

The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements)  
Order – NR/PoE/JP/8.2



**TRANSPORT AND WORKS ACT 1992**  
**TRANSPORT AND WORKS (INQUIRIES PROCEDURES)**  
**RULES 2004**  
**NETWORK RAIL (HUDDERSFIELD TO WESTTOWN**  
**(DEWSBURY) IMPROVEMENTS) ORDER**

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**ENVIRONMENT**  
**PROOF OF EVIDENCE**  
***JIM PEARSON***

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*Proof of Evidence – Environment*

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<b>Abbreviation</b>	<b>Definition</b>
Abutment	A structure built to support the lateral pressure of an arch or span.
Additional mitigation	Where embedded mitigation measures do not fully avoid or mitigate impacts, and the environmental topic assessments identify potential significant effects due to construction and/or operation of the Scheme, further mitigation measures are outlined to minimise potential impacts.
Alliance	Network Rail has commissioned the TRU West Alliance to design and deliver the West of Leeds section of the TRU. The Alliance is made up of the client, principal designer and principal contractor organisations amongst others contributing to the design and delivery of the Scheme.
AQMA	Air Quality Management Area
Air Quality Management Area	An area designated by a local authority as being at risk of not meeting air quality standards
Ballast	The material used to support and secure the railway track, usually made up of granular material.
BAP	Biodiversity Action Plan
Baseline	The conditions that exist without a scheme at the time an assessment or survey is undertaken.
Biodiversity	The diversity of different types of life found on Earth. 'Biodiversity' usually refers to a measure of the variety of organisms present in different ecosystems. It can refer to genetic variation, ecosystem variation, or species variation (number of species) within an area, biome, or the planet.
BNG	Biodiversity Net Gain
Biodiversity Net Gain	An approach to development that leaves biodiversity in a better state than before. Where a development has an impact on biodiversity it encourages developers to provide an increase in appropriate natural habitat and ecological features over and above that being affected in such a way it is hoped that the current loss of biodiversity through development will be halted and ecological networks can be restored.  In terms of the Scheme this means replacing habitat lost to offset the losses incurred and adding 10% habitat by measurement using the approved DEFRA metric to calculate it
BPM	Best Practicable Means
Carbon Dioxide	A primary greenhouse gas emitted through human activities as well as natural sources.
CIMP	Conservation Implementation Management Plan
CL:AIRE	Contaminated Land: Applications in Real Environments
Climate	Climate refers to the typical weather conditions experienced in a place over a period of time, conventionally expressed as average weather over a 30-year period.

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<b>Abbreviation</b>	<b>Definition</b>
Coal drop	Structure to facilitate the transfer of coal, designed to carry railway tracks from which wagons can drop coal into storage hoppers sited in alcoves below.
CO <sub>2</sub>	Carbon Dioxide
CoCP	Code of Construction Practice
Code of Construction Practice	The document that outlines how the Scheme will reduce or mitigate construction effects on the environment
Commitments Register	This is an internal Alliance document that lists all relevant incorporated mitigation identified in the ES, CoCP and DPP conditions. The Commitments Register includes line items for each environmental delivery plan and programme and links to the mitigation required to discharge them
Compensation (mitigation)	Compensation measures are applied post design stage and recognise that the impacts cannot be removed or reduced. These measures are intended as a means of recording the negative change to the significance of an historic asset; enabling future dissemination of information about this change.
Compensatory Flood Storage Areas	Scrapes or excavations within the Scheme boundary that are proposed to compensate for the Scheme encroaching on existing floodplains.
Construction Access Route	Existing highway network and temporary haul routes that will be used by construction traffic connecting the Scheme with the wider area.
Construction dust	Solid particles that are suspended in air or have settled out onto a surface after having been suspended in air.
Construction Phase	The period in which construction of the Scheme takes place.
Controlled Water	Rivers, streams, estuaries, lakes, canals, ditches, ponds and groundwater as far out as the UK territorial limit. The statutory definition is provided in Section 104 (1) of the Water Resources Act 1991 and Section 30A (d) of the Control of Pollution Act 1974.
CTMP	Construction Traffic Management Plan A document which set outs the measures required during construction of the Scheme to reduce the impact on traffic and the local highway network.
Culvert	A structure that allows water to flow under the railway from one side to the other.
Cutting	Where material (generally rock or soil) is removed to make way for the railway below the surrounding ground level to avoid a change in level of the railway itself. A cutting is open at the top thereby differentiating it from a tunnel. It can be considered the opposite to an embankment.
Decarbonisation	Reducing, and ultimately eliminating, carbon dioxide emissions. It is essential in tackling climate change and a fundamental issue facing all industries.
DPP	Deemed Planning Permission
Deemed planning permission	On making an order under the Transport and Works Act 1992, the Secretary of State may direct that planning permission shall be deemed to be granted, subject to such conditions (if any) as may be specified in the direction.

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<b>Abbreviation</b>	<b>Definition</b>
DEFRA	Department for Environment, Food and Rural Affairs
DEFRA metric	A calculation tool which provides a way of measuring and accounting for biodiversity losses and gains for terrestrial and/or intertidal habitats resulting from development or changes in land management in England.
DfT	Department for Transport The UK Government department responsible for the UK transport network and infrastructure
DM	Do Minimum
DMOY	Do Minimum Opening Year
DMRB	Design Manual for Roads and Bridges A suite of technical documents produced by Highways England that include guidance for environmental appraisal and assessment that are also used for non-highways schemes and as such are commonly used in EIA.
DN	Do-Nothing
Deposited dust	Dust that is no longer in the air and which has settled onto a surface. Sometimes called amenity dust or nuisance dust, with the term nuisance applied in the general sense rather than the specific legal definition
EA	Environment Agency
Environment Agency	A non-departmental public body established in 1995 and sponsored by the Department for Environment, Food & Rural Affairs with responsibilities relating to the protection and enhancement of the environment in England.
Ecological Impact Assessment	A process for identifying, quantifying and evaluating potential effects of development-related or other proposed actions on habitats, species and ecosystems.
EDP	Environmental Design Plan
Environmental Design Plan	A document setting out the environmental requirements during the detailed design stage of the Scheme.
Effect	Outcome to an environmental feature from an impact. For example, killing / injury of bats and reducing the availability of breeding habitat as a result of the loss of a bat roost may lead to an adverse effect on the conservation status of the population concerned
EHO	Environmental Health Officer A local authority health professional responsible for carrying out measures for protecting public health.
EIA	Environmental Impact Assessment
Environmental Impact Assessment	The process by which the anticipated effects on the environment of a proposed development or Scheme are measures
EIA Regulations	A document which sets out the procedures for identifying those projects which should be subject to an EIA. The full title of the document is The Environmental



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<b>Abbreviation</b>	<b>Definition</b>
	Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017.
Embankment	Where the railway is raised up on a bank (generally soil or rock based) in relation to the surrounding ground level to avoid a change in level of the railway itself. Can be considered opposite to a cutting.
Embedded mitigation	Mitigation measures integrated into the design of the Scheme (i.e. the Scheme could not be delivered without them) and are intended to prevent, reduce and where possible offset any significant adverse impacts on the environment as well as measures such as compliance with statutory requirements. These measures are considered part of the Scheme when assessing the potential effects.
EPA	Environmental Protection Act
EPSL	European Protected Species Licence
EPSM	European Protected Species Mitigation
European Protected Species Mitigation	A type of licence obtained from Natural England to undertake actions which have impacts on European protected species that would otherwise be illegal.
ES	Environmental Statement The report setting out the process and findings of an Environmental Impact Assessment.
ESMP	Environment and Social Management Plan
Flood Zone	Defined by the EA based on the likelihood of an area flooding, with Flood Zone 1 areas least likely to flood and Flood Zone 3 areas more likely to flood
Floodplain	The area of land adjacent to a stream or river which is subject to flooding when river levels are high.
Footpath Diversion	Footpaths, bridleways and restricted byways may be diverted by order of a council, under section 119(1) of The Highways Act 1980, if it appears to them to be expedient to do so in the interests of either the owner, lessee or occupier of land crossed by the way or of the public.
FRA	Flood Risk Assessment
GCN	Great Crested Newt
GI	Ground Investigations Intrusive ground investigation works involving the drilling of exploratory hole locations and the recovery of soil samples which has been undertaken across the Scheme
GIS	Geographical Information System
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GRIP	Governance for Railway Infrastructure Project
Ha	Hectares
Habitat	A place where an organism (e.g. human, animal, plant, micro-organism) or population of organisms live, characterised by its surroundings

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<b>Abbreviation</b>	<b>Definition</b>
High sensitivity Receptor (dust)	A land use at which users can reasonably expect the enjoyment of a high level of amenity; or the appearance, aesthetics or value of the property would be diminished by soiling; and the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.
IEMA	Institute of Environmental Management and Assessment
Impact	Actions resulting in changes to an environmental feature. For example, demolition activities leading to the removal of a building used as a bat roost.
INNS	Invasive non-native species
IPC	Integrated Pollution Control
KLP	Kirklees Local Plan
KWHN	Kirklees Wildlife Habitat Network
Land take	The acquisition of land requirement for the Scheme.
LAQM	Local Air Quality Management
LEMP	Landscape and Ecological Management Plan
Landscape and Ecological Management Plan	The LEMP will provide details for the landscape proposals and management of any replacement planting as well as detail on ecological mitigation (beyond some of the specifics discussed above, e.g. protected species licencing mitigation). The LEMP will be submitted pursuant to Condition 4 of the DPP
LLFA	Lead Local Flood Authority
Main River	A main river is a stator watercourse which has been designated by Defra. They typically include larger streams and rivers.
Mitigation	Measures identified to reduce potential environmental impacts and effects arising from the construction and or operation of the Scheme.
Monitoring	A formal programme of observation and investigation conducted during any operation carried out for non-archaeological/heritage reasons. This will be within a specified building, area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed or that impacts may occur on historic buildings. The programme will result in the preparation of a report and ordered archive
MMP	Materials Management Plan A mechanism by which a development can seek to reuse excavated materials without the need for an Environmental Permit or exemption should a series of conditions be met.
MMS	Materials Management Strategy A strategy to identify materials that will be generated during the planned Construction, Demolition and Excavation works, how these materials will be managed and their potential reuse within the Scheme. It is the intention that the Strategy will be updated and developed into a Materials Management Plan (MMP).
NE	Natural England

