known sites of these periods recorded on the Derbyshire HER,

nor identified through desk-based assessment/site visit within the Study Area. The Site was likely marsh grazing/farm land during these periods and there is therefore a low overall potential for previously unknown heritage assets to be preserved within the Site boundary.

3.2.11 In Area A, heritage assets dating from the Post-Medieval period include stone walls dating from at least 1841, a stone wall with gateposts (RSK 38) dating from 1867, a pumping station dating from 1879, a bridge over the Nun Brook (RSK 36) and dry-stone revetment of a tributary to the Nun Brook (RSK 37), all of which are located within the Site boundary. Given the extent of these known assets, as well as the extensive industrial workings (lime/lead etc) in the area shown on historical mapping, there is a moderate potential for hitherto unknown industrial/agricultural workings of low importance and of Post-Medieval date to be present within the Site boundary.

3.2.12 Area C has limited archaeological potential prior to the 19th century due to the construction of the railway sidings; the foundations are likely to have truncated any previous archaeological remains. The assessment has demonstrated that material remains of railway sidings c.1898-1973 including an engine shed (RSK 35) and potentially a turntable (RSK 34), are preserved on the Site.

3.2.13 Area B has no archaeological potential due to its use as a tip in the 20th century which would have destroyed any primary archaeological deposits.

3.2.14 There are also possible defunct former field boundaries of unknown date identified within the Site boundary (RSK 39) for which intrusive evaluation is proposed (Annex C).

4 MITIGATION AND ASSESSMENT OF EFFECTS

4.1 Introduction

4.1.1 This section presents the assessment of impacts and effects predicted to occur as a result of the implementation of the proposed Scheme following the incorporation of mitigation.

4.1.2 An overview of the activities likely to be undertaken which may result in an impact on historic environment receptors and resources is provided in this section, followed by details of any mitigation measures considered necessary to address any predicted effects. Mitigation will be implemented through either design iteration or additional measures to be undertaken during the construction works. These measures are considered as incorporated mitigation as they form an integral part of the proposed Scheme and are considered as a commitment by Network Rail. A summary of all mitigation measures is also provided in a mitigation register, which is presented in Annex E of the Main Statement (Volume I).

4.1.3 The subsequent assessment of effects assumes full and appropriate implementation of the identified mitigation measures, and thereby any effects identified as part of the assessment are classed as residual.

4.2 Works with Potential to Affect the Historic Environment

4.2.1 Any works capable of physical impact to any buried or upstanding archaeological and cultural heritage resources will occur during the construction phase of the proposed Scheme. The text provided below should be read in the context of Figure G1.1 in Volume III of the ES.

Area A

- Earthworks include the excavation below the line of the proposed sidings extension and the provision of a 40m long, 20m wide cutting;
- To support the construction phase a main compound will be created. (It has been identified that a low pressure gas main runs through part of the proposed main compound area);
- An 8m wide haul road will be constructed between the main compound and Area B; and
- Track drainage will be installed throughout the Site.

Area B

4.2.2 Works within the area of the former Hogshaw refuse tip (“the former tip”) are not relevant to the historic environment mitigation as previous disturbance has negated any archaeological potential.

Area C

- Minor works to the existing sidings will be required to tie the existing and new sections of track together. This will involve realignment works, the removal of the existing buffers, the installation of new track, sleepers and ballast;
- A new pedestrian footbridge will be constructed over the proposed new section of track;
- An 11 kilovolt (kV) mains electricity cable will require a diversion under the sidings;
- Track drainage will be installed throughout the Site; and
- A satellite compound and material storage area will be constructed.

Area D (temporary access track from A6)

- It is proposed to widen the existing track to 6m between the A6 and the Roman road using tarmac. This will require some excavation and the removal of the grass verges on either side of the existing track;
- In response to the steep gradient close to the junction with the A6, the existing access track will be re-profiled for the first 10-15 metres of its length to assist HGVs turning onto the A6;
- Due to the presence of dry stone walls and existing mature vegetation it is not feasible to widen a short section of the existing access track between the Roman road and the agricultural field to the west. Therefore, any works to this section of the existing access track will be restricted to resurfacing;
- Access over Nun Brook is currently provided by a small stone arched bridge which is in a state of disrepair. This will be retained and used to maintain access for pedestrians during the construction phase. A new temporary bridge structure will be constructed to the north of this existing crossing to accommodate construction vehicles;
- It is proposed that a 3.5m wide, tarmac surfaced temporary access track is constructed from the new temporary bridge, within the agricultural field, on the alignment of the existing informal track. This will include passing places where the width of the existing access track will increase to 6m.

Construction phase

4.2.3 Groundworks proposed during the construction phase comprise both temporary and permanent works. Those that may affect any buried or upstanding archaeological and cultural heritage resources are identified and assessed in this section.

