



# MetroWest+

## Portishead Branch Line (MetroWest Phase 1)

TR040011

**Applicant: North Somerset District Council**  
**6.11, Environmental Statement, Volume 2, Chapter 8 Cultural Heritage**  
**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)**  
**Regulations 2009, regulation 5(2)(a)**  
**Planning Act 2008**

**Author: CH2M**

**Date: November 2019**





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## Document history

<b>Project</b>	Portishead Branch Line (MetroWest Phase 1) Development Consent Order Scheme
<b>Planning Inspectorate Scheme Reference</b>	TR040011
<b>Part and Application Document Reference</b>	6, 6.11
<b>Document title</b>	Environmental Statement, Volume 2, Chapter 8 Cultural Heritage
<b>Regulation Number</b>	Regulation 5(2)(a)
<b>Applicant</b>	North Somerset District Council
<b>Lead Author</b>	NT at CH2M

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
Rev: 01	08/11/19	Application Issue



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CHAPTER 8

# Cultural Heritage

## 8.1 Introduction

8.1.1 The Portishead Branch Line (MetroWest Phase 1) DCO Scheme (“the DCO Scheme”) has the potential to give rise to likely significant effects on cultural heritage. This Chapter:

- describes the relevant legal and policy framework which informs the undertaking of the assessment;
- describes the methodology used for the identification and assessment of likely significant cultural heritage effects in the Environmental Statement (“ES”);
- describes the cultural heritage baseline having regard to existing information and information presented in Appendix 8.1 Cultural Heritage Gazetteer (DCO Document Reference 6.25) in the ES Volume 4 Appendices;
- describes the measures that have been adopted as part of the DCO Scheme;
- identifies and assesses the likely significant effects that could result from the DCO Scheme during the construction and operation phases;
- considers mitigation of likely significant effects and assesses those residual effects that will result;
- considers the cumulative effects of other developments in combination with the DCO Scheme on cultural heritage assets;
- identifies the limitations encountered in compiling the ES; and
- provides a summary of the residual effects for the mitigated DCO Scheme.

8.1.2 The cultural heritage resource comprises built heritage (including extant railway architecture of all types), designated assets (including scheduled monuments (“SM”), listed buildings, Conservation Areas (“CA”) and registered parks and gardens (“RP&G”), non-designated cultural heritage assets, extant and buried archaeology, and Historic Landscape Character (“HLC”) Areas.

8.1.3 This report considers the direct and indirect impacts of the DCO Scheme on statutory and non-statutory designations in addition to non-designated cultural heritage assets during the construction and operation phases.

8.1.4 This chapter should be read in conjunction with Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7) and Chapter 11 Landscape and Visual Impacts Assessment (DCO Document Reference 6.14) which also discusses the landscape settings of and views from heritage assets. Supporting information on specific heritage assets and photographs showing the settings of heritage assets are provided in the gazetteer in Appendix 8.1. Appendix 8.2 (DCO Document Reference 6.25) provides a Level 1 Historic Building Record (“HBR”) of 7 Station Road, Pill,

which would be demolished as part of the DCO Scheme to provide a new forecourt and entrance to Pill Station. The Plan of Statutory or Non-Statutory Sites and Features of Nature Conservation Designations (DCO Document Reference 2.55) shows the location of all heritage assets within 500 m of the DCO Scheme railway. Figure 8.1 Sheets 1 to 5 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24) shows the location of heritage assets discussed in this chapter, comprising designated features within 500 m of the DCO Scheme railway and non-designated features within 50 m of the Order limits. Figure 8.2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24) shows the HLC Areas along the DCO Scheme.

## 8.2 Legal and Policy Framework

### National Legislation

- 8.2.1 The main legal framework governing the identification and conservation of cultural heritage assets is provided by the Ancient Monuments and Archaeological Areas Act 1979 (as amended) and the Planning (Listed Buildings and Conservation Areas) Act 1990.
- 8.2.2 The Infrastructure Planning (Decisions) Regulations 2010 provides at Regulation 3 that:
- “(1) When deciding an application which affects a listed building or its setting, the [Secretary of State] must have regard to the desirability of preserving the listed building or its setting or any features of special architectural or historic interest which it possesses.*
- (2) When deciding an application relating to a conservation area, the [Secretary of State] must have regard to the desirability of preserving or enhancing the character or appearance of that area.*
- (3) When deciding an application for development consent which affects or is likely to affect a scheduled monument or its setting, the [Secretary of State] must have regard to the desirability of preserving the scheduled monument or its setting.”*
- 8.2.3 Historic England (formerly English Heritage) is the government's expert advisor on England's heritage and has a statutory role in the planning system. It must be consulted on or notified about Nationally Significant Infrastructure Projects (“NSIP”).

### National Policy

- 8.2.4 The Planning Act 2008, Section 104(3) requires the Secretary of State (“SoS”) to determine the application for the DCO Scheme in accordance with the National Policy Statement for National Networks (“NPSNN”), unless specified factors provide otherwise. The NPSNN advises on the assessment of effects of NSIPs on the historic environment at paragraphs 5.120 - 5.142. This includes an introduction to heritage issues and advice on the assessment to be undertaken by the applicant, factors relevant to decision-making by the SoS and, where appropriate, recording of heritage assets. Table 8.1 below identifies advice of direct relevance to this assessment and the sections where this is considered in this ES.



Table 8.1: Summary of relevant NPSNN advice on the historic environment

Summary of NPS provision	Consideration within the ES
<p>Paragraph 5.126 states that for development subject to environmental impact assessment (“EIA”) the Applicant should undertake an assessment of likely significant heritage impacts.</p>	<p>This chapter presents the findings of the heritage impact assessment.</p>
<p>Paragraph 5.127 requires the Applicant to describe the significance of heritage assets affected, including their setting. The relevant Historic Environment Record (“HER”) should be consulted. Where the site has potential to include archaeological heritage assets, the applicant should undertake a desk-based assessment and where appropriate field evaluation.</p>	<p>The HER for North Somerset District Council (“NSDC”) and Bristol City Council (“BCC”) were consulted and relevant sites are identified in Section 8.4 and listed in the gazetteer in Appendix 8.1 in the ES Volume 4 Appendices (DCO Document Reference 6.25). The location of sites is shown on Figure 8.1 Sheets 1 to 5 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24). Photographs showing the setting of these assets are provided in Appendix 8.1 Annex B in the ES Volume 4 Appendices (DCO Document Reference 6.25). This chapter presents the results of a desk-based assessment supported by field walkover surveys.</p>

8.2.5 The National Planning Policy Framework (“NPPF”) Section 16 on Conserving and Enhancing the Historic Environment describes the approach to be taken by local planning authorities to determine planning applications in relation to cultural heritage and listed building consent applications. This guidance applies both to designated heritage assets, such as listed buildings and CA and also to undesignated, but potentially important heritage assets such as buried archaeological remains and other historic structures, including those that make a positive contribution to the character of a CA. Whilst the NPPF does not contain specific policies for NSIPs, advice in the NPPF may be a matter that is considered both important and relevant to consider in the determination of an application for a DCO under section 104(2)(d) of the Planning Act 2008.

### Local Policy

8.2.6 The local planning framework comprises a number of documents which form the statutory development plan for each authority, against which proposals seeking planning permission are assessed. These policy documents comprise saved policies from extant Local Plans as well as new emerging policy documents.

8.2.7 The DCO Scheme crosses two local planning authorities, NSDC and BCC. The relevant planning policies relating to cultural heritage are summarised in Table 8.2 below. Further information is provided in Chapter 6 Planning Framework (DCO Document Reference 6.9).

Table 8.2: Summary of local policy

<b>Policy No.</b>	<b>Title</b>	<b>Policy Summary</b>
<b><i>North Somerset District Council's Core Strategy (adopted January 2017)</i></b>		
CS5	Landscape and historic environment	Emphasis on protecting the character, distinctiveness, diversity and quality of North Somerset's landscape and townscape while also conserving the historic environment.
<b><i>North Somerset District Council's Sites and Policies Plan Part 1 Development Management Policies (adopted July 2016)</i></b>		
DM3	Conservation Areas	This policy aims to conserve and enhance conservation areas in North Somerset.
DM4	Listed Buildings	Seeks to protect listed buildings and their setting from inappropriate development.
DM5	Historic Parks and Gardens	Includes provisions to ensure that development proposals will not adversely affect designated landscape character within the district including both nationally registered and unregistered Historic Parks and Gardens.
DM6	Archaeology	Seeks to ensure that new development will not significantly impact on archaeological remains or their setting.
DM7	Non-designated heritage assets	Seeks to protect non-designated heritage assets and their setting from inappropriate development.
<b><i>Bristol Development Framework: Core Strategy (adopted June 2011)</i></b>		
BCS22	Conservation and the Historic Environment	Seeks to protect heritage assets and their character and setting from inappropriate development, giving specific regard to: scheduled ancient monuments; historic buildings; historic parks and gardens; conservation areas; and archaeological remains.
<b><i>Bristol City Council Site Allocations and Development Management Policies (adopted July 2014)</i></b>		
DM31	Heritage Assets	Identifies that development that has an impact upon a heritage asset will be expected to conserve and, where appropriate, enhance the asset or its setting.
<b><i>Bristol Development Framework Supplementary Planning Document (SPD) 7 Archaeology and Development (adopted March 2006)</i></b>		
		This document provides further guidance on the City's approach to archaeology and development when considering planning applications.

Table 8.2: Summary of local policy

Policy No.	Title	Policy Summary
	<b><i>Bristol Supplementary Planning Guidance: Policy Advice Note 2 – Conservation Area Enhancement Statements (November 1993)</i></b>	These documents describe the character of Bristol’s Conservation Areas and set out general enhancement objectives for these areas.

## 8.3 Methodology

### Guidance and Best Practice

- 8.3.1 There is no specific guidance on the approach to undertaking an environmental assessment for railways. The ES assessment methodology follows the Department for Transport's Design Manual for Roads and Bridges ("DMRB"), Volume 11, Section 3, Part 2, HA 208/07 including Annexes 5 (Archaeological Remains), 6 (Historic Buildings) and 7 (Historic Landscape). Although DMRB was developed for highways, the Department for Transport considers it is suitable for other linear schemes including railways (Department for Transport, 2015).
- 8.3.2 The assessment of setting in respect of cultural heritage assets was undertaken following Historic England’s *Good Practice Advice in Planning Note 3 - The Setting of Heritage Assets* (Historic England 2011, revised 2017). This guidance recommends a five-staged approach for assessing the implications of development proposals:
- to identify those heritage assets whose settings might be affected by a given development;
  - to assess whether, how and to what degree the setting makes a positive contribution to the value of the heritage asset(s), i.e. what matters and why;
  - to assess the effect of the proposed works on the value of the asset through the consideration of the key attributes of the proposed works;
  - to examine the way in which the proposed development enhances or detracts from the setting of a heritage asset; and
  - make and document the decision and monitor outcomes.
- 8.3.3 Descriptions of the setting of those assets with a visual or historic relationship with the DCO Scheme have been prepared. The assessment of setting has generally been reserved for the cultural heritage designations e.g. SMs and listed buildings. For non-designated buildings, where setting does not add to the heritage value/ significance, these have not been included as part of the assessment.

## Consultations

- 8.3.4 A summary of consultations undertaken to date is presented in Table 8.3 below. Further information on the consultation process is presented in Chapter 5 Approach to the Environmental Statement (DCO Document Reference 6.8). Responses to consultation exercises undertaken in 2015 and 2017 are available on the MetroWest project website at the following address <https://travelwest.info/metrowest> while the Consultation Report is provided in the DCO Document Reference 5.1.

Table 8.3: Summary of consultation responses

Organisation and date	Summary of response	Consideration within ES
<b>Scoping Opinion (August 2015)</b>		
Planning Inspectorate	Para. 3.29. The SoS considers that insufficient information was presented in the Scoping Report to scope out the cumulative effects of the DCO Scheme on the Bedminster Down Relief Line, Severn Beach / Avonmouth Signalling and Bathampton Turnback and other MetroWest Phase 1 works.	Further information on the other works for MetroWest Phase 1 and the associated cumulative effects are presented in Section 8.8 and in Appendices 18.1 and 18.2 in the ES Volume 4 Appendices (DCO Document Reference 6.25) regarding cumulative effects. The works required for the Severn Beach / Avonmouth Signalling have been resolved under Network Rail's permitted development rights as part of the Filton Four Track project.
	Para. 3.40. The impact of the DCO Scheme on Leigh Court Registered Park and Garden ("RP&G") and other historic assets and their settings should be assessed. This includes physical and non-physical impacts.	The impact of the DCO Scheme on Leigh Court RP&G and other assets during construction and operation is assessed in Section 8.6 and the gazetteer in Appendix 8.1 in the ES Volume 4 Appendices (DCO Document Reference 6.25).
	Para. 3.42. The applicant should liaise with the heritage officers at Historic England, North Somerset and Bristol local authorities and other relevant consultees.	To date consultation has been held with the relevant officers at NSDC and BCC. See Table 8.3 below.
	Para. 3.43. Copies of draft management plans to be implemented post consent should be appended to the ES.	Draft management plans have not been prepared for the ES as no significant impacts have been identified.
	Para. 3.44. The cultural heritage assessment should cross-refer to the Chapter on Landscape and Visual Impact Assessment.	Both this chapter and Chapter 11 Landscape and Visual Impact Assessment (DCO Document Reference 6.14) assess the impact of the DCO Scheme on the setting of heritage features. This

Organisation and date	Summary of response	Consideration within ES
Historic England	Historic England is concerned that there may be impacts on the historic environment and considers that an EIA is required.	chapter should be read in conjunction with Chapter 11 and its supporting appendices.
	<p>Historic England identified the following assets that may be affected by the DCO Scheme:</p> <p>Listed Buildings: Church of St George, Clifton Suspension Bridge and two toll houses, 1-14 Paragon, 15 The Paragon, Promenade House, Taylor Maxwell House, Swing Bridge over north entrance lock, Brunel's South Entrance Lock, Swing Bridge over Brunel's south entrance lock, The Colonnade, Engineers House, Trafalgar House, Alva House, Freeland Court, Clifton Observatory, 2-9 Albemarle Row, and Church of St Mary.</p> <p>RP&amp;Gs: Berkley Castle, Ashton Court</p> <p>SMs: Clifton Down Camp, Stokeleigh Camp, Part of the Roman settlement in <i>Abonae</i></p>	<p>These assets have been assessed in Section 8.6 and in the gazetteer, the listing of heritage features, in Appendix 8.1 in the ES Volume 4 Appendices (DCO Document Reference 6.25).</p> <p>Berkley Castle has not been assessed as it lies near Stroud, Gloucestershire. Due to the distance and intervening topography it will not be affected by the DCO Scheme.</p>
	The assessment needs to consider the potential impact on all heritage assets including designated heritage assets and their settings and non-designated features of interest. The assessment should cover buildings, historic open spaces, historic features and the wider historic landscape including below-ground archaeology.	Section 8.6 and Appendix 8.1 in the ES Volume 4 Appendices (DCO Document Reference 6.25) consider the impacts on designated and non-designated assets.