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<b>Abbreviation</b>	<b>Definition</b>
Natural England	An executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs responsible for responsible for ensuring that England's natural environment, including its land, flora and fauna, freshwater and marine environments, geology and soils, are protected and improved.
NIR	Noise Insulation Regulations
NIRR	Noise Insulation (Railways and Other Guided Transport Systems) (Amendments) Regulations
Non-statutory noise insulation package	The reduction in noise required to bring internal levels down is smaller for impacts which are significant in EIA terms than those which are significant in Policy terms. A lower acoustic specification is therefore required for impacts significant in EIA terms compared with impacts significant in Policy terms, and this is referred to as a
NMP	Nuisance Management Plan
Nuisance Management Plan	A plan that describes how dust emissions will be prevented or minimised on site to avoid impacts beyond the Scheme boundary, including monitoring regime and record of complaints
NO <sub>2</sub>	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPR	Northern Powerhouse Rail
NVMP	Noise and Vibration Management Plan
NVZ	Nitrate Vulnerable Zone
OEMP	Outline Environmental Mitigation Plan
Outline Environmental Mitigation Plan	The OEMP (submitted as Figure 2-3 of the ES (Vol 4)) identified specific areas of planting and landscaping as well as showing the proposed locations of additional ecological mitigation measures such as proposed bat boxes, proposed replacement bat roosts, wildlife fencing/barriers, bird boxes and potential compensation pond locations, the detail of which will be finalised in the LEMP
OLE	Overhead Line Equipment
Operation or Operational Phase	The period when the Scheme is in operation. Day to day functioning of the Scheme following the completion of construction.
Ordinary Watercourse	Every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows and which does not form part of a Main River.
Overhead Line Equipment	Overhead line electrification equipment, which supplies electric power to the trains.
Possession	A period of time when one or more tracks are closed for maintenance or repair. For the during of work a person in charge of possession has control of the line. When work is complete the possession is relinquished and control of the line handed back to the signaller.
PPG	Pollution Prevention Guidance

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<b>Abbreviation</b>	<b>Definition</b>
PPICP	Pollution Prevention and Incident Control Plan
PRoW	Public Right of Way
Public Right of Way	Paths on which the public have legally protected rights to pass
PSP	Principal Supply Point Provides power to overhead contact lines and other infrastructure (e.g. signalling).
PSU	Principal Supply Unit Infrastructure takes power from overhead 132kv power lines and transforms it down to the power requirements of the railway.
RS	Route Section
Route Section	For reporting purposes, the Scheme has been split into six distinct areas (Route Sections) based on geography.
RRAP	Road Rail Access Point
Satellite Compound	Smaller compound from which construction for that section is managed, comprising small offices and welfare facilities, areas for the storage of plant and materials and some material processing
Scheme	The works authorised under the Order and permitted development rights which are referred to in this ES.
SFC	Static Frequency Converter site (see PSU)
SFRA	Strategic Flood Risk Assessment
Significant effects	This applies when an effect is large enough to be important or affect a situation to a noticeable degree, as identified in the EIA regulations. Professional judgement is necessary to determine whether an effect is significant based on the evidence presented.
Site won material	Used to describe wasted materials generated as a direct consequence of the works being undertaken on-site e.g. excavation and which have the potential to be re-used
SoC	Statement of Case
Soil Nailing	A ground stabilisation technique that can be used on either natural or excavated slopes. Grouted steel nails are installed horizontally to reinforce soils and create a gravity retaining wall.
Statement of Common Ground	The Statement of Common Ground is a document that provides a succinct summary of the matters that have been resolved Network Rail and individual objectors/representations to the Order Scheme. It is also intended to provide a succinct summary of the matters that remain unresolved between the same parties.
Strategic Compound	These are the sites from where the main construction and project management is undertaken. In general, they will provide office space, welfare facilities and processing and store materials.

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<b>Abbreviation</b>	<b>Definition</b>
Study Area	The identified spatial scope over which an assessment has been undertaken. The study area is topic specific and varies by environmental topic chapter.
SSSI	Sites of Special Scientific Interest A geological or biological conservation designation denoting a protected area in the UK.
Switches and Crossing	A mechanical installation enabling trains to be guided from one railway track to another, such as at a junction or at a siding.
T&CPA	Town and Country Planning Act
TA	Transport Assessment
Transport Assessment	A document which sets out transport issues relating to a proposed development, identifying any significant highway safety issues and providing an analysis of the recent accident history of the affected/impacted areas.
The Order	The TWAO authorising the Scheme: The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order.
TfN	Transport for the North
TPO	Tree Preservation Order
TRU	Transpennine Route Upgrade Series of projects to improve the Transpennine railway between Manchester, Huddersfield, Leeds and York and improve connections between key towns and cities across the north of England.
TWA	Transport Works Act
TWAO	Transport and Works Act Order The mechanism by which authorisation is given for the construction and operation of certain transport systems, such as railways. An order gives the promoter the necessary powers to put such a Scheme into practice.
WFD	Water Framework Directive
WYAAS	West Yorkshire Archaeological Advisory Service
WYCA	West Yorkshire Combined Authority
ZTV	Zone of Theoretical Visibility A map produced to illustrate the theoretical visibility of the Scheme. It illustrates the Scheme's visibility viewed from a height of 1.8m above ground level to be representative of approximate adult eye height.

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- 1.1.1 I am an Environment Manager with Network Rail, currently working in that role in the Trans Pennine Upgrade (TRU) West Alliance that covers TRU works from Manchester through to Leeds. Environmental management is my profession with twenty years experience, that includes one year with Arcadis dealing with contaminated land and one year with the Environment Agency in water resources. I have spent the last eighteen years working for Network Rail as an Environment Manager. I have a BSc in environmental sciences, and am a member of the Institute of Environmental Management and Assessment (IEMA).
- 1.1.2 I have been providing guidance for and review of environmental documentation produced by WS Atkins in support of the Order Scheme TWAO since late 2018. I have provided general guidance to the WS Atkins environment team as required and provided assurance to Network Rail regarding the Environmental Statement that includes:
- Contributing to the review of the Environmental Statement;
  - Reviewing the general approach to environmental mitigation in design and construction; and,
  - Reviewing various general and topic chapters of the final Environmental Statement (ES) at each review stage.

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**2. STRUCTURE OF THE PROOF OF EVIDENCE**

**2.1 Scope of Evidence**

2.1.1 I will provide evidence on the following topics:

- Likely environmental impacts of constructing and operating the Scheme;
- Measures to avoid, reduce or remedy any significant adverse impacts of the Scheme;
- The extent of any significant adverse residual effects that would still remain after the proposed mitigation;
- Items raised in the Statement of Matters that concerns the adequacy of the Environmental Statement; and,
- Responses to specific objectors.

2.1.2 My evidence presents the key aspects of environmental design and construction management incorporated into the Order Scheme and outlines the residual environmental effects by topic and, where appropriate, by Route Section.

2.1.3 I provide evidence on the following topics:

- Environmental Design;
- Environmental management during construction;
- Air Quality;
- Geology, soils and land contamination;
- Water and Flood Risk;
- Landscape and visual impact;
- Climate effects; and
- Climate vulnerability.

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3.1.1 The Scheme has been subject to an Environmental Impact Assessment (EIA), which is reported in the ES.

- The ES comprises four volumes
- Volume 1: Non-technical summary provides a summary of the EIA in non-technical language (NR16);
- Volume 2 : Main Report (two parts) (NR16A);
  - Volume 2i provides the Scheme-wide overarching assessment; and includes a description of the Scheme (operational and construction phases), EIA methodology and an outline of the reasonable alternatives considered. It also provides the Scheme-wide assessment for each of the environmental topics, along with Scheme-wide mitigation proposals; and
  - Volume 2ii Route Section Assessments. Each assessment details the baseline conditions as well as the outcomes of the environmental topic assessments for the relevant Route Section (the route is divided into 6 Route Sections, running from west to east) for both construction and operation, it also includes any area specific mitigation proposals.
- Volume 3: provides the appendices as needed relevant to each chapter to accompany Volume 2 (NR16C); and
- Volume 4: presents the Scheme drawings and figures relevant to each chapter to accompany Volume 2 (NR16D).

3.1.2 For the purposes of engineering and construction, the Scheme has been split into six sub-sections as set out below. This sectional split is carried through to the reporting in the ES.

- Route Section 1 – Huddersfield;
- Route Section 2 – Hillhouse and Fartown;
- Route Section 3 – Deighton and Bradley;
- Route Section 4 – Colne Bridge and Battyeford;
- Route Section 5 – Mirfield and Lower Hopton; and
- Route Section 6 – Ravensthorpe and Westtown (Dewsbury)



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4.1.1 The design of the engineering aspects of the Order Scheme has sought to avoid, reduce and compensate for environmental impacts wherever possible. The Order Scheme has been designed using an iterative process with environmental and sustainability considerations at its core as is outlined in the ES in Volume 2i: Scheme-wide assessment: Chapter 3 Consideration of Alternatives. The design process has been informed by the EIA and through public and stakeholder consultation. It has, for example, included repositioning of infrastructure or temporary works to reduce impacts or avoid environmental constraints (for example the design of the A62 to build offline and avoid prolonged road closures) and the use of modern engineering solutions that reduce environmental impacts (such as continuously welded rail, which reduce noise and vibration and is resistant to extreme weather events).