Table 4.1: Impact assessment

RSK ID	Heritage Asset	Importance	Archaeological Potential / Likely Impact	Impact Magnitude	Effect Significance
RSK 2	Fairfield Conservation Area	High	Widening and reprofiling of existing access track may expose hitherto unknown archaeological remains (Roman roadside settlement)	Uncertain	Uncertain
RSK 24 (see also RSK 42, 43 & 44)	Buxton and Melandra Roman Road (possible)	Medium	Widening and reprofiling of existing access track	Negligible	Negligible
RSK 33	Pumping station shown on 1879 OS mapping	Low	Construction compound Avoidance recommended due to presence of existing gas main No impact anticipated	None	None
RSK 34	Turntable shown on 1898 OS mapping	Low	Possible drainage excavations	Minor	Negligible
RSK 35	Engine Shed shown on 1898 OS mapping	Low	Possible drainage excavations / excavations for new electricity cable and/or new footbridge	Minor	Negligible
RSK 36	Bridge over Nun Brook in Area D (pre-1841 date)	Low	Bridge to be retained. No impact	None	None

RSK ID	Heritage Asset	Importance	Archaeological Potential / Likely Impact	Impact Magnitude	Effect Significance
RSK 37	Revetment of tributary of the Nun Brook in Area D (uncertain date)	Negligible	Possible impact from reinforcement of access track in Area A	Major	Negligible
RSK 38	Gateposts in dry stone wall alongside railway (1867)	Negligible	No impact anticipated	None	None
RSK 39	Earthwork feature identified in LIDAR data	Uncertain	Direct impact from cutting and associated works for new sidings in Area A	Major	Uncertain

4.3 Incorporated Mitigation

4.3.1 As a result of the potential impacts associated with the proposed Scheme as identified above, the mitigation measures outlined below have been incorporated into the proposed Scheme design in order to reduce or remove any potentially significant effects associated with the historic environment.

4.3.2 An assessment of any effects remaining following implementation of the mitigation measures is presented in section 4.4 below.

4.3.3 Strategies for archaeological mitigation with regards to physical impact typically consider two options, these are:

- Preservation in situ: the preservation without disturbance of sensitive archaeological remains, this can be achieved through changes to the proposed Scheme layout or measures designed to prevent accidental damage; and

- Preservation by record (excavation): where preservation in situ is not feasible or desirable an alternative mitigation is pre-construction archaeological excavation. This consists of a detailed programme of archaeological fieldwork to preserve, by record, the archaeological value of the heritage asset.

4.3.4 Pre-construction and/or construction-phase field assessments required to define the significance of potential heritage assets, as well as any subsequent mitigation, will be carried in response to a planning condition to the application for deemed planning permission for the proposed Scheme.

Design-phase mitigation

4.3.5 In addition to dry-stone field boundaries, which will be preserved as part of the proposed Scheme, three known heritage assets within Site boundary do not require alteration as part of the proposed Scheme and are therefore 'preserved in situ':

- (RSK 33) Pumping station shown on 1879 OS mapping;
- (RSK 36) Bridge over Nun Brook; and
- (RSK 38) Gateposts in dry stone wall alongside railway (1867).

Pre-construction phase mitigation

4.3.6 The significance of RSK 39 is to be confirmed through pre-construction trial trenching, the methodology for which is defined in a written scheme of investigation included at Annex C, following consultation with the DCC County Archaeologist (see Part 2.3.4).

4.3.7 Depending on the results of this field assessment, a further stage of pre-construction mitigation may be required and would be defined through further consultation with the County Archaeologist.

Construction phase mitigation

4.3.8 All the known/potential heritage assets that the assessment has identified that will be physically impacted as part of the proposed Scheme are of negligible heritage significance and preservation by record by archaeological watching brief during construction is recommended. As identified in paragraph 4.3.4, any future field assessments will be managed through a planning condition to the application for deemed planning permission for the proposed Scheme.

4.4 Predicted Residual Effects

4.4.1 The following sections provide details of the residual effects predicted to occur as a result of the proposed Scheme, following implementation of the mitigation measures outlined above.

Construction phase

4.4.2 Of nine identified heritage assets within the Site boundary, direct physical impacts are anticipated to affect four known heritage assets, and there may also be impacts

to potential hitherto unknown archaeological remains within RSK 2 & 39 (summarised as follows).

4.4.3 Archaeological watching brief is recommended over the following specific works activities in order to 'preserve by record' any exposed archaeological remains of known heritage assets (RSK 24, 34 & 35) or hitherto unknown heritage assets (possible Roman roadside settlement, within RSK 2):

- Excavations in Area C (Foundation groundworks for the construction of the new footbridge; trenching excavations for the installation of the new electricity cable beneath sidings; any utilities/drainage excavations;
- Excavations for track re-profiling at the junction with the A6 (Area D); and
- Excavations for track widening/verge removal between the A6 and the Roman road (RSK 24) (Area D)

4.4.4 In addition, an archaeological watching brief would be maintained over any ground preparatory works (i.e. topsoil stripping or drainage) required for construction of the haul road between the construction compound and Area B, should the results of the trial trenching at RSK 39 be positive (Area A).