Organisation and date	Summary of response	Consideration within ES
	<p>The assessment methodology should follow Historic England Guidance <i>The Setting of Heritage Assets</i> Advice Note 3 and be undertaken by a recognised heritage professional.</p>	<p>The Historic England guidance has been employed for the assessment of the impacts to designated assets (Section 8.6 and Appendix 8.1 in the ES Volume 4 Appendices, DCO Document Reference 6.25).</p>
	<p>The assessment needs to consider: the impact on landscape, direct impacts on historic sites and areas; indirect impacts on setting and long views; use of photomontages; potential for buried archaeology; effects on landscape amenity; and cumulative effects.</p>	<p>Direct and indirect impacts on the heritage assets, historic landscape and the impact on the historic setting of heritage assets are presented in Section 8.6 and Appendix 8.1 in the ES Volume 4 Appendices (DCO Document Reference 6.25).</p> <p>The assessment on landscape, setting and views for historical assets also forms part of the landscape and visual impact assessment in Chapter 11 Landscape and Visual Impact Assessment (DCO Document Reference 6.14).</p> <p>While photographs of the DCO Scheme and its surrounds are provided in the appendices to this chapter and Chapter 11, photomontages have not been prepared. There are few locations which afford views of heritage features and their setting in the context of the railway.</p>
	<p>The local authorities' conservation and archaeology advisors should be closely involved throughout the preparation of the ES.</p>	<p>The local authorities' archaeological and conservation advisors have been consulted by email on 16 September 2015 and on 15 December 2016. They will be fully informed of the historic impact assessment and will be kept regularly updated on the process of the DCO Scheme application.</p>
<p><b><i>Informal micro-consultation on DCO Scheme Boundary (22 June to 3 August 2015)</i></b></p>		

Organisation and date	Summary of response	Consideration within ES
Historic England	The scheme has potential to affect Listed buildings, RP&Gs and Scheduled Monuments. The ES should consider direct and indirect impacts on all heritage assets potentially affected, including historic landscapes, registered landscapes, CAs and potential for buried archaeology. The assessment should follow Historic England guidance and be undertaken by a professional heritage consultant.	This cultural heritage chapter assesses the impacts of the DCO Scheme on a wide range of designated and non-designated heritage assets.
<b><i>Informal Stakeholder Consultation</i></b>		
North Somerset District Council	The historic environment advisory service provided general background to the archaeological resource within the relevant part of North Somerset, from the prehistoric through to the post-medieval periods. North Somerset also advised that most of the sites within the search area should be minimally affected by the proposals, although access roads and construction camps will need to be sited carefully, and possibly archaeologically evaluated prior to construction.	Baseline information is presented in Section 8.4 and the assessment in Section 8.6.
Email: 28/9/2015	North Somerset also provided a series of locations from where there are views to the Portishead to Pill disused section and the Portbury Freight Line from local vantage points.	Views of the DCO Scheme are presented in Appendix 8.1 Annex B in the ES Volume 4 Appendices (DCO Document Reference 6.25). Given the terrain, it is difficult to find views of the DCO Scheme.
Email December 15 January 16	The NSC Archaeologist advised on the mitigation likely to be required on green field sites comprising temporary construction compounds along the route.	Mitigation proposals are described in Section 8.7.
Bristol City Council	The city's conservation officer indicated that changes to the setting of designated assets was the primary	The setting of assets is covered in Sections 8.6 and in Chapter 11 Landscape and Visual Impact Assessment



Organisation and date	Summary of response	Consideration within ES
Email 6/10/2015	consideration of the DCO Scheme. The council provided locations where views across to the DCO Scheme would be useful in establishing the extent of potential change. They highlighted that the significant viewpoints/receptors were going to be those related to historic locations or those with high recreational value, which included the Clifton Suspension Bridge and Sea Walls viewing area (The Downs). The Council stated that the applicant's assessment of changes from the DCO Scheme on additional areas and historic structures would be welcomed.	(DCO Document Reference 6.14). The assessment of the DCO Scheme on the Clifton Suspension Bridge itself and views from Sea Walls are discussed in paragraphs 8.6.29 for construction and 8.6.90 to 94 for the operation phase.
<b><i>Formal Stage 2 Consultation (23 October to 4 December 2017)</i></b>		
Meeting with heritage officers from North Somerset District and Bristol City Councils on 24/10/17	Discussion on the key findings of the heritage assessment presented in the Preliminary Environmental Information Report. The heritage officers requested an HBR for features that would be lost as a result of the DCO Scheme.	An HBR for features along the DCO Scheme and for the 7 Station Road, Pill are provided in Appendix 8.1 Annex A and Appendix 8.2 respectively (DCO Document Reference 6.25).
North Somerset Council	Some compounds have archaeological interest and will require watching briefs. Compounds 2 to 7 are on low-lying potentially waterlogged ground, which may preserve organic materials. This should be taken into account in watching briefs.  2) Sheepway. No direct archaeological issues. Site on edge of Sheepway gravel island which has yielded Palaeolithic flint tools. Archaeological watching brief	Baseline information on heritage assets is provided in the Section 8.4 and Appendix 8.1 (DCO Document Reference 6.25).  The proposals for a watching brief are covered in Section 8.6 and in the ES Appendix 4.2 Master Construction Environmental Management Plan ("CEMP") (DCO Document Reference 8.14).

Organisation and date	Summary of response	Consideration within ES
	<p>during initial soil strip plus option for further mitigation if necessary.</p> <p>3) Portbury Hundred. No archaeological issues. Site on edge of Sheepway gravel island which has yielded Paleolithic flint tools revealed during National Grid geophysical survey in 2013. Archaeological watching brief during initial soil strip, plus option on further mitigation if necessary.</p> <p>4) and 5) Two sites in the Royal Portbury Dock cargo area.</p> <p>6) Field west of Marsh Lane / Bridleway north of railway. Most visible earthworks are former field boundaries or gripes. Archaeological watching brief during initial soil strip.</p> <p>7) Lodway Farm. Earthworks underlying modern fields visible on 1946 aerial photographs. This may be evidence of earlier field systems. Archaeological watching brief during initial soil strip.</p> <p>8) Pill yard. Railway infrastructure present here during WW2. No direct archaeological issues, although MC14 where silver Iron Age coin was found. Archaeological watching brief during initial soil strip</p> <p>16) Clanage Road. WW2 structures clear on 1946 aerial photograph</p> <p>Pill station house is a non-designated heritage asset. As this building is scheduled to be demolished a level 2 building survey should be carried out.</p>	<p>NSC's Heritage Officer agreed in March 2018 that a Level 1 building survey would be sufficient for Station House, Pill. This is provided in Appendix 8.2 (DCO Document Reference 6.25).</p> <p>Areas 4 and 5 identified by NSDC are not proposed construction sites.</p>

Organisation and date	Summary of response	Consideration within ES
	<p>Although there will be a change to the setting of a number of heritage assets, this is generally considered to be negligible or slightly harmful. Some of the harm will be larger at first due to the cutting back of vegetation that hides the current rail line and the scale from the installation of the new section, but this will soften with time as the vegetation returns.</p> <p>The old railway infrastructure is an historic asset and NSDC would like a record of where these are, what they are, and whether examples could be left in place. NSDC would like a record of these features to update their HERs.</p>	<p>A Level 1 survey of the historic railway assets is provided in Appendix 8.1 and 8.2 (DCO Document Reference 6.25).</p>
Bristol City Council	<p>For the most part, the impact on the historic environment with BCC is relatively minor, and vegetation loss is likely to be a temporary impact and within a few years greenery will re-establish and the setting of the affected assets will be restored to the present character. It is recommended that where the potential for below ground archaeology exists an archaeological contractor should be employed to record any surviving evidence prior to its removal.</p>	<p>Proposals for a Written Scheme of Investigation for works on greenfield sites are summarised in Section 8.6 below and in the ES Appendix 4.2 Master CEMP (DCO Document Reference 8.14).</p>
Historic England	<p>Would be useful to have confirmation of exactly where the Global System for Mobile Communications - Railway ("GSM-R") repeater masts are to be positioned in the vicinity of the Clifton Suspension Bridge.</p>	<p>Several GSM-R repeaters will be required through the Avon Gorge. Two repeater antennae mounted on an 8 m pole at the south end of Clifton Bridge No. 2 Tunnel, with one antenna facing up the railway towards Clifton Bridge No. 1 Tunnel mounted at 8 m and the other mounted at 5 m pointing north into Clifton Bridge No. 2 tunnel will be located approximately 500 m north west of the Clifton</p>

<b>Organisation and date</b>	<b>Summary of response</b>	<b>Consideration within ES</b>
		<p>Suspension Bridge, which may be visible from Clifton Suspension Bridge. Two repeater back to back antennae will be attached at 5 m to Sandstone Tunnel East (south) portal, which will not be visible from the Clifton Suspension Bridge. The visual impact of the repeaters masts is discussed in Chapter 11 Landscape and Visual Impact Assessment (DCO Document Reference 6.14).</p>
<p>A member of the public</p>	<p>There is an old railway asset within the vegetation behind Ham Green houses and predates 1903/1904 as it can be seen on one of the historic maps for Pill in the later part of the 19th century.</p>	<p>This asset was not identified in the NSDC HER or during the site walkovers. The asset has not been considered further.</p>

## Definition of the Study Area

- 8.3.5 The study area has been divided into two sub-areas, a wider corridor 500 m either side of the centreline of the DCO Scheme railway to assess the impacts of the DCO Scheme on the setting of designated cultural heritage assets, and a narrower corridor 50 m either side of the centreline of the DCO Scheme railway and areas of temporary land occupation during construction, to assess the direct impacts of the DCO Scheme on the potential physical damage to all heritage assets and the setting of non-designated assets. A corridor 500 m either side of a potential new highway alignment is recommended by DMRB for a new highway alignment and was adopted here as a starting point to collate information. DMRB also recognises that features beyond 500 m can be affected by major projects, and this has been taken into consideration in the development of the baseline and the impact assessment. Consequently, consideration was given to assessing heritage features beyond 500 m whose setting could be affected by the proposed development based on professional judgment. The choice of a 50 m corridor was also chosen to give due regard to heritage assets close to the DCO Scheme and is based on professional judgement.

## Key Receptors

- 8.3.6 The key receptors for the Cultural Heritage assessment are as follows:
- Designated assets:
    - SMs
    - CAs
    - Listed buildings and structures
    - RP&Gs
  - Non-designated assets:
    - Archaeological sites and monuments
    - Built heritage features
    - Historic railways assets
  - Historic landscape: the railway passes through a number of HLC Areas, which provide the wider landscape context for the setting of the existing railway which was itself constructed over a century ago in the 1860s.

## Defining the Baseline

- 8.3.7 A desk top study was undertaken to collate secondary information on cultural heritage assets potentially affected by the DCO Scheme from the following sources:
- the HER data held by NSDC and BCC for archaeological sites and monuments data, derived from a Geographic Information System (“GIS”) dataset;
  - listed buildings, SMs, registered battlefields and historic parks and gardens information from the National Heritage List for England (“NHLE”);
  - cross-checking of designation data from Historic England through the website [www.magic.gov.uk](http://www.magic.gov.uk);

- historic mapping (Ordnance Survey (“OS”) and pre-OS) from the Somerset Heritage Centre (“SHC”) in Taunton;
  - the NSDC's HER website (<http://map.n-somerset.gov.uk/HER>) for cross-checking designated and non-designated assets in addition to HLC data and for the location of the county's CAs; and
  - BCC's website (<http://maps.bristol.gov.uk/knowyourplace>) for cross-checking designated and non-designated assets and historic mapping.
- 8.3.8 Data on designated heritage assets were gathered for the DCO Scheme for a 500 m buffer area either side of the railway centreline between Portishead and Parson Street Junction. Where topography results in inter-visibility with the DCO Scheme, designated features beyond the 500 m buffer area have been considered. Data for non-designated built heritage and archaeology were gathered for a 50 m buffer area from the centreline of the railway and temporary land occupation for construction, that is 50 m around the Order limits.
- 8.3.9 The cultural heritage assets described in this chapter are reproduced from the HER and the NHLE designation datasets available from Historic England. They are assumed to be an accurate record of the known designations within the vicinity of the DCO Scheme.
- 8.3.10 The HER dataset is not a definitive record of the non-designated cultural heritage within the study area, but rather a record of the known cultural heritage resource from previous studies (including but not exclusive to historic map studies, documentary searches, aerial photographic studies and old photographs, chance finds and previous archaeological interventions).
- 8.3.11 Four site walkovers were conducted by the Scheme Archaeologist and Heritage Consultant:
- the disused section of the DCO Scheme between Portishead and Pill was walked on 19 March 2014 to observe heritage assets in the field;
  - the Portbury Freight Line between Pill and Ashton Gate was walked on 14 October 2015 to observe heritage features along the railway corridor and to ascertain views to heritage assets from the railway;
  - visits to designated heritage assets within the study area were made to assess the views across to the Portishead Branch Line on 20 October 2015; and
  - both sections of the DCO Scheme were walked on the 6 and 7 February 2018 to assess further heritage assets not recorded by the HER or NHLE. A gazetteer of the heritage assets identified during this walkover is provided in Appendix 8.1 Annex A (DCO Document Reference 6.25). Assets identified during this walkover are identified in the following paragraphs by an asset number pre-fixed by “CH”.

### Assessment of Construction Impacts

- 8.3.12 The construction impacts for the DCO Scheme were determined in terms of their likely scale and nature e.g. noise, visibility, vibration, the removal of soil horizons, the removal of standing structures and extant archaeological remains. These impacts were evaluated in terms of the likelihood of

physical damage, their proximity, inter-visibility, and change in the setting of each relevant asset in relation to the DCO Scheme.

- 8.3.13 Potential impacts include, but are not exclusive of, the removal of the remaining historic railway architecture still present on the disused line (bridges, culverts, signals, station remains, etc.), potential impacts to the buried archaeological environment relating to the construction of Portishead Station and new bridges, impacts from construction compounds and associated haul roads adjacent to the DCO Scheme and the impacts on the setting of designated sites within 500 m of the DCO Scheme from construction plant and traffic and the removal of vegetation.
- 8.3.14 The designated cultural heritage assets have been assessed in terms of their significance as historic assets. Their value has been assessed not just to their level of physical survival but also their historic and visual setting. Chapter 11 Landscape and Visual Impact Assessment (DCO Document Reference 6.14) presents the visual impact assessment of the DCO Scheme.

### Assessment of Operational Impacts

- 8.3.15 The main impact during the operational phase is the effect of the DCO Scheme on the setting of designated and non-designated heritage assets due to activity at Portishead and Pill stations and associated car parks, and the movement of trains along the railway, including during daylight and in the dark. Some of these impacts have been addressed through the design evolution of the DCO Scheme, such as the design of the layout and public realm of the new stations and car parks.
- 8.3.16 The operational impacts of the DCO Scheme on the setting of cultural heritage features were assessed in light of how the completed design will affect the setting of heritage assets, both in terms of visual changes and the effects of noise from the operating trains. Where relevant, the change to historic setting has been given.
- 8.3.17 As above, the designated cultural heritage assets have been assessed in terms of both physical survival and their historic and visual setting. The operational scheme will result in regular train services that will create additional sources of noise. Chapter 13 Noise and Vibration (DCO Document Reference 6.16) has been referenced to determine the likely impacts of the noise from the operational service on the historic environment.
- 8.3.18 Chapter 11 Landscape and Visual Impact Assessment (DCO Document Reference 6.14) presents the visual impact assessment. It should be noted that on occasions the Landscape and Visual Impact Assessment will return a different significance of effect compared with a predicted significance of effect on cultural heritage for the same asset. This is usually as a result of high value assets, such as SMs and Grade II\* listed buildings returning a greater adverse effect than that predicted in terms of landscape and visual effects, owing to the effect on setting, when there is a limited change or impact.

### Assessment of Decommissioning Impacts

- 8.3.19 Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7) explains that consideration has been given to likely significant effects

arising during the decommissioning phase. However, owing to the nature and life span of the proposed development, the regulated process of any closure in the future, which would be overseen by the Office of Rail and Road, and there being no reasonably foreseeable decommissioning proposals such that likely impacts could be identified and assessed, these effects are not considered further in this chapter.

## Assessment of Cumulative Effects

- 8.3.20 The assessment of cumulative effects considers the impact of committed developments within the vicinity of the DCO Scheme with (a) other DCO projects within 10 km (“kilometres”), (b) other projects consented by the local planning authorities within approximately 500 m of the DCO Scheme which have a high probability of being implemented and are likely to have significant environmental effects, (c) other works associated with MetroWest Phase 1 that have not yet been completed, comprising the modifications to Parson Street Junction including Liberty Sidings, Parson Street Station, the Bedminster Down Relief Line and Bathampton Turnback and (d) other projects being undertaken by Network Rail under their permitted development rights.
- 8.3.21 Severn Beach / Avonmouth Signalling works are also part of MetroWest Phase 1, but these works have been completed and so are not included in this cumulative effects assessment, as they are considered as part of the baseline.
- 8.3.22 The approach to the selection of the other projects considered for the cumulative impact assessment is described in Chapter 18 In-Combination and Cumulative Effects Assessment (DCO Document Reference 6.21) and a list of the projects short listed for the cumulative impact assessment is provided in Appendices 18.1 and 18.2 (DCO Document Reference 6.25).
- 8.3.23 The assessment of cumulative effects covers the construction and operational phases of other reasonably foreseeable projects with the DCO Scheme.

## Use of Significance Criteria

### Introduction

- 8.3.24 A three-stage approach has been adopted to assess the significance of the DCO Scheme on heritage assets:
- Establishing the scale of the asset values, which are set as very high, high, medium, low and negligible using the definitions described in DMRB;
  - Determining the likely magnitude of impacts upon the cultural heritage assets, based on an understanding of the DCO Scheme and professional judgement, and summarised on the scale major, moderate, minor adverse, negligible and no change; and
  - Determining the significance of effect by comparing the value of the asset and the magnitude of impact on the following scale: very large, large, moderate, slight and neutral.