4.1.2 Some fundamental elements of the railway are fixed, such as the relationship of the Order Scheme to the existing alignment and the locations of existing stations (with the exception of Ravensthorpe Station), but the designs for the many elements have been subject to regular review / refinement and challenge to ensure they deliver value in the widest sense including environmental. The process has included multi-disciplinary workshops in which value is considered in its widest sense and encompasses:

- environment and sustainability;
- impacts on third party land holdings;
- internal and external stakeholders;
- constructability;
- safety;
- technical performance;
- cost including whole life cost;
- programme; and,
- resources.

4.1.3 The option selection process has been applied to the full range of Order Scheme infrastructure, including new track alignment, bridges (including materials), highways, rights of way, stations, drainage (including culverts), earthworks and retaining structures.

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- 4.2.1 The environmental design is integral to the overall design of the Order Scheme.
- 4.2.2 Throughout the Order Scheme design process, the mitigation hierarchy, shown in Table 4.1 below, has been applied. This sets out the order in which mitigation actions have been considered, from most desirable to least desirable, to address significant adverse effects identified during the EIA process.

**Table 4-1: Mitigation hierarchy**

<b>Mitigation action</b>	<b>Description</b>	<b>General examples</b>
Avoid	Measure(s) taken to ensure an identified effect does not occur. This would be embedded mitigation.	Design change to avoid land take e.g. retaining Deighton Station in its current location; consultation with stakeholders to avoid impacts e.g. removing an area of construction compound at Mirfield; management of emissions at source e.g. dust control measures set out in the Code of Construction Practice; design of Baker Viaduct over the River Calder to avoid support piers in the watercourse.
Minimise or reduce	Measure(s) taken to decrease the significance of an identified effect. Effects can either become not significant or remain significant, although to a lesser extent. Where effects cannot be avoided this is the next most preferable solution.	e.g. Use of continuously welded rails to reduce noise and vibration impacts and reduce risk from extreme weather (heat); provision of noise insulation and barriers; identifying works that require the acquisition of protected species licences; implementation of landscape planting.
Restore or compensate	Where an effect cannot be avoided or reduced, it is proposed to rehabilitate affected areas, or provide alternative equivalent resource elsewhere (and preferably nearby).	Ecological compensation (e.g. across the Scheme); landscape restoration (across the Scheme) and reinstatement of agricultural land condition after construction (at Heaton Lodge); implementation of compensatory flood storage area (at Ravensthorpe).

- 4.2.3 Where likely significant effects have been predicted due to construction and/or operation of the Order Scheme, mitigation measures have been incorporated into the design to avoid (embedded mitigation), to reduce or to compensate for these impacts and effects. Measures have also be proposed to enhance predicted beneficial effects arising from a project

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4.2.4 These mitigation measures are described in this proof of evidence under the relevant topic headings in Chapter 6: Mitigation and Residual Effects, and these are described in the relevant chapters of the ES and summarised as a whole in the ES in Volume 2i Scheme-wide Assessment: Chapter 23: Summary of Mitigation.

4.2.5 My proof of evidence shall refer to all topic-related mitigation but for more detailed consideration of the topics identified below, please refer to the Proofs of Evidence of the relevant witness:

- Historic Environment (Katie Rees-Gill) (NR/PoE/KR-G/6.2)
- Noise and Vibration (Adam Lawrence) (NR/PoE/AL/10.2)
- Traffic and Transport (Graham Foulkes) (NR/PoE/GF/7.2)
- Biodiversity (Niall Machin) (NR/PoE/GM/9.2)

### **4.3 The adequacy of the Environmental Statement - general comment**

4.3.1 The Statement of Matters requires information to be submitted concerning the adequacy of the ES submitted with the Order application. I consider that it is appropriate to make a general statement in this section of my Proof regarding compliance with Section 11 of the Transport and Works (Application and Objections Procedure) (England and Wales) Rules 2006 ("the Application Rules).

4.3.2 In accordance with the Application Rules, the proposed scheme was validated as a scheme requiring an EIA, when considered against Annex I and Annex II of the Environmental Impact Assessment Directive 2011/92/EU, as amended by Directive 2014/52/EU (the EIA Directive), as detailed in the ES in Volume 2i Scheme-wide assessment: Chapter 1 Introduction: Section 1.4 The requirement for an Environmental Statement.

4.3.3 The ES (NR16) was provided with the application for the Order in compliance with Section 11 of the Application Rules as detailed in the ES in Volume 2i Scheme-wide assessment: Chapter 1 Introduction: Section 1.4.4 and Table 1-1 Information required within the Environmental Statement. I set out in Table 4-2 below where the information required to be provided by section 11 of the Application Rules is addressed within the ES.

**Table 4-2: Information included in the ES**

<b>Requirements (summarised)</b>	<b>ES Reference</b>
Description of the project	ES Volume 2i (Chapter 2)
Outline of reasonable alternatives	ES Volume 2i (Chapter 3)
Aspects significantly affected	ES Volume 2i (Chapters 6-21)

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Requirements (summarised)	ES Reference
	ES Volume 2ii (Chapters 6-19)
Likely significant effects	ES Volume 2i (Chapters 6-21) ES Volume 2ii (Chapters 6-19)
Description of forecasting methods	ES Volume 2i (Chapters 6-22 and associated appendices) ES Volume 2ii (Chapters 6-22 and associated appendices)
Measures to address significant effects	ES Volume 2i (Chapters 6-21, Chapter 23) ES Volume 2ii (Chapters 6-19)
Expected significant adverse effects	ES Volume 2i (Chapter 15) ES Volumes 2ii (Chapter 15)
Non-technical summary	ES Volume 1
Reference list of data and source information	ES Volume 2i (Chapters 6-22 and associated appendices) ES Volume 2ii (Chapters 6-22 and associated appendices)

- 4.3.4 In terms of making the ES readable, it was split up into 6 Route Sections for environmental topics that lent themselves to this splitting up. (Some topics however were considered at a Scheme wide level only as this was more appropriate in considering their effects. This made it possible to review the environmental topic as a whole across the scheme (Volume 2i) or by route section of interest to the reader (Volume 2ii).
- 4.3.5 The information required by Schedule 1 to the Application Rules and as located in the ES as outlined above, and having regard to section 11(3) of the Rules, has been prepared by competent experts and is accompanied by a statement to that effect with the their qualifications and experience.
- 4.3.6 The ES includes a comprehensive summary of the incorporated mitigation, both embedded in the design and also mitigation required during construction and operation activities, in Volume 2i Scheme-wide Assessment: Chapter 23. This serves the purpose of identifying all mitigation in one chapter for ease of reference and secondly identifies the mechanisms by which all mitigation is secured either as embedded in the design or by condition.

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5.1.1 Environmental management during the construction stage of the order scheme will primarily be administered through the implementation of the Code of Construction Practice (CoCP) Part A which is included in the ES in Volume 3: Appendices: Appendix 2-1 Code of Construction Practice Part A. As described in Section 1.2 of the CoCP, the CoCP acts as a framework on which all the construction-related incorporated mitigation identified in the ES is tied into the delivery of the scheme and thus secured.

5.1.2 The CoCP Part A commits to general good environmental practice in delivering the scheme and has been developed in considering Network Rail's "Contract Requirements – Environment" and other Alliance<sup>1</sup> partner good practice. The CoCP Part A document draws on equivalent documents that have been developed and implemented successfully on previous TWAOs schemes.

**5.2 Code of Construction Practice Part B**

5.2.1 In addition to outlining standard environmental practice, the CoCP Part A outlines the requirement to submit detailed environmental management plans to Kirklees Council in advance of constructing the scheme, Part B of the document. As outlined in Condition 5 of the Deemed Planning Permission (DPP) (NR12), Part B of the CoCP will include the following plans and programmes that must be submitted to and approved by Kirklees Council:

- 5(i) an External Communications Plan;
- 5(ii) a Pollution Prevention and Incident Control Plan;
- 5(iii) a Waste Management Plan;
- 5(iv) a Materials Management Plan including a separate Soils Mitigation Plan;
- 5(v) a Nuisance Management Plan;
- 5(vi) a Noise and Vibration Management Plan including a construction methodology assessment;
- 5(vii) an Environmental Design Plan (Land Contamination and Hydrogeology);

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<sup>1</sup> The TRU West Alliance is a legal partnership formed to jointly deliver the programme of works on the Trans Pennine Upgrade from Manchester Victoria Station to Leeds Station. The participants are made up of BAM Nuttall (Civils), Amey (Rail Systems), ARUP (Design) and Network Rail (Owner Participant).

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- 5(viii) a demolition methodology statement for relevant buildings; and,
- 5(ix) details on the precise measures put in place to protect the listed Hillhouses coal chutes

5.2.2 All plans and programmes must be produced in accordance with the provisions outlined in Part A of the CoCP and the incorporated mitigation described in the ES that is summarised in Chapter 23 of that document (ES Volume 2i: Scheme-wide Assessment: Chapter 23 Summary of Mitigation). All plans and programmes will form part of the Alliance Construction “Environment and Social Management Plan” (ESMP) that is described in section 5.4.1 of my proof of evidence.

5.2.3 In addition to the CoCP Part B requirements, the list of conditions submitted with the request for DPP (NR12) include a standalone condition 6 that covers construction traffic management and a travel plan. The secured mitigation in completeness is detailed in the ES in Volume 2i Scheme-wide Assessment: Chapter 23 Summary of Mitigation.