4.4.5 The identified effect to RSK 37, revetment of tributary of the Nun Brook in Area D, is not of sufficient significance to warrant mitigation. This report represents proportionate and sufficient record of the heritage asset.

4.4.6 Following the implementation of an agreed programme of mitigation through either preservation in situ or preservation by record there will be a negligible residual effect to the heritage significance of the identified baseline as a result of the proposed Scheme.

4.4.7 There will, therefore, be no residual effects that equate to 'substantial harm' in terms of the NPPF.

Table 4.2: Assessment of residual effects

Phase	Receptor	Summary of impact	Summary of mitigation	Summary of residual effect	Nature of residual effect				Significance
					Magnitude of effect	Adverse / beneficial	Direct / Indirect	Permanent / Temporary	
Construction	RSKs 2 & 24: Fairfield Conservation Area Roman road (possible)	Widening and reprofiling of existing access track	Archaeological watching brief Preservation by record	Negligible	Neutral	Adverse	Direct	Permanent	Not significant
	RSK 34: Turntable shown on 1898 OS mapping	Possible drainage excavations	Archaeological watching brief Preservation by record	Negligible	Neutral	Adverse	Direct	Permanent	Not significant
	RSK 35: Engine Shed shown on 1898 OS mapping	Possible drainage excavations/excavations for new electricity cable and/or new footbridge	Archaeological watching brief Preservation by record	Negligible	Neutral	Adverse	Direct	Permanent	Not significant
	RSK 37: Revetment of tributary of the Nun Brook in Area D (uncertain date)	Possible impact from reinforcement of access track in Area A	No mitigation proposed	Negligible	Neutral	Adverse	Direct	Permanent	Not significant

Phase	Receptor	Summary of impact	Summary of mitigation	Summary of residual effect	Nature of residual effect				Significance
					Magnitude of effect	Adverse / beneficial	Direct / Indirect	Permanent / Temporary	
	RSK 39: Earthwork feature identified in LIDAR data	40m long, 20m wide cutting below proposed siding	TBC following pre-construction trial trenching	TBC	TBC	TBC	TBC	TBC	TBC

5 CONCLUSIONS

5.1 Summary of Assessment

5.1.1 Baseline data has been gathered from sources including national and regional registers, review of previous archaeological surveys, historic map regression assessment, and a site visit which identified hitherto unrecorded heritage assets within the Site boundary.

5.1.2 Of a total of 39 heritage assets that were recorded within the Study Area, one conservation area and eight non-designated assets are located within the Site boundary.

5.1.3 Of the nine heritage assets within the Site boundary direct physical impacts from the proposed Scheme are anticipated to four known assets and two further potential assets. All effects are of negligible or minor significance (where not 'uncertain', pending recommended further assessment).

5.1.4 There is a recognised potential for Roman period remains to exist between the A6 and the entrance to Brook House Farm.

5.1.5 An archaeological watching brief is recommended on specific construction activities in order to mitigate the identified/potential physical effects of the proposed Scheme.

5.1.6 The scope of intrusive works proposed in order to determine the significance of RSK 39 is defined in an archaeological written scheme of investigation, drafted in consultation with the DCC County Archaeologist, included as Annex C.

5.1.7 Any further field assessments required to define the significance of potential heritage assets, and also any subsequent mitigation, would be carried out in accordance with a planning condition of the application for deemed planning permission for the proposed Scheme.

5.2 Significant Residual Effects

Construction phase

5.2.1 Negligible adverse residual physical effects to the historic environment have been identified as a result of the proposed Scheme of which, based on current knowledge, none are significant.

5.2.2 There will, therefore, be no residual effects that equate to 'substantial harm' in terms of the NPPF.

6 REFERENCES

Chartered Institute for Archaeologists 2014, Code of Conduct

Chartered Institute for Archaeologists 2014, Standard and Guidance for Historic Environment Desk-Based Assessment

Derbyshire County Council. Part One: Landscape Character Descriptions. White Peak.

Mills AD 2003, Dictionary of Place Names. Oxford University Press

Pevsner, N. 1953. The Buildings of England. Derbyshire. Penguin Books: London.

Williams A & Martin GH, 2002, Domesday Book: A complete Translation. Alecto Historical Editions, Penguin Books, London

Annex A: Historic Environment Baseline Report

Annex B: Historic Environment Gazetteer

Annex C: Archaeological Written Scheme of Investigation