## Value of Heritage Assets

- 8.3.25 DMRB guidance describes how the value of cultural heritage assets can be arrived at:
- 8.3.26 *“Assessments of value should consider how far the asset(s) contribute to an understanding of the past, through their individual or group qualities, either directly or potentially. This will require a consideration of whether the asset belongs to a group or a subject of study that is of acknowledged importance, and how far it retains the characteristics that can contribute to an understanding of that group or subject, or whether it offers the potential for such understanding. The community that values the asset is a factor to be taken into account. For instance, is it internationally known, or locally valued? Is the asset appreciated by specialists or by a wider public? Is the subject area to which it contributes of major concern or is it a minority matter? These factors need to be balanced, and a reasoned assessment reached in each case.”* (DMRB Volume 11, Section 3, Part 2, HA 208/07, paragraph 5.27).
- 8.3.27 The values of the known cultural heritage receptors are estimated using the criteria for designated and non-designated cultural heritage assets presented in Table 8.4 below and professional judgement.

Table 8.4: Assessing the value of cultural heritage receptors

Resource value	Criteria
Very High	<ul style="list-style-type: none"> <li>• World Heritage Sites (including buildings and those inscribed for their historic landscape qualities)</li> <li>• Assets of acknowledged international importance</li> <li>• Assets that can contribute significantly to acknowledged international research objectives</li> <li>• Historic landscapes of international value, whether designated or not</li> <li>• Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s)</li> <li>• Structures inscribed as of universal importance as World Heritage Sites</li> <li>• Other buildings of recognised international importance</li> </ul>
High	<ul style="list-style-type: none"> <li>• SMs (including standing remains)</li> <li>• Undesignated assets of schedulable quality and importance</li> <li>• Grade I and II* listed structures</li> <li>• Assets that can contribute significantly to national research objectives</li> <li>• Undesignated structures of clear national importance</li> <li>• Grade I and II* designated historic landscapes of outstanding interest</li> <li>• Undesignated landscapes of outstanding interest</li> <li>• Undesignated landscapes of high quality and importance, and of demonstrable national value</li> <li>• RP&amp;Gs</li> <li>• Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s)</li> </ul>

Table 8.4: Assessing the value of cultural heritage receptors

Resource value	Criteria
Medium	<ul style="list-style-type: none"> <li>• Designated or undesignated archaeological assets that contribute to regional research objectives</li> <li>• Designated special historic landscapes</li> <li>• Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value</li> <li>• Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s)</li> <li>• Grade II Listed Buildings</li> <li>• Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations</li> <li>• CAs containing buildings that contribute significantly to its historic character</li> <li>• Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)</li> <li>• Historic Townscape or built-up areas with important historic integrity in their buildings, settings or built settings</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Designated and undesignated assets of local importance</li> <li>• Assets compromised by poor preservation and/or poor survival of contextual associations</li> <li>• Assets of limited value, but with potential to contribute to local research objectives</li> <li>• Robust undesignated historic landscapes</li> <li>• Historic landscapes with importance to local interest groups</li> <li>• Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations</li> <li>• Assets compromised by poor preservation and/or poor survival of contextual associations</li> <li>• Assets of limited value, but with potential to contribute to local research objectives</li> <li>• ‘Locally Listed’ buildings</li> <li>• Historic (unlisted) buildings of modest quality in their fabric or historical association</li> <li>• Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>• Assets with very little or no surviving archaeological interest</li> <li>• Buildings of no archaeological or historical note, or buildings of an intrusive character</li> <li>• Landscapes with little or no significant historical interest</li> </ul>
Unknown	<ul style="list-style-type: none"> <li>• The importance of the resource has not been ascertained, or buildings with some (hidden) potential for historical significance</li> </ul>

Source: DMRB, Volume 11

8.3.28 Despite the differentiation in terms of some of the values given above, all statutorily-listed buildings warrant a national level of importance.

### Magnitude of the Impact

- 8.3.29 In DMRB, the impacts of a given scheme are described below, but comprise the impacts of the design on the cultural heritage resource when measures adopted as part of the proposed development through design evolution avoid, reduce or negate impacts:
- 8.3.30 *“Impacts are changes that arise from the mitigated scheme. The baseline from which they are assessed should be the situation that would exist if the scheme were not pursued... Negative (adverse) impacts can arise from new effects, or an increase in the rate of existing deterioration over what would otherwise be the case....Positive (beneficial) impacts may arise from the cessation of erosion, intrusion or damage that would continue if the scheme were not built...Direct impacts are those that arise as straightforward consequences of the scheme. For archaeological remains and historic structures, this can mean physical damage to, or physical improvement of, the fabric of the asset, but it can also mean impacts on the setting of cultural heritage assets. For an historic building, for instance, an increase in noise and pollution as a result of the scheme would constitute a direct impact....An indirect or secondary impact is an impact arising from the scheme via a complex route, where the connection between the scheme and the impact is complicated, unpredictable or remote...For instance, an impact on historic landscape character could arise from a scheme that severs an agricultural holding, leading to changes in farming viability and thence to changes in historic land-use patterns in areas away from the scheme...”* (DMRB Volume 11, Section 3, Part 2, HA 208/07).
- 8.3.31 The assessment includes a judgement as to whether a predicted effect is adverse or beneficial.
- 8.3.32 For the DCO Scheme, adverse impacts could include the removal or destruction of non-designated heritage assets through construction related activities. Other adverse impacts could include changes to the settings of designated heritage assets through the severance of key views or increases in ambient noise or vibration. Where such a change would lead to a reduction in the asset's heritage value (harm or loss in NPSNN terms), or the ability to appreciate the heritage value of the asset, this would be considered an adverse impact.
- 8.3.33 Beneficial impacts of the DCO scheme could include the repair of disused or poorly maintained non-designated heritage assets; and enhancement to the setting, or ability to appreciate the heritage value of, a designated heritage asset. Such impacts would contribute to the long-term conservation and public enjoyment of the heritage asset affected and would be considered beneficial.
- 8.3.34 The criteria for judging the impacts of each option upon the cultural heritage resource have been assessed using DMRB criteria shown in Table 8.5 below.

Table 8.5: Definition of assessment criteria for the magnitude of impact

<b>Impact magnitude</b>	<b>Criteria (positive and negative)</b>
Major	<ul style="list-style-type: none"> <li>• Change to most or all key archaeological materials, such that the resource is totally altered</li> <li>• Comprehensive changes to setting</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>• Changes to many key archaeological materials, such that the resource is clearly modified</li> <li>• Considerable changes to setting that affect the character of the asset</li> </ul>
Minor	<ul style="list-style-type: none"> <li>• Changes to key archaeological materials, such that the asset is slightly altered</li> <li>• Slight changes to setting</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>• Very minor changes to archaeological materials, or setting</li> </ul>
No change	<ul style="list-style-type: none"> <li>• No change</li> </ul>

Source: DMRB, Volume 11

### Significance of Effect

8.3.35 The significance of effects is determined through the combination of the value (or significance) of the asset and the magnitude of the impact as illustrated in Table 8.6.

Table 8.6: Determination of the significance of effect

<b>Value</b>	<b>Impact magnitude</b>				
	<b>Major</b>	<b>Moderate</b>	<b>Minor</b>	<b>Negligible</b>	<b>No change</b>
<b>Very high</b>	Very Large	Large or Very Large	Moderate or Large	Slight	Neutral
<b>High</b>	Large or Very Large	Moderate or Large	Slight or Moderate	Slight	Neutral
<b>Medium</b>	Moderate or Large	Moderate	Slight	Neutral or Slight	Neutral
<b>Low</b>	Slight or Moderate	Slight	Neutral or Slight	Neutral or Slight	Neutral
<b>Negligible</b>	Slight	Neutral or Slight	Neutral or Slight	Neutral	Neutral

Source: DMRB, Volume 11

8.3.36 The impacts on the cultural heritage resource from this DCO Scheme are liable to be both short and long-term, both with the temporary impacts of the construction phases, and the long-term change through the completion of the DCO Scheme, due to permanent changes to the historic and visual setting.

- 8.3.37 Impacts to the non-designated buried archaeological sites and monuments within the DCO Scheme have been restricted to direct physical impacts, rather than consideration of setting, as explained above.
- 8.3.38 Unless stated otherwise, the physical impacts to the non-designated archaeological sites and monuments may be permanent and irreversible.
- 8.3.39 Effects are significant in terms of the EIA Regulations if they are evaluated as having a significance of effect that is moderate, large or very large, whether adverse or beneficial.

## 8.4 Baseline, Future Conditions and Value of Resource

### Portishead to Pill

#### Statutory and Non-Statutory Designations

##### **Scheduled Monuments**

- 8.4.1 There are no SMs within 500 m of the DCO Scheme railway between Portishead and Pill.

##### **Conservation Areas**

- 8.4.2 There are no CAs along this section of the DCO Scheme. There are four such designations in Portishead but each of them lies more than 500 m from the DCO Scheme.

##### **Listed Buildings**

- 8.4.3 There are no listed buildings within the DCO Scheme between Portishead and Pill.
- 8.4.4 There are 12 listed buildings within 500 m of the DCO Scheme railway between Portishead and Pill. A summary of these buildings is provided below. Their locations are shown on Figure 8.1 Sheets 1 and 2 in Volume 3 of the ES, and further information on them is provided in the gazetteer in Appendix 8.1 (DCO Document Reference 6.25).
- The White Lion Public House (HER 2522) at the junction of Portishead High Street and Wyndham Street. The Grade II designation includes part of the former sea wall. The building lies at the western edge of the study area.
  - Moor Farmhouse (HER 9833) on the north side of Sheepway on Portbury Common. This Grade II listed property dates to 1837.
  - No. 38 Station Road, Sheepway “The Thatched Cottage” (HER 9275). This is a Grade II rubble-built cottage from the early 17<sup>th</sup> century.
  - Elm Tree Farmhouse (HER 9036) dates to c. 1830-40 and lies on the east side of Station Road. This has a Grade II listing.
  - Portbury Priors (HER 9034) is a Grade II listed mid-17<sup>th</sup> century farmhouse with major 19<sup>th</sup> century amendments.
  - The Priory (HER 9035) is a Grade II listed property on Station Road in Portbury.

- Portbury Priory and its boundary wall (HER 451 and 452) is a Grade II listed designation. Originally a medieval priory, the structure was substantially remodelled in the 19<sup>th</sup> century. It lies on the southern edge of Portbury.
- St Mary's Church (HER 731 /HER 33560) on Church Lane, Portbury is a Grade I listed building, originally comprising a 12<sup>th</sup> century Norman Church which was extensively modified throughout the medieval and post-medieval periods. The churchyard is included in the designation and comprises two separate listed structures: both 18<sup>th</sup> century chest tomb monuments to the Ballard (HER 33562) and Davids/Maynard (HER 33561) families. The church is adjacent to Junction 10 of the M5.
- The Church of St. George (HER 736) is a Grade II\* listed building on the south side of Church Lane, Portbury. This is a medieval building which was heavily restored in the 19<sup>th</sup> century.
- Court House Farmhouse (HER 2560) on Marsh Lane is a Grade II listed farmhouse dating to 1630, which was remodelled in the 19<sup>th</sup> century, lying to the south of Church Lane in Portbury (See the photographs in Set 1, Appendix 8.1 Annex B, DCO Document Reference 6.25). This site has been purchased by the Bristol Port Company has been redeveloped.

8.4.5 The Grade I and II\* listed buildings above have a **high** heritage value, whilst the Grade II properties have a **medium** heritage value, as shown in Table 8.4.

#### Non-Designated Assets

8.4.6 There are 14 non-designated cultural heritage assets which lie along, intersect or abut the disused railway between Portishead and Pill. The recorded assets are as follows.

- HER 40653 – Boundary to west side of Portbury Rhyne, Figure 8.1 Sheet 1.
- HER 40652 – The former site of a boundary stone on the east side of Portbury Rhyne in Portishead, Figure 8.1 Sheet 1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 45888 – Defence of Britain (“DoB”) site comprising a Light Machine Gun post - Anti-Aircraft Artillery (“AAA”), Figure 8.1 Sheet 1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 5027 – The remains of Portbury Railway Station and World War I and II (“WWI” and “WWII”) DoB sites at the station, Figure 8.1 Sheet 1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 41852 – WWII DoB unloading area for munitions, Figure 8.1 Sheet 1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40662 – Site of a 19<sup>th</sup> century signal box at Portbury Station, Figure 8.1 Sheet 1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).

- HER 41450 – Site of WWII rail sidings and branch line to Marsh Lane camp, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 41842 – Remains of Portbury Shipyard Signal Box, with WWI and WWII sidings (HER 41450), Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 5039 – The former site of WWI and WWII Portbury Shipyard Railway Station, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 40203 – Portishead branch line from the 1860s, Figure 8.1 Sheet 2.
  - HER 41853 – The former site of a former WWII anti-aircraft emplacement at Pill Station, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 5040 – Pill Station, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 40602/43590 – Lodway Farm, Easton-in-Gordano. Historic core settlement identifiable on late 18<sup>th</sup> or early 19<sup>th</sup> century maps. Medieval or even earlier outlines and building fabric may survive, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 40325 – Pill Railway Viaduct, which was constructed between 1864 and 1867, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- 8.4.7 These assets have a **low** heritage value, with the exception of the remains of Portbury Railway Station, which is assigned a **medium** heritage value, given its superior state of preservation.
- 8.4.8 There are four non-designated cultural heritage assets which lie along, intersect or abut the areas of temporary land occupation for construction between Portishead and Pill. The recorded assets are as follows.
- HER 6993 – Enclosures to the southwest of Sheepway Gate Farm, Figure 8.1 Sheet 1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 5582 – The site of a rabbit warren identified from historic mapping, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 47401 – Slight linear embankments identified from aerial photographs, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
  - HER 47400 – An area of former ridge and furrow cultivation identified from aerial photographs, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- 8.4.9 The extant earthwork assets (HER 6993 and 47401) assets have a **low** heritage value. Assets 5582 and 47400 have been identified from historic map sources and aerial photographs and have a **negligible** heritage value.

- 8.4.10 Additional non-designated cultural heritage assets recorded within 50 m from the centreline of the railway and temporary land occupation for construction between Portishead and Pill are shown on Figure 8.1 Sheets 1 and 2 in Volume 3 of the ES, and further information on them is provided in the gazetteer in Appendix 8.1 (DCO Document Reference 6.25).
- 8.4.11 Find spots recorded within the 50 m study area, which are listed in the gazetteer in Appendix 8.1 (DCO Document Reference 6.25), represent artefacts that have since been removed from their original context. These have no remaining value as an asset. The remaining non-designated assets have a **low** heritage value, based on their local historical interest.
- 8.4.12 The site walkovers identified a range of railway architecture not on the HER (see Appendix 8.1, DCO Document Reference 6.25), including:
- A signal post (CH17);
  - Two dilapidated structures (CH20 and CH30) at Portbury Station (HER 5027) and the former Portbury Shipyard Station (HER 5039) respectively;
  - Five former mileposts and signs (CH7, CH12, CH16, CH17 and CH21);
  - Six culverts (CH9, CH15, CH19, CH23, CH27 and CH28);
  - A cattle underpass (CH33); and
  - Three historic railway bridges: Sheepway Bridge (CH14), Marsh Lane Bridge (CH14) and Station Road Bridge (CH32).
- 8.4.13 The surviving railway architecture can also be assigned a **low** heritage value.
- 8.4.14 Other residual railway features identified included modern electrical boxes, *in-situ* and *ex-situ* track and sleepers, the vestiges of breeze block structures and danger signs. Such residual features are of **negligible** heritage value. The locations of all these features are provided in Appendix 8.1 (DCO Document Reference 6.25).

#### Historic Landscape Character

- 8.4.15 The Portishead Branch Line forms part of, passes through, or abuts several HLC Areas between Portishead and Pill. The locations of these areas are shown on Figure 8.2 which is taken from the NSDC planning portals (<http://map.n-somerset.gov.uk/HER.html>). Some of these character areas have been assigned a reference number, owing to the specific type of HLC which recurs across the county, while other unique landscapes are referred to by name only. The HLC areas are not cultural heritage assets or receptors as such, and are not assigned a heritage value. They represent historic landscape usage and are used for establishing the ‘time-depth’ when combined with other historic environmental information.
- 8.4.16 The historic railway corridor has its own assigned landscape character unit: HLC Area 28, which is defined as a ‘Large Scale Utility Landscape’. This refers generally to areas of transport infrastructure dating from the post-medieval and modern periods related primarily to the industrial expansion of the country in the same periods.