### **5.3 Commitments Register**

5.3.1 The Alliance internally manages all incorporated mitigation from the ES, conditions and other environmental commitments through the production of a Scheme Commitments Register. The Commitments Register lists all relevant incorporated mitigation identified in the ES, CoCP and DPP conditions. The Commitments Register includes line items for each environmental delivery plan and programme and links to the mitigation required to discharge them.

5.3.2 The Commitments Register is an internal management tool that allows all environmental mitigation and other commitments to be logged, responsibility for completing assigned, which delivery plan or programme the mitigation item is situated in, timeframe for completion and eventual closing of that item.

5.3.3 The Commitments Register is a live document that will be updated in consideration of agreements yet to be made and additional conditions that may yet be identified, though currently under discussion with Kirklees Council. Mandatory compliance with the Commitments Register shall form part of the Alliance ESMP so that the Alliance is contractually obliged to comply with it.

5.3.4 Project delivery meetings will be used to discuss the progress of all commitments as identified in the Commitments Register and recommend any corrective actions as may be required.

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- 5.3.5 Section 5.3 in general describes how the Alliance will internally manage the list of commitments, whether identified in the ES or elsewhere. This does not affect the power or ability that the Planning Authority has to control or enforce the measures provided for through the Order.

**5.4 Alliance Environment and Social Management Plan**

- 5.4.1 The ESMP is the internal Alliance document that outlines how environmental risk and opportunity will be managed during the construction phase of the TWAO works. The ESMP will state how the requirements of the Environmental Statement, CoCP, Commitments Register and environmental conditions of the Order will be implemented and complied with.

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment***6. MITIGATION AND RESIDUAL EFFECTS****6.1 Introduction**

6.1.1 In this section, I will summarise the assessment of the effects of the Scheme under the following environmental topics and explain the mitigation that is proposed during construction and operation:

- Air Quality;
- Geology, Soils and Land Contamination (that includes waste management);
- Water and Flood Risk;
- Landscape and Visual Impact;
- Climate Vulnerability; and
- Climate Effects.

6.1.2 I shall do so by drawing on the published Environmental Statement and technical appendixes. I will not set out the contents of the ES in detail but I shall seek to address Statement of Matters (SoM) item 7 and comment on an environmental topic basis on the adequacy of the assessment in the ES.

**6.2 Air Quality**

6.2.1 Baseline information is provided in the ES (NR16A) Volume 2i Scheme-wide Assessment, Chapter 7: Section 7.2 Legislative and policy context.

6.2.2 The Order Scheme runs through or is in proximity to a number of Air Quality Management Areas (AQMA) as designated by Kirklees Council. These include:

- Huddersfield Station (AQMA 9 Huddersfield Town Centre);
- An area encompassing properties along two sections of the A62 Leeds Road, in the vicinity of the junctions with the A6107 Bradley Road, and with the A644 (AQMA 1);
- An area incorporating a number of properties along part of the Huddersfield Road A644 in Scout Hill that is located approximately 100m northwest of the railway line AQMA 2); and,
- An area incorporating Leeds Road (A653), Dewsbury Ring Road (A638), Wakefield Road (A638), Highgate Road, Highgate Terrace, Bank Street and Old Bank Road, which is in close proximity to Dewsbury Town Centre located approximately 250m east of the railway line (AQMA 5).

6.2.3 The proximity of these AQMA areas is shown in the ES in Volume 4: Figures: Figure 7-3 Kirklees AQMA.



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- 6.2.4 It should be noted that in reference to the national DEFRA mapping of nitrogen dioxide (NO<sub>2</sub>) in the study area alone (within the Order limits), recorded levels of NO<sub>2</sub> were within the air quality objectives.
- 6.2.5 Kirklees measures NO<sub>2</sub> within its boundaries and it can be stated that levels have generally been reducing between the years 2016 and 2019 but that NO<sub>2</sub> levels still exceed annual mean level targets in some areas, particularly inside the AQMAs, but as stated in section 6.2.4, not within the Order limits.

Approach to Assessment**Operational effects**

- 6.2.6 On the basis that that background concentrations of NO<sub>2</sub> inside the Order Scheme are within NO<sub>2</sub> air quality objectives, operational emissions from the rail scheme were scoped out of assessment.
- 6.2.7 It is my view that scoping out is justified on the basis that the scheme electrifies the railway with diesel train stock replaced by electrified units. The operation of the Scheme will reduce emissions but this is only a negligible beneficial effect, given that overall background concentrations are dominated by contributions from road traffic.
- 6.2.8 In addition to emissions from rail, the assessment considers the realignment of roads that result from the Order Scheme and the potential increase in NO<sub>2</sub> levels. As none of the roads that are to be realigned are located within an AQMA, this might reasonably have been scoped out of assessment. However this aspect was included for assessment for completeness. The assessment concluded that there would be no significant effects. This detail can be found in the ES in Volume 4 Figures: Appendix 7-6 Table A7-12.

**Construction effects**

- 6.2.9 In considering nuisance or visible construction-generated dust due to activity disturbing material and making it airborne, the assessment targeted activities that might provide the source for this effect as follows:
- Set up of site compounds;
  - Operation of site compounds;
  - Earthworks;
  - Structures; and,
  - Highway works.

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- 6.2.10 The assessment resulted in the identification of potential significant environmental effects with the recommended mitigation identified in the following section.

Mitigation***Construction Dust General***

- 6.2.11 The control of construction dust during the construction period would be managed through the implementation of a Nuisance Management Plan (NMP) that is required by the proposed condition 5(v) to the DPP (NR12) as part of the CoCP Part B.
- 6.2.12 The detailed requirement of the contents of the NMP are outlined in the ES in Volume 2i Scheme-wide Assessment: Chapter 7 Air Quality: section 7.6.

***Monitoring in connection to Air Quality Management Areas***

- 6.2.13 In addition to standard controls for the management of nuisance dust from construction activity, the ES recommends real-time monitoring of particulate dust where the Order Scheme crosses through or is in the proximity of an AQMA as designated by Kirklees Council.
- 6.2.14 This results in committed real-time monitoring of particulates in the Huddersfield central area in consideration of works in AQMA9 as designated by Kirklees Council.
- 6.2.15 In addition there are small-sized AQMAs to the north of the Order Scheme in the Bradley area that are related to junctions with the A62 road. Though the Order Scheme does not cross these AQMAs, their proximity makes it prudent to put real-time particulate monitoring in place at the Scheme boundary to identify the contribution to particulate dust from the construction phase of the Order Scheme.
- 6.2.16 In both cases, this is a precautionary item in mitigation terms with construction of the Order Scheme itself not assessed as adding significantly to particulate measurements in the AQMAs.

***Construction Dust: Energy from Waste Recovery Centre: Diamond Street***

- 6.2.17 In considering the potential generation of visible construction dust, bespoke mitigation is recommended to minimise this during construction activity adjacent to the Energy from Waste Recovery Centre (“The Centre”) on Diamond Street in Hillhouse near Huddersfield in Route Section 2: Hillhouse and Fartown.

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6.2.18 Network Rail is currently in discussions with Kirklees Council regarding arrangements to minimise and monitor visible construction dust generation in the vicinity of the Centre in consideration of the operation of two fans that are critical to the steam condensing process at the Centre.

6.2.19 I can confirm that Network Rail is willing to commit to the following controls during construction adjacent to the Centre:

- Network Rail will develop a construction dust monitoring protocol that will include:
  - Where practicable, a grout flush method for soil nailing<sup>2</sup> activities will be employed during works on Emerald Street;
  - The soil nailing activity will be tented to further minimise any escape of construction dust;
  - Any de-vegetation required will be conducted during the winter months;
  - Permanent monitoring by a construction representative of any visible signs of escaping dust;
  - Construction dust monitoring apparatus (frisbee type) to record visible construction dust levels by weight deposition (retrospective with samples sent for laboratory testing every 2 weeks);
  - A requirement to cease works and review the works methodology if dust is escaping site as the appropriate trigger;
  - A requirement to temporarily cease and validate works are not causing an escape of construction dust should the operator Suez report any drop off in performance at the Centre; and,
  - Daily contact will be maintained between Network Rail and Suez when works are directly opposite the condenser fans.

6.2.20 Section 6.2.19 outlines the controls that will be in place to ensure construction dust is not mobilised in the vicinity of The Centre. These controls will be included in the CoCP Part B NMP, that must be submitted to and approved by Kirklees Council under proposed conditions 5(v) to the DPP (NR12). This is in addition to the side agreement that it is anticipated will be agreed between Network Rail and Kirklees Council.

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<sup>2</sup> This construction technique inserts a grid of soil nails over the face of an embankment. This is an established technique, which has been used extensively over the rail network, as a reliable and economic way to stabilise steep embankment or cutting slopes. The method involves drilling and inserting long steel rods or “nails” from the face of the slope and tensioning them to secure the soil mass within the embankment core behind any assessed potential failure point.

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6.2.21 In consideration of the potential temporary environmental effects generated by increased particulate emissions during road diversions that are periodically required during the construction phase, this will be managed through the agreements with Kirklees Council as to construction traffic routing, to be decided as part of ongoing and periodic Highway meetings and then reflected in the Construction Traffic Management Plan (CTMP) (proposed condition 6 to the DPP). Further detail is provided in the evidence of Graham Foulkes (NR/PoE/GF/7.2).

***Operation******Road traffic Emissions***

6.2.22 No recommended mitigation is required in considering road traffic emissions during the operation of the scheme as indicated in section 6.2.8 of my proof of evidence.