8.4.17 The historic railway runs through or alongside the following HLC Areas. These are, from west to east:

- Two areas of HLC Area 28: a 'large scale utility landscape' currently Portishead Business Park and Trading Estate / former Portishead-Bristol Railway and Royal Portbury Docks;
- HLC Area 6: formerly a 15<sup>th</sup> to 17<sup>th</sup> century area of enclosure in an ancient area of reclamation, currently residential development on the east side of Portishead. These features also occur at Portbury;
- HLC Area 20: An area of 18<sup>th</sup> and 19<sup>th</sup> century parliamentary enclosures currently farmland around Moor Farm on the outskirts of Portishead;
- HLC Area 1: Enclosed open fields from the late medieval period around Sheepway and Pill, which were created by local arrangement and exchange;
- 19<sup>th</sup> century infill at Core Acre, Portbury;
- 'Pill (West)' 20<sup>th</sup> century suburban expansion;
- 'Pill (North) core settlements': representing the historic core of the town; and
- Two areas of HLC Area 26: comprises post-medieval designed ornamental landscapes.

### Portbury Freight Line

#### Statutory and Non-Statutory Designations

##### Scheduled Monuments

8.4.18 Three SMs lie within 500 m of the Portbury Freight Line.

- Sea Mills SM. This site forms part of the Roman Settlement of *Abonae*. It is located approximately 180 m east of the Portbury Freight Line, on the east side of the River Avon near its confluence with the River Trym. This major Romano-British settlement probably served the nearby spa town of *Aquae Sulis* (Bath) as its river port. The SM represents an area of buried archaeology.
- Clifton Down Camp SM. This is an Iron Age hill fort on the eastern side of the Avon Gorge, just over 200 m east of the Portbury Freight Line and just to the north of the present-day Clifton Suspension Bridge. The fort is roughly circular, with double ditches and banks and earthen ramparts now covered in dense tree growth. The camp is part of the Clifton Downs parkland.
- Stokeleigh Camp SM. This site is a promontory fort in Leigh Woods located on the west bank of the River Avon and about 120 m west of the Portbury Freight Line at its closest point. The monument includes an Iron Age fort and an associated linear earthwork situated on a carboniferous limestone promontory in Leigh Woods, overlooking the Avon Gorge to the east and the Nightingale Valley to the south.

8.4.19 SMs are designated by Historic England and are accorded a **high** heritage value as shown in Table 8.4.

## Conservation Areas

- 8.4.20 There are eight CAs within 500 m of the Portbury Freight Line. These are, from north to south:
- Shirehampton;
  - Sea Mills;
  - Sneyd Park;
  - The Downs;
  - Clifton and Hotwells;
  - City Docks;
  - Leigh Woods; and
  - Bower Ashton.
- 8.4.21 Shirehampton CA (Figure 8.1 Sheets 2 and 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) is located on the north side of the River Avon and opposite Pill. A small part of the CA is located around a cluster of listed buildings on the north shore of the River Avon associated with Wellington House and stables.
- 8.4.22 Sea Mills CA (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) extends across the River Avon to the local authority boundary on the western shore.
- 8.4.23 Sneyd Park CA (Figure 8.1 Sheets 3 and 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) comprises modern early housing estates and riverside green public open spaces separated from each other by the A4 Portway corridor. Part of the boundary of the CA extends across the River Avon to the local authority boundary and abuts or lies close to the Portbury Freight Line boundary.
- 8.4.24 The Downs CA (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24), like Sneyd Park, extends from Clifton and across the River Avon to the local authority boundary close to the Portbury Freight Line in the Avon Gorge (see the photographs in Appendix 8.1 Annex B Set 4,(DCO Document Reference 6.25).
- 8.4.25 The Clifton and Hotwells CA (Figure 8.1 Sheets 4 and 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) adjoins The Downs and extends across the River Avon to the local authority boundary on the west bank (see the photographs in Appendix 8.1 Annex B Set 5 Sion Hill and Set 6 Hotwell Road, DCO Document Reference 6.25).
- 8.4.26 Leigh Woods and Bower Ashton CAs (Figure 8.1 Sheets 4 and 5, DCO Document Reference 6.24) lie to the west of the DCO Scheme. Leigh Woods lies within the authority of NSDC and Bower Ashton in Bristol City Council.
- 8.4.27 The Leigh Woods CA (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) is centred on a residential suburb of Bristol surrounded by woodland. The CA lies just to the west of the Clifton Suspension Bridge and the Avon Gorge. It is situated at an elevated position above the Avon Gorge. Although the boundary of the CA lies approximately 80 m horizontal distance from the DCO Scheme, the elevated location and surrounding woodland insulates the CA from the DCO Scheme.

- 8.4.28 Bower Ashton CA (Figure 8.1 Sheet 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) is centred on the village of the same name and forms part of the setting to Ashton Court. The eastern boundary of the CA abuts the railway corridor in the vicinity of the sports grounds (including Bedminster Cricket Club).
- 8.4.29 CAs are accorded a cultural heritage asset value of **medium** with the exception of Clifton and Hotwells, which is accorded a **high** value due to the concentration of high value Georgian architecture (see Table 8.4).
- 8.4.30 The CAs contain many listed buildings, which are described in the following subsection.

### Listed Buildings

- 8.4.31 The following listed buildings are located within 500 m of the Portbury Freight Line in and around Pill (Figure 8.1 Sheets 2 and 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- Lodway Croft (HER 8905), Pill, a Grade II listed mid-17<sup>th</sup> century farmhouse.
  - Mulberry House and Mulberry Cottage (HER 8910), Pill, Grade II listed mid to late 17<sup>th</sup> century properties.
  - The Watch House (HER 4000190), a Grade II former Customs House dating to 1850, and now a private house, with retaining walls to the River Avon and former boathouse which is now a garage.
  - A cluster of four listed buildings in and adjacent to Ham Green Hospital. These are a mid-18<sup>th</sup> century Grade II water gate adjacent to the River Avon (HER 4857), a Grade II gazebo 25 yards north east of the main administrative block of the hospital (HER 430569) and two flats under one listing (HER 33456) in the administrative block itself.
- 8.4.32 The buildings bulleted above have a **medium** value, all being Grade II listed.
- 8.4.33 The following listed buildings are located within 500 m of the Portbury Freight Line between Ham Green and Parson Street Junction on the west side of the Avon Gorge.
- The Clifton Suspension Bridge and its associated toll houses and flanking walls, all Grade I listed (HER 1030) (see Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24, and the photographs in Appendix 8.1 Annex B Set 7 in the ES Volume 4 Appendices DCO Document Reference 6.25). Opened in 1864, the bridge was designed and construction started by Isambard Kingdom Brunel. The structures are also on the List of Buildings of Special Architectural and Historic Interest for the City of Bristol. The Portbury Freight Line passes directly underneath the bridge, partly in Clifton Bridge No. 1 Tunnel.
  - A Grade II listed house (HER 33607) called Alpenfels dating to around 1872 and built for Francis F. Fox, Chief Engineer of the Bristol and Exeter Railway (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24). The house lies approximately 25-30 m north of the western abutment to the Clifton Suspension Bridge.

- A Grade II listed property 'Burwalls' (HER 33608) (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24), abutting Bridge Road. Now Burwall's College for Continuing Education, the house was built in 1873.
- 8.4.34 The Clifton Suspension Bridge and its associated toll houses have a **high** heritage value, given their Grade I listing. The other properties described have a **medium** value in line with their Grade II designation.
- 8.4.35 On the east side of Avon Gorge, many listed properties and other structures, mainly in the Clifton area of Bristol, lie within 500 m of the Portbury Freight Line. The following list identifies individual and clusters of listed buildings of greatest interest.
- The Harbour Walls of Sea Mills Dock (Grade II; Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
  - Nos. 4, 6 and 8 Cook's Folly Road, Sneyd Park (Grade II; Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
  - Towerhirst on Seawalls Road (Grade II; Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
  - A limestone, marble and granite drinking fountain (Grade II; Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24) on Clifton Down.
  - Eight semi-detached residential properties covered by four Grade II listings on Clifton Down North. The listing covers the garden walls, gates and gate piers (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24). These properties have some inter-visibility with the Portbury Freight Line.
  - Two Grade II arc lamp posts on Clifton Down North (Figure 8.1 Sheet 4, DCO Document Reference 6.24).
  - Six Grade II\* (including Alva House) and five Grade II houses on Clifton Down South (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24). Like their neighbours mentioned above these have inter-visibility with the Portbury Freight Line.
  - A concentration of listed buildings within the Clifton and Hotwells CA (Figure 8.1 Sheets 4 and 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24), situated mostly on Sion Hill (see Appendix 8.1 Annex B Set 5, DCO Document Reference 6.25), Westfield Place, West Mall, Caledonia Place, Royal York Crescent, Cornwallis Crescent, Hotwell Road, Windsor Terrace, Windsor Place, Freeland Place and Albemarle Row. These are mostly an assortment of listings, with the greater majority being Grade II. Few of these buildings have inter-visibility with the Portbury Freight Line owing to topography, other buildings and mature vegetation. Only those buildings fronting on to Hotwell Road have limited inter-visibility with the Portbury Freight Line, given that there is mature vegetation between the banks of the River Avon and the railway line, which is terraced into the west side of the Avon Gorge (see photographs in Appendix 8.1 Annex B Set 6 and Set 8 in the ES Volume 4 Appendices (DCO Document Reference 6.25)). Most

of these properties are Grade II listed, but there are several Grade II\* listed properties among them.

- The City Docks CA contains a number of listed structures reflecting the historic activity in and around Bristol Docks from the 19<sup>th</sup> century onwards (Figure 8.1 Sheet 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24, and the photographs in Appendix 8.1 Annex B Set 9 in the ES Volume 4 Appendices, DCO Document Reference 6.25). The Floating Harbour Swing Bridge over the North Entrance Lock (Grade II\*), the Swing Bridge over the South Entrance Lock (Grade II\*) and the South Entrance Lock (Grade II\*) known as 'Brunel's entrance' and the quay walls and bollards around Cumberland Basin (Grade II) are listed. Between the New Cut and Cumberland Basin lie the A and B-Bond warehouses (Grade II) (see photograph in Appendix 8.1 Annex B Set 10 in the ES Volume 4 Appendices, DCO Document Reference 6.25), in between which the Ashton Swing Bridge (Grade II) spans the New Cut. South of the New Cut is the C-Bond Tobacco warehouse (Grade II).
- There are seven listed buildings at Bower Ashton within 500 m of the centreline of the Portbury Freight Line (Figure 8.1 Sheet 5 in the ES Volume 3 Book of Figures). These comprise No. 4 Clanage Road (Grade II) a semi-detached property; Kennel Lodge (with walls) on Kennel Lodge Road (Grade II); No. 1 Parklands Road (Grade II); 'Oakleigh' (Grade II), Nos. 1 and 2 Park Farm (Grade II) and Lower Lodge on Ashton Road (Grade II\*). The view from Bower Ashton towards the DCO Scheme is shown in Appendix 8.1 Annex B Set 11 in the ES Volume 4 Appendices (DCO Document Reference 6.25).

8.4.36 The cultural heritage value of Grade II listed buildings and structures is **medium**, and the value of Grade II\* and Grade I listed buildings is **high**.

#### **Registered Parks and Gardens**

- 8.4.37 The Portbury Freight Line passes through the north eastern edge of Leigh Court; a Grade II listed RP&G (see the photographs in Appendix 8.1 Annex B Set 3 in the ES Volume 4 Appendices, DCO Document Reference 6.25). The RP&G designation comprises the remnants of early 19<sup>th</sup> century parkland, which replaced an earlier landscape. The designation covers 233 ha and abuts the local authority boundary on the west bank of the River Avon. The RP&G surrounds Leigh Court, a Grade II\* listed building built in the early 19<sup>th</sup> century in the Palladian style. Leigh Court lies about 680 m from the DCO Scheme at its closest point. The former archway and entrance to Leigh Court off Abbots Leigh Road comprises the Gateway and West Gateway, Central Archway, flanking walls and piers, all Grade II listed buildings. The railway route passes along the existing Portbury Freight Line chiefly within a cutting which abuts and is contained by substantial mature vegetation. The railway forms part of the historic landscape in this area and there is little or no inter-visibility to and from the railway line to the vast majority of the RP&G and Court Leigh (Appendix 8.1 Annex B in the ES Volume 4 Appendices, DCO Document Reference 6.25).
- 8.4.38 Ashton Court, a Grade II\* listed RP&G abuts Clanage Road along its eastern boundary and Ashton Road along its southern boundary in Bower Ashton. At its closest point, the RP&G lies about 20 m west of the Portbury

Freight Line. The site has been developed as formal parkland since 1802 and replaced an earlier formal landscape.

8.4.39 RP&Gs are designated by Historic England and are accorded a **high** cultural heritage asset value (see Table 8.4).

#### Non-designated Assets

8.4.40 There are 17 non-designated archaeological monuments and historic structures located along the Portbury Freight Line.

- HER 2981 – the former site of lime kilns erased by the construction of the railway in the 19<sup>th</sup> century (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 40018 – the Portbury Freight Line cuts through what was once Ham Green Farm (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 5041 – Ham Green Halt – the site of the former railway station at Ham Green (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 5042 – the former site of Ham Green station (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 44801 – Railway spoil heap opposite Sea Mills (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 41846 – Ham Green Tunnel (also known as Pill Tunnel) (Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 40363 – Site of a wharf at a former quarry (Walcombe Slade) (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 41310 – Site of a 19<sup>th</sup> century signal box on railway line at Leigh Woods (1885 OS) (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 5052 – Site of Nightingale Valley Halt (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 42500 – Site of the 'Cupiloe' at Nightingale Valley, 1684 (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 42501 – Site of a cottage in Nightingale Valley, 1626 (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 42502 – Site of a lime kiln, 1626 (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 2206 – Site of Stockley Vale Copper Works (Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 41843 – Clifton Bridge Rail Tunnel, which was used as an air raid shelter in WWII (Figure 8.1 Sheet 4 4 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).

- HER 2022M – Clifton Bridge Railway Station (Figure 8.1 Sheet 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 2023M – Ashton Gate Halt (Figure 8.1 Sheet 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).
- HER 2064M – Frayne's Colliery (Figure 8.1 Sheet 5 in the ES Volume 3 Book of Figures, DCO Document Reference 6.24).

8.4.41 These assets have a **low** heritage value.

8.4.42 There are nine non-designated cultural heritage assets which lie along, intersect or abut the areas of temporary land occupation for construction along the Portbury Freight Line. The recorded assets are as follows.

- HER 5791 – Large landscaped pond at Ham Green, Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40228 – Post-medieval pottery from Rock Cottages, Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40238 – Site of a former farmhouse at Rock Cottages, Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40676 – Site of a hydraulic ram at Chapel Pill, Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40677 – Site of a hydraulic ram at Chapel Pill, Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40235 – Site of a boundary stone at Chapel Pill, Figure 8.1 Sheet 3 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40360, 40361, 40362 – Former quarry pits, Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 40123 – Right angled ditch, Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- HER 41311 – Old quarry, Figure 8.1 Sheet 4 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).

8.4.43 Known non-designated cultural heritage assets recorded within 50 m from the centreline of the railway and temporary land occupation for construction for the Portbury Freight Line are shown on Figure 8.1 Sheets 3 to 5 in Volume 3 of the ES (DCO Document Reference 6.24), and further information on them is provided in the gazetteer in Appendix 8.1 (DCO Document Reference 6.25).

8.4.44 These non-designated assets are all considered to have a **low** heritage value at best.

8.4.45 The site walkovers identified a limited range of railway architecture not on the HER (see Appendix 8.1, DCO Document Reference 6.25), primarily relating to engineering structures including:

- Three historic railway bridges: Cages Bridge (CH34), Clifton Bridge (CH45) and Purells Bridge (CH47);

- A series of underbridges (CH35, CH36, CH39, CH40, CH41, CH43 and CH44); and
  - An historic footbridge (CH46) at the former Clifton Station.
- 8.4.46 These non-designated assets are all considered to have a **low** heritage value. The exact locations of all these assets are provided in Appendix 8.1 (DCO Document Reference 6.25).
- 8.4.47 Other features identified included a series of retaining walls of **negligible** heritage value.