***Rail emissions***

6.2.23 The operational impact of the Scheme on local air quality from the use of electrified bi-mode trains over diesel trains would be beneficial (although only negligibly so (as described in section 6.2.7 above) and contribute to Network Rail's Decarbonisation Strategy and climate policy. The effect of rail emissions is therefore predicted not to be significant and mitigation measures are not required.

**Significant Residual Effects**

6.2.24 There are no significant residual effects to report for the Scheme, either during the construction or operational phases. Significant environmental effects during the construction stage will be mitigated through the implementation of the NMP and the CTMP. Mitigation measures are not required during the operational phase of the scheme as no significant effects are predicted.

**6.3 The adequacy of the Environmental Statement: air quality**

6.3.1 The Statement of Matters requests that information be provided on the adequacy of the ES in identifying the impacts on air quality. I have addressed this matter in Section 6.2 above. It is my professional opinion that air quality has been properly and appropriately assessed in the ES.

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- 6.4.1 Baseline information is provided in the ES (NR16A) Volume 2i: Scheme-wide assessment, Chapter 12: Geology, soils and land contamination: Section 12.4 and each Volume 2ii, Chapter 6: Geology, soils and land contamination: Section 12.2.
- 6.4.2 Further Ground Investigation (GI) is being undertaken along the route of the Scheme; the results will inform the design development and future phase II risk assessment that is required in complying with proposed Condition 10 to the DPP.

Approach to Assessment

- 6.4.3 The approach adopted for Geology, soils and land contamination is summarised in the ES in Volume 2i: Scheme-wide Assessment: Chapter 4: Scope of the EIA and overall methodology. The assessment complies with the EIA guidance documents (DMRB series) published by Highways England. For reference, this is summarised in the ES in Volume 2i: Scheme-wide Assessment: Chapter 12: Geology, soils and land contamination: Table 12-2: Approach adopted.

Mitigation**Construction standard controls**

- 6.4.4 In general, mitigation measures to address the potential effects during construction are set out in the CoCP Part A that has been submitted in the ES in Volume 3: Appendices: Appendix 2-1: Code of Construction Practice: Section 10: Geology, soils and land contamination. These controls include:
- Preparation/utilisation of health and safety risk assessments, method statements and appropriate Personal Protective Equipment (PPE) for the protection of construction; workers, taking particular account of areas of likely higher risk (e.g. landfills, chemical works etc.);
  - Pre-commencement checks of any updates to abstraction points will be undertaken;
  - Implementing appropriate fuel storage (i.e. bunded tanks, allocated re-fuelling areas etc.) and pollution control measures (i.e. plant drip trays and spill kits) during construction; and,
  - The use of hardstanding or compacted aggregate where practicable to minimise infiltration and the generation of dust that might contain contaminants.

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- 6.4.5 Relevant to this environmental topic, Part B of the CoCP will include a Pollution Prevention and Incident Control Plan (PPICP) (proposed condition 5(ii) to the DPP), a Materials Management Plan (MMP) (proposed condition 5(iv) to the DPP), a Waste Management Plan (WMP) (proposed condition 5(iii) to the DPP) and an Environmental Design Plan (EDP) for Land Contamination and Hydrogeology) (proposed condition 5(vii) to the DPP). The content of these documents will be submitted to and approved by Kirklees Council as required by the proposed conditions to the DPP. These documents are referred to, as applicable, elsewhere in this proof of evidence, except waste management that is discussed in sections 6.4.6 to 6.4.7 below.
- 6.4.6 The ES considers waste management in the ES in Volume 2i Scheme-wide assessment: Chapter 13 Waste and Materials. This chapter describes the strategy to re-use all site won material where practicable in preference to recycling and re-use off site, with the least preferred option for material to be sent to landfill. In the case of material that is sent to landfill, the Waste Management Plan (proposed Condition 5(iii) of the CoCP Part B) will detail how this material is to be stored, tested and disposed of in accordance with waste legislation.
- 6.4.7 In the case of site won material that is re-used on site or recycled off site, this is managed through the implementation of the Materials Management Plan (MMP) (proposed Condition 5(ii) of the CoCP Part B). Further detail is provided on the MMP in sections 6.10.15 to 6.10.20 of my proof of evidence where Scheme effects on climate change are considered.

***Construction scheme-specific***

- 6.4.8 The DPP includes the provision of two separate conditions to address scheme-specific mitigation as may be required to deliver the scheme, as an additional precaution. This mitigation is described below.
- 6.4.9 Condition 10 is titled “Contaminated Land” and where excavation of ground is required, an appropriate phase II land contamination risk assessment must be completed. The phase II risk assessment may then lead to the requirement to prepare and submit a remediation strategy to Kirklees for their approval before works can commence.
- 6.4.10 Condition 11 is titled “Unexpected Contaminated Land” and is precautionary in the event that despite walkover checks and the finalisation of requirements under Condition 10, there would still be the potential to encounter excavated land that contained contamination. In this event, the condition requires an

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assessment to identify if any further remediation is required before works can progress.

**Operation**

- 6.4.11 In general the operation of the scheme does not generate the requirement for any specific mitigation additional to that described in the sections above related to the construction period.
- 6.4.12 However, it should be noted that Network Rail permanently acquires the entire Thornhill Quarry site (for location refer to the ES in Volume 4: Figures: Figure 12-16: Landfill Sites) for three purposes: firstly to support a section of the widened railway in this location, secondly to site the Static Frequency Converter (SFC) facility and thirdly, because an area to the south has been identified for ecology and landscape exchange land provision in addition to serving as exchange land that mitigates for the acquisition of Public Open Space across the Scheme.
- 6.4.13 During the operational phase of the scheme, Network Rail will implement a post-restoration monitoring scheme that will have been agreed with the Environment Agency in transferring the current operating environmental permit for the scheme from Demex to Network Rail. The post-restoration monitoring scheme will be developed in consideration of the landfill composition as per the current permit and the new use of the site for Order purposes.

**Route Section 2: Hillhouse Compound and future carriage siding**

- 6.4.14 The implementation of condition 10 and a phase II risk assessment at Hillhouse compound will be conducted in the knowledge that there is a risk of site contamination from previous industrial use, there is existing asbestos on site, there are stands of invasive Japanese Knotweed to deal with and potentially historical coal mining shafts.
- 6.4.15 On that basis a remediation strategy will be required that will detail how contamination will be dealt with, and include an Asbestos Management Plan, as stated in the ES in Volume 2i: Scheme-wide assessment, Chapter 23: Summary of Mitigation. This would then be detailed in any relevant submission to Kirklees Council under Condition 10 Contaminated Land. The Invasive Species Management Plan would be prepared to remove Japanese Knotweed, that is required through the CoCP Part A with treatment to manage this risk detailed in the Landscape and Ecological Management Plan (LEMP).

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- 6.4.16 The implementation of the remediation strategy will facilitate the use of the Hillhouse location temporarily for construction purposes and then secondly will allow the site to be used as a carriage siding in the permanent state.

***Route Section 4: Cutting Heaton Lodge***

- 6.4.17 The cutting at Heaton Lodge to facilitate the new section of railway, required to flatten the rail curve at this point is to be excavated in the proximity of a former colliery area. This area will be the subject of a phase II risk assessment in compliance with condition 10.

***Route Section 5: Chemical Works***

- 6.4.18 The Order Scheme runs within and adjacent to a Special Site determined under Part 2A of the Environmental Protection Act 1990 for a short section in Mirfield. Again, this will be the subject of a phase II risk assessment in compliance with Condition 10 to ensure that the Order works do not cause further spread of existing contamination.
- 6.4.19 As a precaution Network Rail has included embedded mitigation in this short section of works so that foundations for Overhead Line Equipment (OLE) shall be placed as shallow excavation concrete bases rather than the standard piled foundations that are placed to greater depth and would have more potential to cause contamination migration. The phase II risk assessment will consider these works in detail.

***Route Section 6: Thornhill Quarry***

- 6.4.20 As outlined in section 6.4.12 to section 6.4.13, the Order would authorise Network Rail to permanently acquire the Thornhill Quarry site for the purposes of the Order Scheme. The site is a regulated facility that can accept non-hazardous (inert) waste, as well as asbestos and construction material containing asbestos. The site is being restored in line with the requirements of the operating permit.
- 6.4.21 In order to facilitate a change of use for the site and transfer the operating environmental permit from Demex the current operator, to Network Rail, the Alliance has engaged, and will continue to do so, with the EA utilising their enhanced pre-application advice service. Though the draft Order includes the provision in Article 6 for Network Rail to acquire the operating permit for the site whilst observing protective provisions provided to the EA, Network Rail is actively seeking formal transfer of the licence that would then become active at the point the Order for the Scheme was granted.



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- 6.4.22 In any event, Article 6 must be retained in order to facilitate the future relinquishment of any environmental permit that had been transferred to Network Rail for the new use of site. I provide further detail on the justification for the need for Article 6 in section 8.8 of my proof of evidence.
- 6.4.23 It is likely, in this case, that the general requirements of Condition 10 will be completed for this site in advance of the granting of an Order for the Scheme. The condition would not formally be discharged in this case, rather Network Rail should be in position to validate discharge conditions had been met by submitting an agreement made with the EA for the site to discharge the condition.

***Route Section 6: Forge Lane: Sand and Gravel site***

- 6.4.24 Similar to Thornhill Quarry, Network Rail requires the use of the Sand and Gravel site at Forge Lane that is currently operating under a permit that allows deposit for recovery activities. The permit allows the site to accept inert wastes to help create three lakes.
- 6.4.25 In contrast to the Thornhill Quarry Site, the Order would only authorise Network Rail to permanently acquire a small strip of land adjacent to the existing railway that would facilitate the widening of the railway (construction of the Baker Viaduct) and also the use of approximately one third of the whole site temporarily for construction purposes, including access. This would allow the operator of the Forge Lane site the opportunity to complete restoration works on the majority of the site with Network Rail completing restoration to those areas temporarily used during construction in accordance with a LEMP that is proposed as Condition 4 of the DPP request to be submitted to Kirklees Council for approval.
- 6.4.26 As with Thornhill Quarry, it is likely that the requirements of Condition 10 will be completed for this site in advance of the granting of an Order for the scheme as it will also be the subject of ongoing formal discussion with the EA under their enhanced pre-application advice service. As with Thornhill Quarry, an agreement would have been formed with the EA in advance of submitting information to discharge condition 10.

**Significant Residual Effects*****Construction***

- 6.4.27 There are no significant residual effects following the construction period in considering Geology, soils and land contamination.

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- 6.4.28 Most effects are considered slight beneficial in that the risk from geohazards such as mineshafts, such as they affect the scheme design, will be removed. In addition, risks posed by asbestos and Japanese Knotweed presence at Hillhouse compound shall be removed during remediation as part of the implementation of condition 10.

**Operation**

- 6.4.29 There are considered to be no significant adverse effects identified for the operation of the scheme.
- 6.4.30 Should the phase II risk assessment at Heaton Lodge Curve in Route Section 4, required to be completed in compliance with Condition 10, identify any remediation measures in consideration of the former colliery site, in returning the land to farming use post-scheme, this results in a moderate beneficial effect.

**6.5 Adequacy of the Environmental Statement with regards to Geology, soils and land contamination**

- 6.5.1 I refer to section 4.3 of my proof of evidence and Table 4-2: Information included in the ES, that defines where the ES is compliant with the Application rules. The assessment of geology, soils and land contamination falls within this provision and is considered adequate on that basis.
- 6.5.2 Section 6.4.3 of my proof of evidence defines how the assessment is compliant with EIA guidelines in following the DMRB series documentation and section 6.4 in general summarises the baseline work, assessment and proposed mitigation and in this respect is considered to represent adequate information.

**6.6 Water and Flood Risk**Baseline Information

- 6.6.1 Baseline information can be reviewed in the ES in Volume 2i: Scheme-wide assessment: Chapter 11: Water environment: Section 11.4 Baseline.
- 6.6.2 A Flood Risk Assessment (FRA) was completed for the scheme that has been used in informing the design and a consideration of the water environment, principally to ensure that any flooding issues are addressed by the Order scheme. The EA has lodged a representation (REP 03) and seek additional information to be inserted into the FRA, principally further evidence to support the statements made in the document. Network Rail has supplied further information to the EA that extracts existing information from the ES and presents in a simplified format to the EA. The FRA can be reviewed in

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the ES in Volume 3: Technical Appendices: Appendix 11-1: Flood Risk Assessment.

Approach to Assessment

- 6.6.3 The water environment covers water quality, hydrology, flood risk and groundwater.
- 6.6.4 The method of assessment and reporting of significant effects is predominantly qualitative, based on the methodology set out in the ES Volume 2i: Scheme-wide assessment: Chapter 4: EIA methodology.
- 6.6.5 The importance of the water resource receptor is based on the data collected as part of the baseline study, taking into consideration designations, publicly available data, site walkover surveys and consultation with stakeholders.
- 6.6.6 The assessment considers water quality, flood risk, hydromorphology and groundwater and the likely significant effects associated with the Scheme on identified receptors.
- 6.6.7 The water and flood risk assessment has a further two associated standalone assessments, which are provided as appendices to the ES:
  - Flood Risk Assessment (ES Volume 2i: Scheme-wide assessment: Volume 3: Appendices: Appendix 11-1: Flood risk Assessment); and,
  - Water Framework Directive (WFD) (ES Volume 2i: Scheme-wide assessment: Volume 3: Appendices: Appendix 11-2: Water Framework Directive Assessment).

Mitigation**Construction**

- 6.6.8 The following construction mitigation measures are relevant to the Scheme and include implementation of best practice environmental management measures. This will be managed through adherence to the CoCP Part A, with the standard measures relevant to water being found in Section 7: Water resources.
- 6.6.9 Whilst the CoCP Part A outlines a suite of measures aimed at protecting watercourses in general, Part B of the CoCP will incorporate a Pollution Prevention and Incident Control Plan (PPICP) that will describe the site-specific measures to be taken to protect specific sections of watercourses and water resources where works or compound locations are in proximity to them.

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- 6.6.10 An Environmental Design Plan (EDP) (Land Contamination and Hydrogeology) will also be required under / as part of the CoCP Part B. In considering hydrogeology, this document will identify any additional mitigation that has resulted from continued discussions between the Alliance design team, Kirklees Council and the Environment Agency.
- 6.6.11 The PPICP and EDP will have particular regard to activities within the construction compounds and any proposed in-channel works (culverts and new viaduct), the details of which are being discussed with Kirklees Council through continued engagement.
- 6.6.12 Whereas the PPICP will more outline protection measures in connection to construction activities that have the potential to pollute watercourses, the EDP will address points related to the detailed design stage in connection to hydromorphology, flood risk and groundwater. The full detail of this process can be reviewed in the ES in Volume 2i: Scheme-wide assessment: Chapter 11: Water Environment: Sections 11.6.7 to 11.6.12.

***Operation***

- 6.6.13 The design of the Order takes account of the scheme-wide drainage strategy that is included in the ES in Volume 3: Appendices: Appendix 11-4 Scheme-wide drainage strategy.
- 6.6.14 As previously highlighted in section 6.6.10 of this proof of evidence, the Alliance will continue to engage with Kirklees Council as Lead Local Flood Authority (LLFA) to develop the detailed design of for example culvert extensions and headwall design, and overall drainage from the scheme-wide infrastructure in compliance with the Scheme-wide drainage strategy. Whilst the usual permits would not be required for these works, as the provisions of Regulation 12(1)(a) of the Environmental Permitting (England and Wales) Regulations 2016 are proposed to be disapplied by Article 5 of the Order, the appropriate responsible body relevant to the works will be consulted in consideration of the protective provisions given to them outlined in the draft Order.
- 6.6.15 The railway acts naturally as a robust attenuator of rainwater discharge, delaying volume flow of water falling on its ballasted structure. The Alliance design in detail will show, in compliance with the Scheme-wide drainage strategy that this will require volume discharge to be maintained at an acceptable rate in consideration of flood risk.

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- 6.6.16 The design of the new Baker Viaduct over the River Calder in the Ravensthorpe area is in part the result of detailed discussion between the Alliance and the Environment Agency with a key feature agreed to avoid impacts in the river channel and develop a design that did not include a support pier in the river channel.

***Route Section 6: Flood Compensation Thornhill Quarry***

- 6.6.17 In consideration of potential flooding in the Ravensthorpe area, the design of the scheme has included for flood compensatory storage in the form of a made depression in the south of the Thornhill quarry site that is intended for compulsory acquisition partly for this purpose.

Significant Residual Effects***Construction***

- 6.6.18 When the incorporated mitigation described in sections 6.6.8 to 6.6.12 is implemented, it is assessed that there are no significant residual effects during the construction period across the Scheme.

***Operation***

- 6.6.19 When the incorporated mitigation described in sections 6.6.13 to 6.6.17 is implemented, it is assessed that there are no significant residual effects during the operational period across the Scheme.

**6.7 Adequacy of the Environmental Statement with regards to the water environment**

- 6.7.1 I refer to section 4.3 of my proof of evidence and Table 4-2: Information included in the ES, that defines where the ES is compliant with the Application rules. The assessment of the water environment falls within this provision and is considered adequate on that basis.
- 6.7.2 Section 6.6.4 of my proof of evidence defines how the assessment is set out in the ES in Volume 2i: Scheme-wide Assessment: Chapter 4 EIA Methodology that is compliant with EIA guidance document series and section 6.6 in general summarises the baseline work, assessment and proposed mitigation and in this respect is considered to represent adequate information.

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- 6.8.1 Baseline information is provided in the ES (NR16) Volume 2i: Scheme-wide assessment: Chapter 10 Landscape, townscape and visual: Section 10.4 and each Volume 2ii: Route section assessment: Chapter 10 Landscape, townscape and visual: Section 10.2.
- 6.8.2 In support of the baseline landscape information, arboricultural surveys were conducted across the scheme and can be reviewed in the ES in Volume 3 Appendices: Appendix 9-1: Arboricultural Impact Assessment.

Approach to Assessment

- 6.8.3 As set out in the ES in Volume 2i Scheme-wide assessment: Chapter 10 Landscape, Townscape and Visual: Section 10.3.5, the methodology has used for the Landscape and Visual Impact Assessment has been developed with reference to the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013 (GLVIA) published by the Landscape Institute and Institute of Environmental Management and Assessment and Landscape Institute Advice Note 01/11 (2011): Photography and photomontage in landscape and visual impact assessment.
- 6.8.4 These documents provide best practice guidance for the landscape profession and the assessment has been carried out and reviewed by Chartered Members of the Landscape Institute who are experienced in the assessment of transport infrastructure projects. A full description of the methodology is presented in the ES in Volume 2i Scheme-wide assessment: Chapter 10 Landscape, townscape and visual: sections 10.3.3 to 10.3.8.

Mitigation**Construction**

- 6.8.5 The CoCP Part A is the mechanism by which the visual intrusion of construction activity shall be mitigated as far as is reasonably practicable.
- 6.8.6 The CoCP Part A in section 6.1.5 commits to the following considerations that will address the potential visual intrusion of the construction works:
- Construction machinery, materials and welfare facilities will be carefully sighted to avoid unnecessary disruption, particularly with regards to the privacy of adjacent areas;

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- Temporary site hoarding around construction areas will be erected to clearly delineate working areas and reduce disruption of nearby area; and,
- The intensity and timing of construction lighting is appropriate to limit disruption.