#### Historic Landscape Character

- 8.4.48 The Portbury Freight Line passes through or abuts:
- 'Ham Green (West)' 19<sup>th</sup> century infill, Easton-in-Gordano;
  - Two sections through HLC Area 26: post-medieval designed ornamental landscape (the remaining manor estate landscape to the west of Ham Green Hospital);
  - HLC Area 20: 18<sup>th</sup> and 19<sup>th</sup> century enclosure by local and Parliamentary Acts;
  - Ham Green Hospital, an area of 20<sup>th</sup> century development;
  - HLC Area 20: a sliver of 18<sup>th</sup> and 19<sup>th</sup> century parliamentary enclosure to the east of Ham Green Hospital;
  - HLC Area 11: Post-medieval (18<sup>th</sup> and 19<sup>th</sup> century) parliamentary enclosures;
  - HLC Area 5: an area of medieval (or earlier) enclosure of rich, wet grassland in between the Portbury Freight Line and the River Avon;
  - HLC Area 26: comprises post-medieval designed ornamental landscapes;
  - HLC Area 21: Pre-1800 ancient woodland (the Leigh Woods estate);
  - HLC Area 28: a Large Scale Utility landscape (post-medieval quarry area in the Avon Gorge);
  - HLC Area 5: Medieval (or earlier) enclosure of wet grassland (at Rownham Hill).
- 8.4.49 The locations of these areas are shown on Figure 8.2 taken from the NSDC planning portals (<http://map.n-somerset.gov.uk/HER.html>).
- 8.4.50 The HLC areas are not receptors as such and cannot be assigned a heritage value. They are used for establishing the 'time-depth' of various areas when combined with other historic environment information.



## 8.5 Measures Adopted as Part of the DCO Scheme

- 8.5.1 A number of measures have been included as part of the scheme design in order to minimise certain environmental effects. These include:
- careful designing of the DCO Scheme to ensure key receptors are avoided where possible;
  - construction adopting certain best practice techniques, which are introduced in the ES Appendix 4.1 Code of Construction Practice ("CoCP") (DCO Document Reference 8.15) and presented in more detail in the ES Appendix 4.2 Master CEMP (DCO Document Reference 8.14); and
  - compliance with regulatory and legislative regimes as required by law.
- 8.5.2 Network Rail has responsibility for the maintenance and repair of the operating railway, including 19<sup>th</sup> century structures built as part of the railway such as Pill Viaduct, numerous bridges, and retaining walls along the Avon Gorge.

## 8.6 Assessment of Effects

### Construction Phase

#### Removal of Existing Railway Infrastructure

- 8.6.1 The engineering works would not affect many of the recorded archaeological assets along the NSIP and the Portbury Freight Line as these represent mostly dismantled DoB sites and areas where pre-railway archaeology was erased by the construction of the line in the 19<sup>th</sup> century.
- 8.6.2 Construction activities may result in the removal of existing historic railway assets (non-engineering structures such as signal posts, signs and disused structures). The following paragraphs describe the impact of the DCO Scheme on the non-designated HER historic railway assets, which are assessed to be low value. The other features identified along the railway line are of negligible value and are not assessed individually. A Level I HBR of all the assets identified along the railway corridor is provided in Appendix 8.1 (DCO Document Reference 6.25).
- 8.6.3 HER 40203 – The extant remains of the Portishead Branch of the Bristol to Exeter Main line. This historic railway line was closed in the 1960s, although sections were re-laid in the 1980s as part of the Great Western 150 celebrations in 1985 for steam excursions and the track between Parson Street Junction and Portbury Dock Junction was re-laid in the early 2000s prior to reopening the line for freight to and from Royal Portbury Dock. Even so, the railway corridors still retain elements from the original railway built in the 1860s, including signals, signal boxes and the remains of several stations with extant platforms along the route. The construction phase would not affect built structures such as the original rock cut tunnels, Pill Railway Viaduct, the remains of Portbury Station and other remnant platforms, and the course of the railway itself. Ballast, tracks, sleepers and all other extant features will be removed and replaced. This would amount to a major negative impact on low or negligible value assets.

- 8.6.4 HER 5027 - Portbury Railway Station and the remains of WWI and WWII DoB sites at the station, Figure 8.1 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24). Portbury Station will be left intact during construction, but will not be brought back into use as it is now a private residence. The DoB assets are no longer extant structures, being temporary wartime emplacements. The DCO Scheme would amount to no change on this asset.
- 8.6.5 HER 41842 – The possible remains of Portbury Shipyard Signal Box, with WWI and WWII sidings (HER 41450), Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24) will not be affected by construction. The DCO Scheme will have no change on this asset.
- 8.6.6 HER 5039 - The possible remains of the former site of Portbury Shipyard Station, Figure 8.1 Sheet 2 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24) will not be affected by construction, meaning no change to the asset.
- 8.6.7 HER 41843 - Clifton Bridge Rail Tunnel, which was used as air raid shelter in WWII. The DCO Scheme will not change the tunnel in any way that will materially affect its structure or appearance.
- 8.6.8 HER 2023M – The platforms at Ashton Gate Halt still remain but are degraded. There will be no change to this low value asset.
- 8.6.9 HER 6432 - Ashton Junction Signal Box is still a standing feature but will not be affected by construction. The DCO Scheme will not change the asset.
- 8.6.10 The major adverse impact on existing assets of low and negligible value would result in a **slight adverse** effect, which is not significant in relation to the EIA Regulations. Where construction would result in no change to the remaining heritage asset, the significance of effect would be **neutral** and not significant in relation to the EIA Regulation.
- 8.6.11 The removal of much of the historic railway architecture at Pill Station (HER 5040) would constitute a major adverse impact on an asset of low value, resulting in a slight adverse effect, which is not significant in relation to the EIA Regulations. A Level 1 HBR (Appendix 8.2, DCO Document Reference 6.25) has been undertaken for 7 Station Road (HER 5040). This document provides a photographic and descriptive record of this structure and provides an assessment of the heritage significance of the asset. Given this measure of preservation by record, the slight adverse effect resulting from the demolition of this low value asset has been reduced to **neutral**, and not significant in relation to the EIA Regulations.

#### Repair of Existing Railway Infrastructure

- 8.6.12 There are a number of retaining walls along the Portbury Freight Line that may have to be repaired to bring them up to the required standard. Most of the retaining walls are in a fair condition and only need minor works such as repointing (see Chapter 4 Description of the Proposed Works, DCO Document Reference 6.7). The work is predicted to have a negligible to moderate beneficial impact on assets of a negligible value, resulting in a **neutral to slight beneficial** effect.
- 8.6.13 Quarry Bridge No. 2 (CH43) will be strengthened (see Chapter 4 Description of the Proposed Works, DCO Document Reference 6.7). The current

proposals for the works involve cutting out the track and excavating halfway down the abutments from the railway, demolishing the bridge arch, preparing the abutments, lifting a precast cill beam into the new structure, installing precast headwalls which would be stitched together and waterproofed, backfilling the embankments and re-laying the track across the bridge. The work is predicted to have a minor adverse impact on a low value asset, resulting in a **slight adverse** effect. Depending on the final engineering solution for the repair works, much of this asset may be preserved *in-situ* resulting in a moderate beneficial impact and **slight beneficial** effect.

- 8.6.14 In summary, all of the extant railway engineering structures (bridges, tunnels, culverts and viaducts) would be either unaffected by the construction works or subject to minor beneficial impacts from repair and maintenance works. The significance of effect on these low value assets would be **neutral** or **slight beneficial** respectively, which is not significant in relation to the EIA Regulations.

#### Setting of Heritage Assets

- 8.6.15 The DCO Scheme can affect the setting of heritage assets which lie within the Zone of Visual Influence and/or where there is some degree of inter-visibility between the DCO Scheme and the asset in question, or where the DCO Scheme alters the ambience of the heritage features, such as through a change in the noise climate. The impacts are temporary when occurring only during the construction period.
- 8.6.16 The listed buildings in the study area mostly lie at some distance from the DCO Scheme and whilst there might be low level background noise from construction traffic, together with some visibility of the construction process, the impact on these designated structures will be negligible to no change, resulting in a **neutral** effect.
- 8.6.17 One exception is Court House Farm (HER 2560), which is located about 140 m from the DCO Scheme. The views from and to the farmhouse are limited by the surrounding farm buildings and hedgerow planting around nearby fields. The view towards the DCO Scheme is partly screened by a row of poplar trees on farm land alongside the railway. Other things being equal, the impact of construction of the DCO Scheme on the setting of the farmhouse would be assessed as **slight adverse** effect. However, the setting of this farmhouse has recently changed as the Bristol Port Company has purchased this site and has built a new access and cargo area to the west of the farmhouse and south of the railway line and will build a new access bridge over the railway should the DCO Scheme be consented. Consequently, the setting of the farmhouse has changed materially before the DCO Scheme is built. The cumulative effects of the DCO Scheme in combination with ongoing development of this property is discussed below under cumulative effects and in Chapter 18 (DCO Document Reference 6.21) of this ES.
- 8.6.18 The non-designated sites within 50 m of the DCO Scheme are of low value and are evaluated to have no change or minor adverse impact during construction, resulting in a **neutral** effect.

- 8.6.19 The White Lion Public House (HER 2522) has no inter-visibility with the DCO Scheme and will not suffer from construction-related impacts such as noise and vibration. This asset has a medium value. Consequently, there will be no change on this asset, and a **neutral** effect.
- 8.6.20 Moor Farmhouse (HER 9833) on Portbury Common lies some distance from the construction zones and access points and should not be affected by construction traffic or noise. This asset has a medium value. There will be no change on this asset, and a **neutral** effect.
- 8.6.21 The two listed buildings at Sheepway, the Thatched Cottage (HER 9275) and Elm Tree Farmhouse (HER 9036), are in closer proximity to the DCO Scheme than the listed buildings above. However, they are outside the construction zone and have little or no inter-visibility with the DCO Scheme. These assets have a medium value. There will be no permanent change on these properties, with a **neutral** effect. However, there will be an impact on these assets due to changes in their setting as a result of their proximity to areas to be used for temporary land occupation during construction, see Paragraph 8.6.16.
- 8.6.22 Portbury Priors (HER 9034) has no inter-visibility with the DCO Scheme and will be well outside the construction zone. This asset has a medium value. There will be no change on this asset and a **neutral** effect. The same level of impact and effect will be relevant to the listed Portbury Priory and its boundary wall (HER 452) and The Priory Hotel (HER 9035).
- 8.6.23 The Church of St Mary (HER 471) at the east end of Portbury village, along with the listed funerary architecture within the churchyard (HER 33561 and 33562) have no inter-visibility with the DCO Scheme and are screened by the intervening vegetation and the M5. These assets have no relationship to the proposed construction zone. There will be no change on these assets and a **neutral** effect.
- 8.6.24 The Church of St George (HER 736) in Church Road, Easton-in-Gordano has a high asset value and has no inter-visibility with the DCO Scheme, as the views are blocked by the M5 corridor like the other heritage assets in Portbury. The church also lies well outside the proposed construction zone. There will be no change on these assets and a **neutral** effect.
- 8.6.25 Lodway Croft (HER 8905) has a medium asset value and has no inter-visibility with the DCO Scheme. Although there is bound to be some construction traffic on the road on which the property lies there will be no change on these assets and a **neutral** effect.
- 8.6.26 Watch House (HER 40190) and Mulberry House and Cottage (HER 8910) are located at the northern end of Watch House Road. While there are views along the road towards Pill Viaduct, the views from the properties are screened by intervening houses and gardens. During construction, the maintenance works to Pill Viaduct will have no change on the setting of these assets and a **neutral** effect.
- 8.6.27 On the north side of the River Avon the Shirehampton CA and the listed buildings within it have a medium asset value but has no inter-visibility with the DCO Scheme. The construction-related activity would mean no change on these given distance and topography. This will result in a **neutral** effect.

- 8.6.28 The Sea Mills CA is a heritage asset of medium value and has some limited inter-visibility with the DCO Scheme. The only discernible impact likely to change the setting of the CA would be vegetation clearance related to this phase of the DCO Scheme resulting in a small change in the views from the north bank of the River Avon and the A4 corridor. However, this would have limited impact on the designation as a whole. The impact magnitude can be classed as a negligible negative one, with a resulting **neutral** effect.
- 8.6.29 The DCO Scheme runs through the Leigh Court RP&G, which has been assigned a medium asset value. The DCO Scheme will comprise the reconfiguration of the existing Portbury Freight Line and some vegetation removal. This will amount to no more than a very minor change within an existing rail corridor. The magnitude is no more than a negligible negative impact, resulting in a **neutral** effect.
- 8.6.30 The high value SM of *Abonae* on the east side of the River Avon has inter-visibility with the DCO Scheme, where there are gaps in the existing vegetation. Construction impacts will amount to no change. This would result in a **neutral** effect on the setting of the monument.
- 8.6.31 The Sneyd Park CA abuts the DCO Scheme. The inter-visibility with the DCO Scheme is limited; chiefly from the A4 and probably a small number of properties right at the lip of the Avon Gorge. The change wrought by the DCO Scheme will be minimal in terms of vegetation removal and therefore loss of some the existing visual screening. The designation has a medium asset value. With a negligible negative impact, the resulting effect would be **neutral**.
- 8.6.32 The Downs CA has a medium asset value and has inter-visibility with the DCO Scheme. Currently the vegetation along the line of the Portbury Freight Line screens the main viewing points in the CA from Clifton Down and Black Rocks (also known as Sea Walls) from the railway. Removal of much of this screen would make the railway more visible from the opposite side of the Avon Gorge (both top and bottom). However, this would affect only a small portion of the CA designation and would only amount to a negligible negative impact, resulting in a **neutral** effect.
- 8.6.33 The listed drinking fountain adjacent to the A4 on Hotwells Road, along with Towerhirst which lies at the top of the Gorge near Black Rocks, have inter-visibility with the DCO Scheme. With their medium asset values, there would amount a negligible negative impact on both assets, resulting in a **neutral** effect.
- 8.6.34 Stokeleigh Camp SM (71) lies within the Leigh Woods RP&G and is hidden from the DCO Scheme within the woodland at the top of Avon Gorge. This asset has a high value but there will be no change to the asset resulting from the DCO Scheme. This would result in a **neutral** effect.
- 8.6.35 Directly to the east of Stokeleigh Camp lies Clifton Down Camp SM which contains the Grade II\* listed Clifton Observatory. Given their relationship, these assets both have a high asset value. They have inter-visibility with the DCO Scheme and as a result the removal of vegetation will amount to a negligible negative impact. This would result in a **slight adverse** effect on the two designations, given the increased views from the top of the Avon Gorge down onto the railway line.

- 8.6.36 The Leigh Woods CA has a medium asset value. There is no inter-visibility with the DCO Scheme. The changes to the Portbury Freight Line would have no change on the designation, resulting in a **neutral** effect.
- 8.6.37 The Clifton Suspension Bridge has inter-visibility with the DCO Scheme. This high value asset landmark feature lies directly over the Portbury Freight Line. There are points to the north and south of the bridge where the inter-visibility extends, including the viewing point at Sea Walls in The Downs CA (see Appendix 8.1 Annex B, photographs in Set 4 in the ES Volume 4 Appendices, DCO Document Reference 6.25). The construction phase would affect the views from the bridge down to the railway. As the railway alignment for the DCO Scheme will be built along the footprint of the existing single line railway it is currently assumed that there would be limited vegetation removal to accommodate the railway. A two metre strip of vegetation removal will be required to install the new paladin fencing and the vegetation would grow back in due course (see Chapter 4 Description of the Proposed Works, DCO Document Reference 6.7, for an illustration of the type of fencing). Much of the construction will be from the railway itself due to the access constraints imposed by the Avon Gorge. The small welfare compounds to be provided to staff will be temporary and unlikely to be noticeable within the panorama of the gorge. The main construction compound at Clanage Road to the south of Clifton Suspension Bridge would not be visible from the asset. The proposed Scheme-related changes to the Portbury Freight Line would amount to only a small difference to the current relationship between the railway and the bridge. These impacts would amount to a negligible negative one, resulting in a **slight adverse** effect.
- 8.6.38 The Clifton and Hotwells CA encompasses the chiefly Georgian developments that give Clifton its historic character. The CA has inter-visibility with the DCO Scheme (the western edge of it lies approximately 120 m from the railway). Given its unique status, it has a high value. Removal of the vegetation presently screening much of the Portbury Freight Line from the designation would change the inter-visibility with that part of the designation occupying the eastern side of Avon Gorge. There are areas within the CA from where there are views of the DCO Scheme from street level. These construction impacts would amount to a negligible negative one, resulting in a **slight adverse** effect.
- 8.6.39 The six houses (Promenade House, Engineers House, Taylor Maxwell House, Trafalgar House, Chatford and Merchant Hall), two lampposts and a drinking fountain that lie along Clifton Down Road (north) have medium asset values. These are located at the western edge of the Clifton and Hotwells CA but have no inter-visibility with the DCO Scheme. There will therefore be no change to these buildings in terms of setting, resulting in a **neutral** effect.
- 8.6.40 There are eleven listed houses along Clifton Down Road (south) comprising five Grade II\* listed and six Grade II listed buildings. Taken together as a group, they are given a high asset value. There is no inter-visibility with the DCO Scheme, due to the topography and intervening mature vegetation. Consequently, the construction of the DCO Scheme would result in no change in terms of impact with a **neutral** effect.
- 8.6.41 Sion Hill mostly faces on to Avon Gorge, and therefore has some inter-visibility with the DCO Scheme, particularly from the upper storeys of the 37

- listed buildings which line the street. In assessment terms, these buildings can be formed into a group as the potential impacts will be the same for the individual buildings. They have a high asset group value. The removal of some vegetation and construction activity will probably have a minor negative impact on the visual sight-lines from the west side of the buildings on Sion Hill down to the Portbury Freight Line. This would result in a **slight adverse** effect.
- 8.6.42 Nos. 1-10 Windsor Place have a medium asset value as a group. There will probably be some inter-visibility with the DCO Scheme from the upper storeys of the buildings, though none from ground level. The impact of vegetation clearance and construction activity on the inter-visibility would be negligible leading to a **neutral** effect.
- 8.6.43 Windsor and Victoria Terraces are another grouping of listed buildings on the west side of the Clifton and Hotwells CA. As a group they have a medium asset value. Most of the properties on Victoria Terrace and Windsor Place have no inter-visibility with the DCO Scheme. There will be no change from the construction of the DCO Scheme on these assets, and a **neutral** effect.
- 8.6.44 Nos. 16-19 and 20 and 21 Freeland Place consist of a terrace of 1820s houses with inter-visibility with the DCO Scheme. These properties have a group asset value of medium. The construction phase will have a minor negative impact on the settings of the buildings given the relatively close proximity to the railway line. This would result in a **slight adverse** effect.
- 8.6.45 Nos. 308 and 309 Hotwell Road, Freeland Court, (Grade II\* listed) have views across Hotwell Road and the River Avon, although the railway is largely obscured by mature vegetation along the railway boundary. As a worse case, removal of some of the vegetation along the railway would result in a minor negative impact on setting of this high value resource, resulting in a **slight adverse** effect.
- 8.6.46 Nos. 302 and 304 Hotwell Road, along with Nos. 3 and 5 Granby Hill are assessed as part of a group, given their proximity to one another at and around the junction between Granby Hill and Hotwell Road. The group asset value is medium, and the inter-visibility with the DCO Scheme is very limited for the most part. There is substantial existing visual severance because of the A4 Hotwell Road and the concrete footbridge across it. The construction phase will result in a negligible negative impact, resulting in a **neutral** effect.
- 8.6.47 The Paragon Nos. 1 to 14 and 15 are all Grade II\* listed buildings. The Paragon No. 15 is a prominent feature in views of Clifton from the south across the River Avon and has views out towards the railway. Views from the lower floors of The Paragon Nos. 1 to 14 towards the River Avon may be obscured by trees along the road and in neighbouring gardens, but there may be views at higher levels. As a worse case, the removal of some of the vegetation along the railway during construction may open up views of the railway, which would result in a negligible negative impact on a high value asset, resulting in a **slight adverse** effect.
- 8.6.48 Along Hotwell Road there are listed buildings that have inter-visibility with the DCO Scheme. These include Vincent Parade and Rock House (both Grade II listed) and The Colonnade (Grade II\* listed). Vincent Parade and Rock House have a medium value and The Colonnade has a high value.

- The construction period will change the sight-lines from the buildings to the other side of the Gorge, and this will amount to a minor negative impact, resulting in a **slight adverse** effect.
- 8.6.49 To the west of the DCO Scheme lies the Ashton Court RP&G. Its designation warrants a high asset value. There is some limited inter-visibility from the eastern fringe of the designation and the DCO Scheme. The DCO Scheme will have a negligible negative impact on the designation, resulting in a **neutral** effect.
- 8.6.50 The DCO Scheme runs along the existing railway forming the eastern edge of the Bower Ashton CA separated by Clanage Road. The CA has a medium asset value. The scheme construction would mean little change to the existing environment and amounts to a negligible negative impact. This would mean a **neutral** effect on the designation.
- 8.6.51 The seven listed buildings within the village of Bower Ashton, and which lie within the CA, have a group value of medium. The six properties to the west of the A639 have no inter-visibility with the DCO Scheme. The construction phase would have no change to their settings, resulting in a neutral effect. The sole property lying east of the same road (the Grade II listed Bower Cottage Double House) has some inter-visibility with the DCO Scheme from its rear. The construction would comprise a negligible negative impact, resulting in a **neutral** effect.
- 8.6.52 Views from the Plimsoll Swing Bridge on Brunel's north and south lock towards the railway are obscured by vegetation along the railway boundary. During construction, the removal of vegetation could open-up views of the railway. As a worst-case scenario, the loss of some of the vegetation along the railway may result in a negligible change on the setting of this high value resource, resulting in a **slight adverse** effect.
- 8.6.53 In summary, the construction of the DCO Scheme may result in neutral or a slight adverse effect on the setting of heritage assets along the railway, but these are not considered to be significant in relation to the EIA Regulations.

#### Temporary works at construction sites and haul roads

- 8.6.54 At each of the greenfield construction sites (listed below) the contractor will be required to comply with Defra's Code of Construction Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009). The top soil will be removed and possibly a hard core set down to support the placement of storage, plant and welfare and office facilities. This process has the potential to remove or truncate buried archaeology, but more likely to damage it through compression. The imported hard core or aggregate will potentially lie directly on top of the natural geological strata, in to which archaeological features would still survive. As an alternative, a product like "Geobind" may be mixed with the soil to create a load-bearing surface. During reinstatement of the compounds, the soil may be broken up and mixed with sodium bicarbonate to return the land to its original state. The haul roads may be constructed from type 1 aggregate overlying an impermeable membrane or lion tracks aluminium temporary haul roads could be used in some locations. The likelihood of compression of buried archaeology is therefore the most likely construction-related impact.



- 8.6.55 During consultation with NSDC's Archaeologist and Conservation Officer in December 2015/January 2016, and during the statutory consultation in autumn 2017, a watching brief during initial soil stripping of greenfield construction sites was recommended. An archaeological watching brief will be undertaken during the top soil stripping at Portishead Station, Sheepway, The Portbury Hundred, Lodway Farm, Pill Tunnel eastern portal and Clanage Road construction compounds by appropriately qualified archaeological contractors working to a Written Scheme of Investigation approved by NSDC. This is a standard method to mitigate impacts to archaeological remains, with the objective being preservation by record. Implemented to a detailed Written Scheme of Investigation, approved in advance, the watching brief would fulfil mitigation objectives. Further mitigation would be agreed should any archaeological finds be made (see Section 8.7).
- 8.6.56 The contractor will be required to prepare and implement procedures to be followed in the event of the discovery of buried archaeological remains, human remains and buried treasure. The scope of this procedure is likely to cover the need to halt the works, report the find to the relevant authorities, and record and archive any remains encountered. Such works would be conducted by an archaeological contractor.
- 8.6.57 The potential archaeological issues for the temporary land occupation areas are described below.
- 8.6.58 The proposed construction compound in Portishead is located in an area where there are no archaeological records on the NSDC HER. Given the evidence for human occupation within the surrounding landscape from the prehistoric period onwards, and in the absence of previous development impacts, a moderate potential for unknown archaeological assets is identified. As a worst-case scenario, a medium asset value can be assigned to this resource (if present). A pre-mitigation moderate negative impact is predicted, leading to a moderate adverse effect. However, taking into account the likely previous impacts from sustained agriculture across the proposed compound area, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. A moderate negative impact would therefore result in a **slight adverse** effect.
- 8.6.59 There is no known archaeological resource within Sheepway Construction Compound. The site lies at the edge of the historic settlement of Sheepway. Given the evidence for human occupation within the surrounding landscape from the prehistoric period onwards, and in the absence of previous development impacts, a moderate potential for unknown archaeological assets is identified. As a worst-case scenario, construction enabling works would result in a moderate negative impact, resulting in a **moderate adverse** effect, assuming any archaeology present has a medium value. However, taking into account the likely previous impacts from sustained agriculture across the proposed compound area, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. A moderate negative impact would therefore result in a **slight adverse** effect.

- 8.6.60 The haul route to the south-east of the Sheepway Construction Compound crosses a series of non-designated enclosures (HER 6993) of low value. The haul road would have a negligible impact on this asset, resulting in a **neutral** effect.
- 8.6.61 The Portbury Hundred Construction Compound has no archaeological assets within it, as recorded on the NSDC HER. The site is located within an area of low-lying ground south of Sheepway village. The nearby M5 and Portbury Hundred run on embankments to the south east. The potential for direct human settlement is likely to be lower here, though the remains of ancient historic landscapes might lie buried at depth below the present ground level. The construction-related topsoil-stripping is likely to result in little more than a minor negative impact on potential archaeological assets of a medium value, if present, resulting in a **slight adverse** effect as a worst-case scenario.
- 8.6.62 The haul route to Lodway Construction Compound passes close to the former Portbury Shipyard Station (HER 5039). The haul road would have a negligible impact on the archaeology site, resulting in a **neutral** effect.
- 8.6.63 Lodway Construction Compound occupies an area with a series of embankments (HER 47401) across it, which are presumably related to the land management at Lodway Farm. These have a low asset value. The construction phase could potentially damage these resulting in a major negative impact. The Master CEMP (DCO Document Reference 8.14) includes a requirement to provide a 5 m buffer around the feature, resulting in no change and a neutral effect. In addition, the site of a rabbit warren (HER 5582) of negligible value is identified in the south-west of this area from historic map sources. There will be no change to the asset, as this part of the compound will be used as a reptile receptor site only, resulting in a neutral effect.
- 8.6.64 Given the evidence for human occupation within the surrounding landscape from the prehistoric period onwards, and in the absence of previous development impacts, a moderate potential for unknown archaeological assets is identified for the Lodway construction compound. As a worst-case scenario, construction enabling works would result in a moderate negative impact, resulting in a **moderate adverse** effect, assuming any archaeology present has a medium value. However, taking into account the likely previous impacts from sustained agriculture across the proposed compound area, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. A moderate negative impact would therefore result in a **slight adverse** effect.
- 8.6.65 The Avon Road construction compound in Pill lies in an area of hard-standing or disturbed land within the Portishead Branch Line. The archaeological potential is likely to be low. The impacts of enabling works are likely to be negligible negative, resulting in a **neutral** effect.
- 8.6.66 The Pill Station construction compound is an area of hardstanding. There are items of historic railway architecture within the site, the potential impacts to them are predicted to be no change. There are no archaeological records within the site other than the former location of some WWII AAA post (HER

- 44831), which has not left above ground archaeological remains. The enabling works are predicted to have no change to the existing railway architecture and the WWII AAA site. There will therefore be a **neutral** effect from the work.
- 8.6.67 The Ham Green construction compound is located adjacent to the eastern portal of Pill Tunnel. The compound sites occupy an area within a non-designated park and garden (HER 195), which itself lies around the historic Ham Green Hospital complex. Historic garden features are possibly still an extant feature of the garden, which has a low asset value. The portion of the garden that will be affected by the compound is large, which would equate to a moderate negative impact, resulting in a **slight adverse** effect. There will be no change on the non-designated pond (HER 5791) which lies to the east of this area, resulting in a **neutral** effect.
- 8.6.68 Micro-compound 1 in the vicinity of Miles Bridge may require some very limited topsoil stripping, as it extends into the field adjacent to the Portbury Freight Line. There are no known archaeological assets within the compound site, but nevertheless there may be archaeological potential. A minor negative impact is predicted, given the small scale of the compound, resulting in a **slight adverse** effect.
- 8.6.69 Micro-compound 2 lies within the hard-standing of the Portbury Freight Line near Mile Dock Bridge. There are no known assets within the compound area and the enabling works and construction would amount to no change and a **neutral** effect.
- 8.6.70 Micro-compound 3 lies within a former post-medieval quarry site (either HER 40360 or 40361) near Quarry Bridge No. 4. The quarry will have erased any earlier archaeology within its historic limits. The impact of the compound placement will amount to no change to the asset, resulting in a **neutral** effect.
- 8.6.71 Micro-compound 4 near Quarry Bridge No. 1 lies within the Portbury Freight Line boundary and in an area of no known archaeological assets. There would be no change and a **neutral** effect.
- 8.6.72 Micro-compound 5 lies a short distance to the north of the Clifton Suspension Bridge on the Portbury Freight Line. The compound lies within an area which was occupied by the Stockley Vale lead smelting works (HER 2206) with features like a 17<sup>th</sup> century lime kiln (HER 42502). These assets were fully dismantled and most probably erased when the Portbury Freight Line was cut through them in the 1860s. They have a low asset value. The placement of the compound would have no change on the archaeology, resulting in a **neutral** effect.
- 8.6.73 Micro-compound 6 is located abutting the Portbury Freight Line by Clifton Bridge, the main access off Clanage Road to the River Avon Tow Path. The area is previously disturbed and forms part of the riverside path. There are no archaeological assets at the compound location, and construction effects would amount to no change and a **neutral** effect.
- 8.6.74 In order to undertake some of the geotechnical works on the cliff faces above the railway, it will be necessary to access the top of the cliff faces via an unnamed road off Abbots Leigh Road. This unnamed road is the former entrance to Leigh Court. The gateway and associated features at the

junction with Abbots Leigh Road is a Grade II listed building and the estate road lies within the Leigh Court RP&G. This unnamed road already provides public access to a car park within the woods, with a short section at the south west end leading to the junction with Abbots Leigh Road which avoids passing through the listed gateway. During construction, small geotechnical teams will use this access several times a day over a period of a few weeks to access the Avon Gorge. This use of this route will result in no change on the listed gateway or Leigh Court RP&G and a **neutral** effect.

- 8.6.75 The Clanage Road construction compound is located within the Bedminster Sports Ground. There are no known archaeological assets within the proposed compound limits. Given the evidence for human occupation within the surrounding landscape from the prehistoric period onwards, and in the absence of previous development impacts, a moderate potential for unknown archaeological assets is identified. As a worst-case scenario, construction enabling works would result in a moderate negative impact, resulting in a moderate adverse effect, assuming any archaeology present has a medium value. However, taking into account the likely previous impacts from sustained agriculture across the proposed compound area, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. A moderate negative impact would therefore result in a **slight adverse** effect.
- 8.6.76 The Liberty Lane Sidings compound comprises an area of hardstanding. There are no archaeological assets at the compound location, and construction effects would amount to no change and a **neutral** effect.
- 8.6.77 In summary, the temporary works at constructions site may impact unknown buried remains. However, the value of such assets is assumed to be low, due to historic ploughing and a moderate negative impact (worse case) on the asset would result in a **slight adverse** effect, which is not considered significant in relation to the EIA Regulations.

#### Creation of features for ecological and flood risk mitigation

- 8.6.78 It is proposed to create three new ponds to mitigate potential impacts on Great crested newts, to be located at the Portishead Eco-park, on land to the north side of the disused railway in the vicinity of Station Road, Portbury and on land between the disused railway and the M5 motorway east of Cattle Creep Bridge. These sites are shown on the Environmental Masterplan (DCO Document Reference 2.53). The works involve shallow excavations to create the ponds. There are no known heritage assets at any of these three sites. The proposed pond at the Portishead Eco Park lies on land that was previously farmed, but disturbed during the construction of housing in Portishead as evidenced by the Google-Earth imagery from 2007. A watching brief during top soil stripping will be undertaken for the ponds near Station Road and Cattle Creep Bridge.
- 8.6.79 The need for floodplain compensation has been identified at two locations. One location lies in the vicinity of the Easton-in-Gordano stream, east of Marsh Lane and between the disused railway and the M5. The other location lies at the proposed Clanage Road permanent maintenance compound. The works will involve shallow excavations to lower the current ground levels to provide flood storage. There are no known heritage assets at these sites, although the site off Clanage Road lies in the Bower Ashton

CA. A watching brief during top soil stripping will be undertaken at both sites.

- 8.6.80 Given the evidence for human occupation within the surrounding landscape from the prehistoric period onwards, and in the absence of previous development impacts, a moderate potential for unknown archaeological assets is identified for these sites. As a worst-case scenario, construction enabling works would result in a moderate negative impact, resulting in a moderate adverse effect, assuming any archaeology present has a medium value. However, taking into account the likely previous impacts from agriculture and groundworks associated with previous developments in the vicinity of the DCO Scheme, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. A moderate negative impact would therefore result in a slight adverse effect.