***Operation: General***

- 6.8.7 I refer to the proof of Graham Thomas (NR/PoE/GT/2.2) that outlines the recommended design of the infrastructure required for the Scheme. As I have set out above, the design process has included optioneering which sought to balance various matters: seeking to balance operational requirements whilst minimising other elements, including visual intrusion, as described in section 4.1.2 of this proof of evidence.
- 6.8.8 The scheme will electrify the railway and this necessarily requires overhead line to be supported by regularly placed gantries. The selection of the MK3 series gantry design, as can be seen in the ES in Volume 2i Scheme-wide assessment: Chapter 2 Scheme Description: Section 2.7.8 Insert 2-6, provides for a less visually intrusive gantry design that can be spaced in general at 55m to 65m distance from one location to the following location on open line. This is in comparison to older Overhead Line Equipment (OLE) design seen on other parts of the rail network, such as the West Coast Main Line, where gantries are a bulkier more visually intrusive design that must be spaced more closely together than the selected MK3 series for the Order works.
- 6.8.9 Environmental design is a key component for the selected gantry location and it is design policy, where reasonably practicable, to place gantries on the boundaries between residential properties rather than directly outside any facing property windows in areas where urban development abuts the railway. This consideration is a design requirement during detailed design.
- 6.8.10 In considering the required works to structures such as bridges to facilitate the extended railway and electrification, I refer to the proof of Graham Thomas (NR/PoE/GT/2.2) for the detail. However, in general, it can be stated that the visual appearance of all structures is included within the selection criteria as outlined in section 4.1.2 of this proof of evidence.
- 6.8.11 The mitigation for visual appearance of all heritage structures and their setting affected by the scheme is described in the proof of Katie Rees-Gill (NR/PoE/KR-G/6.2) and is not considered in detail in this proof of evidence.

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- 6.8.12 There is a recommended condition in the DPP (NR12) that will require the specification of all external materials on structures listed in the condition be submitted to and agreed with Kirklees Council (Condition 7: Materials).

***Operation: Landscape and Ecological Management Plan***

- 6.8.13 The production of the LEMP is the mechanism by which general visual intrusion from the scheme is mitigated as far as is reasonably practicable. The LEMP is a proposed condition as part of the DPP (Condition 4: Landscaping and Ecology) that must be submitted to and approved by Kirklees Council.
- 6.8.14 The ES includes outline landscaping recommendations in the ES in Volume 4 Figures: Figure 2-3 Outline Environmental Mitigation Plan (OEMP). These plans identified specific areas of planting and landscaping as well as showing the proposed locations of additional ecological mitigation measures such as proposed bat boxes, proposed replacement bat roosts, wildlife fencing/barriers, bird boxes and potential compensation pond locations, the detail of which will be finalised in the LEMP, that will be submitted to and approved by Kirklees Council by condition. This secures an appropriate level of landscaping mitigation for the scheme in general.

***Operation: Route Section 1: Huddersfield Station***

- 6.8.15 The design process included optioneering which realised an optimum design balancing operational requirements with minimising impacts on the significance of the Grade I Listed Huddersfield Station. For further detail, please refer to the proof of Katie Rees-Gill (NR/PoE/KR-G/6.2).

***Operation: Route Section 5: Mirfield Station***

- 6.8.16 Where Mirfield Station is to be altered structurally, the massing and scaling of the proposed changes are to be appropriate in relation to the existing built form to limit effects on the local landscape/townscape character.

***Operation Route Section 6: Ravensthorpe Static Frequency Convertor Site***

- 6.8.17 The design of a bespoke SFC Site at the Thornhill Quarry site adjacent the railway in Ravensthorpe is the subject of detailed design. On that basis, the location is identified but the final form of the SFC is the subject of proposed planning condition 14 to the DPP. This shall include a consideration of the SFC visual appearance and any required landscaping in consideration of specific views of the site.



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- 6.8.18 An example of a similar SFC facility can be seen in the ES in Volume 2i Scheme-wide assessment: Chapter 2 Scheme description: Section 2.7.23 Inserts 2-11 and 2-12.

Significant Residual Effects**Construction**

- 6.8.19 Despite the mitigation outlined in section 6.8.5 to 6.8.6 in this proof of evidence for the construction stage, the construction works will be visible at publicly accessible locations across the scheme so that it would remain a visual feature and this is identified as a significant effect as a general statement.

**Operation**

- 6.8.20 The significant visual residual effects for the operational period can be reviewed in the ES in Volume 2i Scheme-wide assessment: Chapter 10 Landscape, townscape and visual: section 10-7 and Table 10-15.
- 6.8.21 The ES assesses significance at Year 1 of scheme operation and then at Year 15 in considering viewpoints selected and agreed with Kirklees Council during the EIA process. At Year 1, the landscaping will have been initially planted and thus is the mechanism to address significance in the initial stages of the operation of the scheme. My proof of evidence extracts the elements of the scheme where there remains significant adverse effects at year 15 and presents this in Table 6.1 below (Viewpoint locations are presented in the ES in Volume 4 Figures: Figure 10-1: ZTV).

**Table 6-1: Significant Adverse Effects at Year 15**

Landscape resource or visual receptor	Significant residual effect at year 15	Commentary
<b>Route Section 1</b>		
Viewpoint 5	Permanent Moderate adverse effects	Mitigation planting is not practical at this location and therefore, during the operational phase of the Scheme, permanent changes to the railway line including OLE would be visible.
Viewpoint 10 Users of PROW	Permanent Moderate adverse effects	During the operational phase of the Scheme, gantries, OLE and other new railway infrastructure would remain noticeable in the backdrop of this view.

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<b>Landscape resource or visual receptor</b>	<b>Significant residual effect at year 15</b>	<b>Commentary</b>
Viewpoint 40 Pedestrians	Permanent Major adverse effects	At completion, the alterations to the parapet would remain a prominent, permanent change.
<b>Route Section 2</b>		
Viewpoint 10	Permanent Moderate adverse effects	During the operational phase, the new railway infrastructure may be visible within the townscape.
Viewpoint 13	Permanent Moderate adverse effects	During the operational phase, once vegetation has matured, reinstated vegetation would partially screen the railway from view.
Viewpoint 20	Permanent Moderate adverse effects	During the operational phase, once vegetation has matured, reinstated vegetation would partially screen the railway from view. However, residential properties are anticipated to still have views of new railway infrastructure such as OLE.
<b>Route Section 3</b>		
Viewpoint 20	Permanent Moderate adverse effects	During the operational phase, once vegetation has matured, reinstated vegetation would partially screen the railway from view. However, residential properties are still anticipated to have views of new railway infrastructure such as OLE and Deighton Station.
<b>Route Section 6</b>		
Viewpoint 21	Permanent Moderate adverse effects	At completion the permanent changes to the bridge would remain prominent to pedestrians and motorists.
Viewpoint 23	Permanent Moderate adverse effects	The embankment with reduced vegetation cover would be noticeable and would increase visibility of the railway line. At completion of the Scheme, the replanted vegetation would soften the effects of the earthworks. This would reduce effects at Year 15, however it would still be a noticeable difference from the baseline view.
Viewpoint 42	Permanent Moderate adverse effects	At completion, the new Ravensthorpe Viaduct and associated vegetation clearance would remain prominent.

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6.8.22 The views from residential properties that have been built immediately adjacent to the railway were also considered in the ES. Whilst infrastructure improvements will inevitably always be seen from residential properties that abut the railway, the mitigation as described in sections 6.8.8 to 6.8.10 addresses this aspect as far as is reasonably practicable.

6.8.23 The ES identifies significant residual effects in considering lineside residents in Chapter 10 Landscape, townscape and visual: section 10-7 and Table 10-16, given that the infrastructure will be seen from various property locations.

## **6.9 Adequacy of the Environmental Statement with regards to landscape, townscape and visual**

6.9.1 I refer to section 4.3 of my proof of evidence and Table 4-2: Information included in the ES, that defines where the ES is compliant with the Application rules. The assessment of landscape, townscape and visual falls within this provision and is considered adequate on that basis.

6.9.2 Sections 6.8.3 to 6.8.4 of my proof of evidence defines how the assessment is set out in compliance with GLVIA guidelines that is compliant with EIA guidelines and section 6.8 in general summarises the baseline work, assessment and proposed mitigation and in this respect is considered to represent adequate information.

## **6.10 Climate effects**

### Baseline Information

6.10.1 The baseline is defined as the Do-Minimum scenario, which is continued operation of the existing infrastructure, without the Scheme.

6.10.2 Passenger kilometres are estimated at 75 million per year throughput between Huddersfield and Westtown, with emissions of 35.1g carbon dioxide (CO)<sub>2e</sub> (total greenhouse gases (GHG) measured as a CO<sub>2</sub> equivalent) for each person. Estimated annual emissions for the operation of passenger trains are therefore 2,633 tonnes (t)CO<sub>2e</sub>. Other operational emissions are likely to be minimal compared with emissions from passenger train traction, and this is therefore considered to be a suitable annual emissions baseline for the purposes of Environmental Impact Assessment (EIA).

### Approach to Assessment

6.10.3 The case for the approach to assessment is set out in the ES in Volume 2i Scheme-wide assessment: Chapter 17 Effects on climate: Section 17.3 Assessment methodology.