### Operation Phase

- 8.6.81 The operational phase provides an hourly plus service with the passage of two trains one in each direction every forty-five minutes along the DCO Scheme during peak hours and the passage of two trains one in each direction per hour during the off-peak periods. This compares with the current freight usage of the Portbury Freight Line, where the Port is permitted to run 20 freight trains in each direction every day.
- 8.6.82 At night, the trains would be lit, but the only other lighting would be at the stations which are not located near heritage assets, apart from the railway heritage features. The new signals would normally be permanently lit, but as they have directional cowls, these are not expected to be a source of impact on heritage assets outside the railway corridor.
- 8.6.83 From the early phase of construction vegetation removal along the route would have reduced vegetation screening alongside the railway, with the attendant visual intrusion to heritage assets.
- 8.6.84 Along the DCO Scheme between Portishead and Pill, there is no inter-visibility between the listed buildings and the railway and there are no CAs. Consequently, the effect of the DCO Scheme on the setting of heritage assets along that section is **neutral** and not significant in relation to the EIA Regulations.
- 8.6.85 The DCO Scheme between Pill and Ashton Junction passes numerous heritage assets, mostly located on the eastern side of the River Avon, with long distance views towards the railway. These views would have been opened-up from the early phase of construction, principally due to the removal of vegetation along the fencelines which currently screens the railway and also due to localised geotechnical stabilisation works in the gorge. There are no proposals for post-construction planting due to the lack of space within the railway corridor. The vegetation will grow back after a period of time on either side of the fencelines which will partially screen the railway.
- 8.6.86 There would be increases in ambient noise levels as a consequence of the new services. However, as explained in Chapter 13 Noise and Vibration (DCO Document Reference 6.16) after mitigation, the effect of the DCO

Scheme on ambient noise levels is **slight adverse**. As such, there would be no significant effect on any cultural heritage asset, or the ability to appreciate such assets, due to increases in ambient noise levels.

- 8.6.87 A summary of the main results of the assessment of the effects during the operation of the DCO Scheme is provided below.

#### Scheduled Monuments

- 8.6.88 Although the *Abonae* SM, on the east side of the River Avon, has some inter-visibility with the DCO Scheme, the operational impacts will amount to no change, resulting in a **neutral** effect on the setting and heritage value of the monument.
- 8.6.89 Stokeleigh Camp SM lies within the Leigh Woods RP&G and is hidden from the DCO Scheme within the woodland at the top of Avon Gorge. The operation of the railway is assessed to result in no change in setting and a **neutral** effect.
- 8.6.90 Clifton Down Camp SM and Clifton Observatory have inter-visibility with the DCO Scheme as a result of the absence of some vegetation along the railway. This would result in a negligible negative impact and a **neutral** significance of effect on the Clifton Down Camp SM, which chiefly comprises buried archaeology and would not suffer adversely from such a low level of visual change. The effect on the Observatory could amount to (at the very worst) a **slight adverse** one, given the increased views from the structure top of the Avon Gorge down onto the operational railway line.
- 8.6.91 The neutral to slight adverse effects of the DCO Scheme on SMs is not significant in relation to the EIA Regulations.

#### Conservation Areas

- 8.6.92 The operational phase of the DCO Scheme is expected to result in no change or a negligible adverse impact on the CAs, despite the initial loss of screening vegetation and new features such as the security fencing, signals and masts. This largely reflects the fact that the proposed changes are within the context of an existing railway and that the affected views from the CAs are peripheral and over medium to long distances. Increases in ambient noise levels are predicted to be no greater than slight adverse, which is not a likely significant environmental effect (see Chapter 13 Noise and Vibration, DCO Document Reference 6.16). As such, no further consideration of increases in ambient noise levels is provided below and the following assessment is based on the change in visual setting of CAs.
- 8.6.93 Lying on the north side of the River Avon the Shirehampton CA and the listed buildings within it have no inter-visibility with the DCO Scheme. The operational railway would mean no change in visual setting given the distance and topography resulting in a **neutral** effect.
- 8.6.94 The vegetation clearance along the DCO Scheme will be the only discernible impact that would be likely to change the setting of the Sea Mills CA. This would relate to a small change in the views from the north bank of the River Avon and the A4 corridor which would have limited impact on the designation as a whole. Overall, the magnitude of the impact is negligible negative, with a resulting **neutral** effect.

- 8.6.95 The Sneyd Park CA abuts the DCO Scheme and there is limited inter-visibility, chiefly from the A4 and probably a small number of properties right at the top of the Avon Gorge. Consequently, with a negligible negative impact on this medium value asset, the resulting effect would be **neutral**.
- 8.6.96 The western boundary of The Downs CA has inter-visibility with the DCO Scheme. Currently the vegetation along the Portbury Freight Line screens the main viewing points from Clifton Down and Sea Walls or Black Rocks area in The Downs CA of the railway. During the operational phase of the DCO Scheme, the absence of much of this screening would result in the railway being more visible from the opposite side of the Gorge (both top and bottom). Furthermore, this would affect only a small portion of The Downs CA designation and would only amount to a negligible negative impact, resulting in a **neutral** effect.
- 8.6.97 The western edge of the Clifton and Hotwells CA, and historic buildings within it, lie in relatively close proximity (approximately 120 m) to the Portbury Freight Line. The reduction of the vegetation screening along much of the railway from the designation would still amount to no change, because only the very western edge of the designation might be affected. The great majority of the designation would suffer no negative impacts from the DCO Scheme whatsoever. This would result in a **neutral** effect.
- 8.6.98 The DCO Scheme passes the western end of the City Docks CA separated by the River Avon. While the DCO Scheme may affect the setting and views from the western end of the City Docks CA, the magnitude of impact is negligible negative, which results in a **neutral** effect.
- 8.6.99 The Leigh Woods CA has no inter-visibility with the DCO Scheme, lying at a higher elevation and surrounded by woodland. Consequently, the DCO Scheme would have no change on the designation, resulting in a **neutral** effect.
- 8.6.100 The DCO Scheme runs along the eastern edge of the Bower Ashton CA. Part of the Clanage Road construction compound would be converted to a small permanent maintenance access to the railway and the ground level would be lowered by about 10 cms to provide compensation for the new ramp up from the maintenance compound to the railway. It is proposed to landscape the boundaries of this compound to reduce the impact on landscape and views. Despite being located within the Bower Ashton CA, the final appearance of the compound and its planting would not detract from the quality of the CA as a whole. Given the existing operational railway, the DCO Scheme would mean little change to the existing environment, given the significant green 'buffer' in between the railway and the historic village core. The DCO Scheme would amount to no change during operation. This would mean a **neutral** effect on the designation.
- 8.6.101 Overall, the effect of the DCO Scheme on CAs is not significant in relation to the EIA Regulations.

#### Listed Buildings

- 8.6.102 The operational phase of the DCO Scheme is forecast to result in no change and a neutral significance of effect for most of the listed buildings within 500 m of the DCO Scheme due to the lack of inter-visibility. Increases in ambient noise levels are predicted to be no greater than slight adverse,

which is not a likely significant environmental effect. As such, no further consideration of increases in ambient noise levels is provided below. An overview of the operational impacts for all listed buildings identified in this study is provided in the gazetteer in Appendix 8.1 (DCO Document Reference 6.25). Those that could experience an adverse effect due to visual impacts only have been set out below.

- 8.6.103 The Clifton Suspension Bridge crosses over the DCO Scheme and offers views along the railway to the north and south of the bridge. There are also important viewing points of the Clifton Suspension Bridge, such as from Sea Walls in The Downs CA, and from property, including listed buildings from the edge of Bristol. To the north, during the operation phase the views would be changed slightly, with minor modifications to the railway alignment and the loss of some vegetation principally along the line of new fencing on both sides of the railway. The fencing is required for security reasons to avoid trespass across the railway between the woods and the River Avon Tow Path. It is assumed for the purposes of this assessment that the colour of the fencing will be selected to tone in with the backdrop of the woods and the gorge. The view of the fencing will soften over time due to natural revegetation, but it is currently predicted that there is insufficient space along the railway corridor to plant vegetation to screen the fencing and the railway.
- 8.6.104 There will also be two repeater antennae mounted on an 8 m pole at the south end of Clifton Bridge No. 2 Tunnel, with one antenna facing up the railway towards Clifton Bridge No. 1 Tunnel mounted at 8 m and the other mounted at 5 m pointing north into Clifton Bridge No. 2 Tunnel about 500 m northwest of the Clifton Suspension Bridge. An illustrative photograph is provided in Chapter 4 Description of the Proposed Works (DCO Document Reference 6.7) and further assessment provided in Chapter 11 Landscape and Visual Impact (DCO Document Reference 6.14). While the mast may be visible from the middle to the eastern part of the Clifton Suspension Bridge, this slender and unobtrusive structure would not materially detract from the view from the bridge. Two repeater back to back GSM-R antennae will be attached at 5 m to the East (South) Sandstone Tunnel portal, but these will not be visible from Clifton Suspension Bridge. A new signal is also required at the northern end of the Avon Gorge. These are also relatively small and unobtrusive structures in the context of an existing railway along the foot of a wooded gorge.
- 8.6.105 To the south of the Clifton Suspension Bridge, the view along the railway would be much as at present, with some loss of vegetation to accommodate the new fences. To reduce vegetation clearance the existing fencing will be retained along the section of the track that runs between Clifton Bridge and a point near Clanage Road. A secondary 1.8 m high paladin fence will be constructed within the cess along this section of the railway. It is likely that filtered winter views will be afforded towards construction of the new fence, as well as other construction activity on the line. During operation, it is unlikely that the fence will be visible among the existing vegetation given its location.
- 8.6.106 During operations, there will be views of passenger trains passing along this section of the railway.



- 8.6.107 At ground level, the DCO Scheme would not affect the setting of the Clifton Suspension Bridge. All of the above changes to the setting of and views from the Clifton Suspension Bridge are within the context of small scale changes to an existing railway within the panoramic views of the bridge and the Avon Gorge. The magnitude of the impact is assessed to be negligible change from existing conditions on this high value asset. Overall, the impact of the DCO Scheme during the operations phase is considered to have a **neutral** effect based on the information currently available for the assessment.
- 8.6.108 There are also a number of listed structures in Bristol with views across the River Avon which may be adversely affected by the operation of the DCO Scheme.
- 8.6.109 The removal of vegetation and the increased train passes during the operational phase may, in the worst-case scenario, have a minor negative magnitude impact on views from the west side of some of the 37 listed buildings along Sion Hill in Clifton and The Paragon. This would result in a **slight adverse** effect.
- 8.6.110 Nos. 16-19 and 20 and 21 Freeland Place have inter-visibility with the DCO Scheme. The operational phase will have a minor negative impact on the settings of the buildings given the relatively close proximity to the railway line and the visual change. This would result in a **slight adverse** effect.
- 8.6.111 The listed buildings along Hotwell Road have inter-visibility with the DCO Scheme, including Vincent Parade, Rock House, The Colonnade and Freeland Court. The operational period will change the views from the buildings to the other side of the Avon Gorge, with the additional movement of trains. The combined impacts could amount to a minor negative impact, resulting in a **slight adverse** effect.
- 8.6.112 One of the seven listed buildings in Bower Ashton off the A369 Clamage Road, the Grade II listed Bower Cottage Double House, has some inter-visibility with the DCO Scheme at its rear. The DCO Scheme may have a negligible negative impact on this medium value asset resulting in a neutral to a possible **slight adverse** effect.
- 8.6.113 The neutral to slight adverse effects of the DCO Scheme on listed buildings is not significant in relation to the EIA Regulations.

#### Registered Parks and Gardens

- 8.6.114 Although the DCO Scheme runs through the eastern fringe of Leigh Court RP&G, the DCO Scheme will not change the setting of the designation in landscape terms, given the existence of the operating railway and the restriction on views due to the enclosing woodland. Photographs of the views from the railway into Leigh Court are provided in Appendix 8.1 Annex B in the ES Volume 4 Appendices (DCO Document Reference 6.25). The impact of the DCO Scheme will amount to no more than a very minor change within the existing rail corridor in an historic landscape which had previously accommodated an active passenger railway. The impact is no more than a negligible negative one, resulting in a **neutral** effect which is not significant in relation to the EIA Regulations.
- 8.6.115 There is some limited inter-visibility from the eastern fringe of Ashton Court RP&G and the DCO Scheme. As described above for the construction

phase, a short section of the eastern boundary of the RP&G runs along the western side of Clanage Road. Within the eastern part of the RP&G, views towards the railway are constrained by hedgerow planting, mature trees and the stone walls along both sides of Clanage Road. Furthermore, as the form or setting of the designation will not be altered, there will be a negligible negative impact on the designation during the operational phase, resulting in a **neutral** effect, which is not significant in relation to the EIA Regulations.

## 8.7 Mitigation and Residual Effects

### Construction Phase

- 8.7.1 As described in Section 8.6, an archaeological watching brief will be undertaken during the top soil stripping at Portishead Station, The Portbury Hundred, Lodway Farm, Ham Green and Clanage Road construction compounds, the three new ponds for ecological mitigation, and the two flood attenuation compensation sites between Marsh Road and the Easton-in-Gordano stream and the Clanage Road construction compound by appropriately qualified archaeological contractors working to a Written Scheme of Investigation approved by NSDC. In the event that archaeological remains are discovered during the top soil stripping, further mitigation, would be agreed as appropriate with the NSDC Archaeologist.
- 8.7.2 It is difficult to assess the potential impact on unknown buried archaeological remains. Assuming such remains are present and require mitigation in the areas directly affected, a worst-case scenario assumes a medium value of the potential resource, with the construction impacts being moderate adverse, resulting in a pre-mitigation **moderate adverse** significance of effect. However, as noted above, taking into account the likely previous impacts from sustained agriculture across the proposed compound areas, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. A pre-mitigation moderate negative impact would therefore result in a **slight adverse** effect. Once an archaeological watching brief has been applied, the adverse effect score above would be reduced to **neutral**, assuming either the absence of archaeological features or the preservation-by-record of those found.
- 8.7.3 There is a very low risk of any scheme ‘show-stoppers’ emerging from the archaeological resource. It is considered that much of the archaeology and heritage features that pre-dates the original railway would have been destroyed during the construction of the railway in the 1860s. While the search of the heritage records has identified a number of designated and non-designated features within 50 m of the railway, these are of low value, and many within the railway corridor itself are associated with the railway infrastructure.
- 8.7.4 During consultations in December 2015 and January 2016 and during the statutory consultations during autumn 2017 the NSDC Conservation Officer recommended landscaping where the railway passes near CAs. The railway does not cross any CAs, but passes several through the Avon Gorge. However, along this section the railway corridor is relatively narrow. Furthermore, Network Rail has procedures that define permitted planting

related to distance from the track and acceptable species. As a result, for the purposes of this ES it is assumed that there will not be sufficient width within the Order limits to provide planting sufficient for screening purposes between the railway and the eastern (river side) boundary of the railway corridor to screen views from the Cas in Bristol.

- 8.7.5 Landscaping proposals have been prepared to supplement the planting on the boundaries of the Clanage Road permanent maintenance compound which is situated within the Bower Ashton CA. The effect of the compound within the CA is assessed to be **neutral**.

## 8.8 Cumulative Effects

- 8.8.1 The methodology for assessing cumulative effects with other projects is set out in Chapter 18 In-combination and Cumulative Effects (DCO Document Reference 6.21). For the purposes of this chapter, the value, magnitude and sensitivities are as described in Section 8.3.

### Other Projects along the Portishead Branch Line

- 8.8.2 A number of developments are proposed within about 500 m of the DCO Scheme, which are listed in Appendix 18.1 in the ES Volume 4 Appendices (DCO Document Reference 6.25) and shown on Figure 6.2 Sheets 1 to 5 in the ES Volume 3 Book of Figures (DCO Document Reference 6.24).
- 8.8.3 Only one other development is associated with an important heritage asset, namely Court House Farm (HER 2560), which lies approximately 140 m from the DCO Scheme. Existing views to and from the farmhouse are restricted to some extent by the other farm buildings and existing planting. The property is partly surrounded by mature hedgerows and open fields, and there is a line of poplar trees running along the south side of the Portishead to Pill Branch Line which screen views from the farmhouse towards the railway between Royal Portbury Dock Road and Marsh Lane.
- 8.8.4 The setting of the listed building has changed during the course of this impact assessment as the Bristol Port Company (the owners of Royal Portbury Dock) obtained planning permission to install a cargo (vehicle) storage area in the fields to the west of Court House Farm with lighting and a new access off Marsh Lane and bridge over the disused railway line. The development includes proposals for strengthening the existing vegetation belt around the farmhouse for visual screening and planting along the railway for ecological reasons. The cargo storage area is now built and in operation and a hedgerow has been planted along the line of poplar trees to strengthen the screening effect of vegetation along the railway boundary. There is a planning condition in place that the bridge will need to be built before the DCO Scheme is in operation.
- 8.8.5 Given the limited inter-visibility between the farmhouse, the DCO Scheme and the additional planting proposed by the Bristol Port Company, and the change in landscape from a rural to an industrial setting, the operation of an hourly plus service with the DCO Scheme will not materially change the setting of Court House Farm further. Consequently, the construction and operation of the DCO Scheme is not expected to result in a cumulative effect on this heritage asset, resulting in a **neutral** effect.

- 8.8.6 Where relevant, the planning applications for developments within 50 m of the railway corridor have had archaeological conditions attached to them including archaeological interventions and historic building recording. These have been required for a minority of the approved planning applications within the study area, indicating perhaps the lack of archaeological potential in certain areas in addition to the lack of impacts identified on cultural heritage by the local planning advisors.
- 8.8.7 Assuming that planning applications for other projects will be required to mitigate adverse impacts to archaeology and built heritage, the implementation of the DCO Scheme when considered with the other projects will have a neutral cumulative effect, once the mitigation on the DCO Scheme has been applied.

### Other Works for MetroWest Phase 1

- 8.8.8 Other elements of MetroWest Phase 1, namely the Liberty Lane Freight Depot, Parson Street Junction remodelling, Parson Street Station improvements, Bedminster Down Relief Line, and Bathampton Turnback comprise small scale works, confined within the existing railway land. These works are to be undertaken by Network Rail under their permitted development rights and do not form part of the DCO Application. The works required to increase the services on the Avonmouth / Severn Beach line have been undertaken by Network Rail under their permitted development rights as part of the Filton Four Track project.
- 8.8.9 The management and control process used by Network Rail for delivering projects that enhance or renew the operational railway is called Governance for Railway Investment Projects (“GRIP”). The GRIP process provides assurance that a project can successfully progress to the next stage and requires the preparation of reports for each GRIP stage. Environmental studies are undertaken as part of the GRIP process to identify potential issues and capture the need for mitigation during design and construction. The environmental reports are carried forward from options and feasibility design (GRIP 3 and 4), into the detailed design phase (GRIP 5) and construction (GRIP 6). In this way, environmental issues and mitigation measures are identified at an early stage and addressed through the design and construction phases. Consequently, while permitted development works do not require statutory EIA, the GRIP process provides an internal, non-statutory EIA process.
- 8.8.10 Liberty Lane Freight Depot (MetroWest Phase 1): A buffer stop and trap points are required at the depot entrance, within the sidings to enable the continuation of the existing freight train shunting movements from the depot across Parson Street Junction onto the Up Relief Line. These works are within Network Rail's operational boundary and will be implemented using their General Permitted Development rights. These works must be completed before the Portishead Branch Line DCO Scheme starts operating.
- 8.8.11 No heritage assets have been identified at this site and surrounds. As these works will be undertaken within an existing operational railway corridor, the archaeological potential is expected to be low given historic construction activities in this location. The cumulative effects of the DCO Scheme with the works to the Liberty Lane Freight Depot is assessed to be **neutral**.

- 8.8.12 Parson Street Junction (MetroWest Phase 1): Part of the existing junction (switches and crossovers) needs to be renewed which entails replacement of the track across the junction, replacement of signalling equipment and associated works. These works are within Network Rail's operational boundary and will be implemented using their General Permitted Development rights. These works must be completed before the Portishead Branch Line DCO Scheme starts operating.
- 8.8.13 As these works will be undertaken within an existing operational railway corridor, the archaeological potential is expected to be low given historic construction activities in this location. The cumulative effects of the DCO Scheme with the remodelling of Parson Street Junction is assessed to be **neutral**.
- 8.8.14 At Parson Street Station minor platform works are required to bring platform 3 back into use, including adjustment to the platform copers, works to improve track drainage and associated works. These works are within Network Rail's operational boundary and will be implemented using its General Permitted Development rights. These works must be completed before the Portishead Branch Line DCO Scheme starts operating.
- 8.8.15 As these works will be undertaken within an existing operational railway corridor, the archaeological potential is expected to be low given historic construction activities in this location. The cumulative effect of the DCO Scheme with the works at Parson Street Station is considered to be **neutral** and not significant.
- 8.8.16 Bedminster Down Relief Line (MetroWest Phase 1): The Down Carriage Line running from Bristol Temple Meads will be extended past Bedminster station to a new turnout on to the Down Main between Bedminster Station and Parson Street Station. The new turnout is required to enable freight trains returning to Royal Portbury Dock to be held in the southbound direction, allowing passenger trains to pass. The works will include the construction of a new turnout, renewal of approximately 1 km of track on the Down Carriage Line and associated signalling. These works are within Network Rail's operational boundary and will be implemented using its General Permitted Development rights. These works must be completed before the Portishead Branch Line DCO Scheme starts operating.
- 8.8.17 As an existing railway corridor, any archaeological and heritage features would have been disturbed in the original construction of the railway. Network Rail will implement their own procedures on the reuse and disposal of heritage railway assets. The cumulative effects of the DCO Scheme with the works to upgrade the railway for the Bedminster Down Relief Line is assessed to be **neutral**.
- 8.8.18 Bathampton Turnback (MetroWest Phase 1): The Bathampton Turnback will comprise a new crossover between the existing Up line to London and the Down line to Bristol. A short walkway (unsurfaced path) will be provided on the existing Up loop for train drivers to walk from one end of a train to the other end. All the works will be confined to Network Rail's existing land holding and will be undertaken by Network Rail under its General Permitted Development rights. These works are not required for the operation of the Portishead Branch Line DCO Scheme.

- 8.8.19 There are numerous cultural heritage features in the vicinity of the Bathampton Turnback facility, but none on Network Rail land. The proposed construction works at Bathampton Turnback are small scale and within the existing operational railway, which would have been disturbed due to previous construction of the railway. Any upstanding features associated with the works may impact on the setting of nearby features. The nearest listed buildings are bridges associated with the railway and canal. The cumulative effect of the DCO Scheme with the Bathampton Turnback is assessed as **neutral**.
- 8.8.20 The increased services proposed between Bristol and Bath are assessed to have a **neutral** effect on the setting of cultural heritage features, given that no material new land-take will occur and that no new structures will be erected that will have a visual impact on cultural heritage assets.
- 8.8.21 The construction impacts for the Bedminster Down Relief Line and Bathampton Turnback and the potential operational impact of additional services on the setting of nearby cultural heritage resources for other services under MetroWest Phase 1 are scoped out of further cumulative impacts assessment of the DCO Scheme, as these are not considered to have a significant effect on the setting of any cultural heritage features along these sections of railway. The impact of these works on the cultural heritage resource will be considered by Network Rail under their GRIP process.

## 8.9 Limitations Encountered in Compiling the ES

- 8.9.1 The archaeological resource at the proposed greenfield construction compounds is unknown, and therefore a scenario has been assumed whereby archaeological remains exist at these locations and may be disturbed and displaced during top soil stripping.
- 8.9.2 The HER data for both NSDC and BCC are not an absolute record of the known archaeological and historic building resource within the local authority areas. It is merely a database created from past research and archaeological interventions. It provides a baseline of material to inform current and future study. Many of the assets exist on the HER solely as an archive of known archaeology which has been erased by later human activity or historic activity which has not left any physical remains. The latter is true of many of the WW2 DoB features which were dismantled and removed after the end of the war.

## 8.10 Summary

- 8.10.1 The DCO Scheme is assessed to have a direct **slight adverse** effect on non-designated cultural heritage assets during the enabling works and construction through the removal of known historic railway assets along the route corridor. There is also a potential for the DCO Scheme to impact on previously unknown archaeological assets, if present, within the temporary construction compounds. The adverse effects arising from these direct impacts can be adequately mitigated through preservation by record and the significance of effect of the residual impact is assessed to be **neutral** and not significant in regards to the EIA Regulations.
- 8.10.2 The effect of the DCO Scheme on the setting of the designated cultural heritage assets along the route during construction and operation is generally **neutral** and **not significant** in regards to the EIA Regulations.

This results largely from the lack of inter-visibility between the DCO Scheme and heritage assets.

- 8.10.3 During construction, the significance of effect of the DCO Scheme on designated heritage assets was assessed as **slight adverse** for Clifton Suspension Bridge; The Observatory in Clifton Down Camp; Sion Hill; The Paragon 1-14 and 15; Nos. 16-19 and 20 and 21 Freeland Place; and Vincent Parade, Rock House and The Colonnade on Hotwell Road. However, these adverse effects are considered to be **not significant** in relation to the EIA Regulations.
- 8.10.4 During operation, the significance of effect of the DCO Scheme on designated heritage assets was assessed as **slight adverse** for The Observatory in Clifton Down Camp; Sion Hill; the Paragon 1-14 and 15; Nos. 16-19, 20 and 21 Freeland Place; Vincent Parade, Rock House and The Colonnade on Hotwell Road; and possibly one listed buildings in Bower Ashton. This is due to the proximity of some of these assets to the DCO Scheme, and the potential for impacts on setting. However, these adverse effects are considered to be **not significant** in regards to the EIA Regulations.
- 8.10.5 The construction activities at the greenfield construction compounds could have a significant impact on unknown archaeological assets. The significance of these impacts is difficult to assess as the value of any resource that may be present is unknown. A worst-case scenario suggests that given the types of archaeological finds in the area, the value of the resource in greenfield sites may reach medium and the magnitude of impacts during construction would be moderate adverse, resulting in a moderate adverse effect, which would be significant under the EIA Regulations. However, taking into account the likely previous impacts from sustained agriculture across the proposed compound areas, it can reasonably be concluded that any surviving unknown archaeological assets present will already have been subject to a high level of truncation from past ploughing and a low asset value is considered more likely. This would result in a **slight adverse** effect. Given that the soil stripping works will be done under a watching brief, and that a 5 m buffer would be deployed around HER 47401 at Lodway to prevent construction impacts, the significance of effect would be reduced to **neutral** assuming either the absence of archaeological features or preservation by record of any discovered remains.
- 8.10.6 The cumulative effects of the DCO Scheme with other projects is generally assessed to be **neutral** and **not significant** in relation to the EIA Regulations.
- 8.10.7 A summary of the effects of the DCO Scheme on heritage assets is presented in Table 8.7.

Table 8.7: Summary of the assessment of the DCO Scheme on cultural heritage assets

Aspect and control measures embedded in the DCO Scheme	Receptors	Impact	Environmental Mitigation	Residual Effects
<b>Construction activities</b>				
<p>Removal of railway features associated with the original 1867 railway including non-designated HER assets and other features (Pill Station, buffers, rails and sleepers). Preservation by record through Level 1 Historic Building Record for historic railway features and 7 Station Road, Pill.</p>	<p>Non-designated residual railway features <b>Value: Negligible to Low</b></p>	<p>Loss or alteration to features associated with the original railway infrastructure. Demolition of 7 Station Road, Pill. <b>Magnitude: Neutral</b></p>	N/A	<p><b>Magnitude: Neutral</b> <b>Significance of Effect: Neutral</b> <b>Significance for EIA legislation: Not significant</b></p>
<p>Repair of existing railway infrastructure, such as Pill Viaduct, bridges, and retaining walls.</p>	<p>Non-designated railway features. <b>Value: Negligible to Low</b></p>	<p>Repair of features associated with the original railway infrastructure. <b>Magnitude: Neutral to Moderate positive</b></p>	N/A	<p><b>Magnitude: Neutral to Moderate positive</b> <b>Significance of Effect: Neutral to Slight beneficial</b> <b>Significance for EIA legislation: Not significant</b></p>
<p>Earthworks, drainage, spoil disposal, and minor works along the railway corridor resulting in the loss of or damage to buried archaeological remains.</p>	<p>Remaining non-designated archaeological resource along the railway corridor.</p>	<p>Potential loss of buried archaeology within the railway corridor, although presume pre-existing features were lost during</p>	N/A	<p><b>Magnitude: No change to Major negative</b> <b>Significance of Effect: Neutral to Slight adverse</b></p>



Table 8.7: Summary of the assessment of the DCO Scheme on cultural heritage assets

Aspect and control measures embedded in the DCO Scheme	Receptors	Impact	Environmental Mitigation	Residual Effects
CoCP (DCO Document Reference 8.15) and Master CEMP (DCO Document Reference 8.14) to require the contractor to include a protocol in their CEMP on the procedures for dealing with archaeological finds, human remains, and treasure.	<b>Value: Negligible to Low</b>	the original construction of the railway. <b>Magnitude: No change to Major negative</b>		<b>Significance for EIA legislation: Not significant</b>
Works on greenfield sites, including the construction compounds and haul routes, and the creation of new ponds for ecological mitigation and floodplain compensation. Watching brief during top soil stripping of compounds only in accordance with an approved WSI.  5 m buffer zone around known non-designated asset at Lodway Farm (HER 47401) where construction activities would be restricted.	Buried archaeological remains. <b>Value: Medium (worst case), but Low more likely given past history of ploughing.</b>	Damage to and displacement of archaeological material during top soil stripping.  Compression of archaeological assets. <b>Magnitude: Moderate negative (worst case); Minor negative; No change in the event of no finds.</b>	In the event of archaeological finds, additional mitigation may be required over and above the measures in the WSI. These measures would be agreed with the Council Archaeologist.	<b>Magnitude: No change to Moderate negative</b> <b>Significance of Effect: Neutral (with mitigation or absence of archaeological remains) to Slight adverse.</b> <b>Significance for EIA legislation: Not significant (in the absence of finds or adequate mitigation)</b>

Table 8.7: Summary of the assessment of the DCO Scheme on cultural heritage assets

Aspect and control measures embedded in the DCO Scheme	Receptors	Impact	Environmental Mitigation	Residual Effects
<p>CoCP (DCO Document Reference 8.15) and Master CEMP (DCO Document Reference 8.14) to require the contractor to include procedures in their CEMP for dealing with the discovery of archaeological finds, human remains, and treasure.</p>	<p>Built structures including Grade I, II* and II listed buildings and structures within the visual envelop of the proposed works. CAs. Leigh Wood and Ashton Court RP&amp;G. <b>Value: Low to High</b></p>	<p>Temporary deterioration of the setting of heritage assets. <b>Magnitude: No change to Minor negative</b></p>	<p>N/A</p>	<p><b>Magnitude: (No change to Minor negative)</b> <b>Significance of Effect: Neutral to Slight adverse</b> <b>Significance for EIA legislation: Not significant</b></p>
<p>Construction activities detracting from the setting of built heritage (listed buildings and CAs), especially through the removal of vegetation, and sight of plant, compounds, machinery, etc. Implement the CoCP (DCO Document Reference 8.15), Master CEMP (DCO Document Reference 8.14) and contractor's CEMP. Reduce vegetation clearance where possible. To the south of Clifton Bridge, install the fenceline inside the existing one to</p>				

Table 8.7: Summary of the assessment of the DCO Scheme on cultural heritage assets

Aspect and control measures embedded in the DCO Scheme	Receptors	Impact	Environmental Mitigation	Residual Effects
reduce the visual effects of vegetation removal.				
<b>Operation activities</b>				
New service between Portishead and Pill. One train per hour (two passing trains per hour) and one train per 45 minutes (two passes) in the peak. Trains lit at night.	Heritage features within the visual envelope of the railway, including SMs, CAs, listed buildings, and RP&Gs. <b>Value: Low to High</b>	Small change to the setting of cultural heritage features near the alignment between Pill and Ashton Junction due to increased number of trains, the loss of vegetation (which will grow back after a period of time), No change along the disused railway line due to lack of inter-visibility. <b>Magnitude: No change to Minor negative</b>	N/A	<b>Magnitude: No change to Minor negative</b> <b>Significance of Effect: Neutral to Slight adverse</b> <b>Significance for EIA legislation: Not significant</b>

## 8.11 References

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## 8.12 Abbreviations

AAA	Anti-Aircraft Artillery
BCC	Bristol City Council
CA	Conservation Area
CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
DoB	Defence of Britain
EIA	Environmental Impact Assessment
ES	Environmental Statement
GIS	Geographic Information System
GRIP	Governance for Railway Investment Projects
GSM-R	Global System for Mobile Communications - Railway
HBR	Historic Building Record
HER	Historic Environment Record
HLC	Historic Landscape Characters
km	kilometre
NHLE	National Heritage List for England
NPPF	National Planning Policy Framework
NPSNN	National Policy Statement for National Networks
NSDC	North Somerset District Council
NSIP	Nationally Significant Infrastructure Project

OS	Ordnance Survey
RP&G	Registered Park and Garden
SHC	Somerset Heritage Centre
SM	Scheduled Monument
SoS	Secretary of State
WWI	World War I
WWII	World War II

**ch2m.**<sup>SM</sup>