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- 6.10.4 The Publicly Available Standard (PAS) 2080:2016 ‘Construction Management in Infrastructure’ (PAS 2080) is the technical guidance and standard that has been used to generate the data relied on in the assessment.
- 6.10.5 Commissioned by the Green Construction Board and facilitated by British Standards Institution (BSI), Standards Limited, PAS 2080 provides a framework for managing carbon within the infrastructure value chain. Section 7 of PAS details a framework for quantifying GHG emissions and is the industry standard methodology providing transparent and comparable carbon footprints. The carbon assessment is based upon the methodological framework set out in PAS 2080.
- 6.10.6 The carbon assessment can be reviewed in the ES in Volume 2i Scheme-wide assessment: Chapter 17 Effects on climate: Section 17.5 Potential Effects. Whilst the CO<sub>2</sub> equivalent figures are identified for all construction activity by route section, for the purposes of this proof of evidence, the current high level estimate for the whole scheme is of relevance.
- 6.10.7 The production and transportation of materials for the construction of the Scheme is estimated to contribute a total of **249,808 tCO<sub>2</sub>e** GHG emissions. This represents a small contribution of 0.014% to the UK’s fourth carbon budget (2023 to 2027). Overhead Line Equipment (OLE) is likely to have the largest embodied carbon emissions accounting for 60%-72% of the total embodied material carbon emissions, while the transportation emissions contribute less than 1% of the total construction emissions as detailed in the Traction Decarbonisation Network Strategy produced by Network Rail (2020) (NR108).
- 6.10.8 The operation of the Order scheme facilitates a transition from diesel powered train stock to bi-mode units that are trains that largely run as electrified units but can operate through diesel power as still may be required.

Mitigation***Construction: design decisions***

- 6.10.9 The estimated total construction CO<sub>2</sub> equivalent figure of 249,808 quoted in section 6.10.7 of this proof includes embedded design mitigation with some examples outlined in this section.

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6.10.10 As noted in section 6.10.7 of this proof of evidence, the largest embedded carbon contribution comes from the required use of OLE that must be manufactured with steel. This validates the selection of the MK3 series design that is in relative terms a design that minimises the use of steel across the scheme.

***Grade separated junction at Ravensthorpe***

6.10.11 The selection of the flyover option at Ravensthorpe, identified the environmental benefit of less embedded carbon in design, given that a diveunder option would require twice the volume of concrete and a similar amount of steel to construct it.

***Reinforced earth solution at Weaving Lane***

6.10.12 Rather than the standard reinforced concrete solution at Weaving Lane, the preferred method of construction is innovatively using strengthened reinforced earth.

***Weathered steel***

6.10.13 A weathered steel solution is preferable as it has lower long-term maintenance and lower capital costs.

**Construction**

6.10.14 Construction decision-making can contribute to the reduction in embedded carbon estimated for the construction of the scheme. The options are described in the ES in Volume 2i Scheme-wide assessment: Chapter 17 Effects on climate: Sections 17.6.3 to 17.6.4. The main elements are outlined in this proof of evidence.

***Materials Management Plan***

6.10.15 The construction strategy is to re-use as high a percentage of excavated material (site won material) as possible across the scheme and this will be detailed in the Materials Management Plan (MMP) that is part of the CoCP Part B. This strategy principally targets excavated material at Heaton Lodge cutting and the Ravensthorpe grade separation area but is also targeting areas such as Hillhouse sidings.

6.10.16 Re-use of excavated material on the scheme reduces the volume of virgin material that is excavated elsewhere and transported into the scheme and also reduces the volume of material that then must be designated as waste if

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no use can be found for it and transported an unspecified distance to another exempt site or at worst to landfill.

- 6.10.17 When carbon calculations are re-run on final scheme delivery, it is anticipated that CO<sub>2</sub>e will reduce from the estimated figure stated in section 6.10.7 due to efficient re-use of site won material.

***Network Rail Supply Chain Operations***

- 6.10.18 Network Rail operates material recovery through its national Route Services function. Route maintenance, construction activities and renewal activities on the railway result in redundant lineside material such as rail, sleepers, cable and ballast. Network Rail's Supply Chain Operations (SCO) manage the work to recover and process, these materials through three principle material handling depots at Whitemoor, Crewe and Westbury. Some recovered assets are serviced and re-used on the network; others are processed for recycling.

- 6.10.19 The Whitemoor depot has a ballast washing facility where the small percentage of contaminated ballast that is recovered is sent, separately to the recovered uncontaminated ballast, for decontamination and then re-use or recycling.

- 6.10.20 The SCO functions by engineering train rather than road haulage. In considering network assets, the SCO provides a key function in material management of redundant rail infrastructure in contributing to minimising embedded carbon.

***Compound Mains generated electricity***

- 6.10.21 The strategy requires that compounds are connected to mains electricity to power the facilities. This reduces embedded carbon in comparison to diesel-powered electricity.

***Strategic compound at Huddersfield Station***

- 6.10.22 One of the strategic compound sites will be located at Fitzwilliam Street (adjacent to Huddersfield Station) and this will enable staff to travel by train rather than by road, thus reducing embedded carbon. Where possible staff working across the Scheme will be encouraged to travel via public transport, such measures will be detailed in the CTMP (condition 6 of the DPP).

***Solar powered mobile plant***

- 6.10.23 Where reasonably practicable, mobile plant will be powered by solar generated power rather than through diesel power.

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6.10.24 At this stage of Scheme development, it is not possible to provide a quantitative assessment of the carbon emission reductions which would be generated by the additional mitigation items described in this proof of evidence. Industry data suggests that 15% savings can be made to emissions from construction activities by using efficient onsite construction practices such as are described in my proof of evidence.

6.10.25 As prior to this mitigation, the effects of the Scheme on climate change were not considered to be significant with the scheme contributing only 0.014% to the UK's fourth carbon budget from 2023 to 2027, no residual significance effect is anticipated.

**6.11 The adequacy of the Environmental Statement: Statement of Matters point 7: climate change**

6.11.1 Section 6.10 of this proof of evidence outlines the potential impacts of the scheme on climate change. This evidence is summarised in this section to demonstrate further how this is adequately assessed in the ES.

**Construction**

6.11.2 Section 6.10.7 of this proof of evidence states on initial assessment, the construction of the scheme will produce an estimated 249,808 tCO<sub>2e</sub> (tonnes carbon dioxide equivalent). It is further stated that this represents a small fraction of the UK's stated fourth carbon budget for the period 2023 to 2027 (0.014%). On that basis this is not considered significant.

6.11.3 However, on its own it is reasonable to state that the value of 249,808 tCO<sub>2e</sub> reflects a value of embedded carbon that would be expected for a major construction scheme that is large compared to the payback in operational terms (estimated initially at 1,500 tCO<sub>2e</sub> annually with the change from diesel train units to bi-mode).

6.11.4 The assessment in section 6.10 of this proof of evidence describes the continued design and construction effort that will reduce the CO<sub>2e</sub> by an average of 15% in considering the overall CO<sub>2e</sub> from the construction process.

6.11.5 I refer to David Vernon's proof (NR/PoE/DV/1.2) that outlines the justification for the scheme and the economic benefits derived from capacity increase, reduction in travel time and reliability improvements on the route, put against the initial measure of tCO<sub>2e</sub> to construct the scheme.

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- 6.11.6 It is my opinion that current emissions from all diesel units on the route and in relative terms all future electrified bi-mode units can both be considered small scale emissions. This statement is made in consideration of the fact that all rail travel is responsible for only 0.6% of total UK emissions. On that basis it is assessed that the Scheme in operation is deemed to be unlikely to cause significant effects on climate either positively or negatively, or significantly affect the UK's ability to meet its emissions reduction targets.
- 6.11.7 However, emissions do decrease from the current approximation of 2,600 tCO<sub>2</sub>e per annum using diesel units down to an estimated 1,100 tCO<sub>2</sub>e per annum with the scheme in operation using electrified bi-mode units.
- 6.11.8 Positively, a transfer of reliance to the UK electricity grid to power rail units embeds future forecasts of reducing annual tCO<sub>2</sub>e given that the UK will increasingly use a lower percentage of fossil fuels to power the electricity network. There is the potential that the scheme will be carbon neutral or achieve net zero carbon by 2050 in line with UK government targets.
- 6.11.9 This would be considered a positive contribution to Kirklees Council's 2038 carbon neutral vision as is outlined in section 6.12 of my proof of evidence.

**6.12 Scheme consistency with Carbon Emission Reduction Policies**

- 6.12.1 Point 9 of the Statement of Matters requests information concerning the wider consistency of the Order Scheme with national and local planning policy and I refer to the proof of evidence of Tony Rivero (NR/PoE/TR/4.2) that deals with these items. In this proof of evidence I limit my comment to the documents produced by West Yorkshire Combined Authority ("Combined Authority") (West Yorkshire Carbon Emission Reduction Pathways Technical Report), that shall be termed the "Carbon Reduction report" and Kirklees Council's 2038 Carbon Neutral Vision, that I shall call the "Carbon Vision".
- 6.12.2 In general I refer to my evidence in section 6.10 Climate Effects that outlines the climate change benefits generated by the electrification of the Order Scheme and the increase in rail passenger capacity, aligned with improvements to service reliability, that is expected to generate a modal shift from road to rail transport.

***West Yorkshire Carbon Emission Reduction Pathways Technical Report***

- 6.12.3 The Carbon Reduction Report notes a current annual contribution of carbon emissions from all transport at an estimated 4.9 million tonnes carbon dioxide equivalent (4.9 Mt CO<sub>2</sub>e). The emissions from rail is estimated to



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contribute only 1% of these emissions with the contribution from road transport dominating the emissions with an 89% contribution. On that basis, the report consistently addresses the potential to reduce road emissions as the focus of the report.

- 6.12.4 The Carbon Reduction Report identifies that a general shift to electrified road vehicles in the years leading up to 2038 will be a major contributor to reducing transport emissions. Though rail emissions only contribute 1% to total emissions, as estimated by the Combined Authority, in consideration of the fact the Order Scheme electrifies the railway, this is consistent with the approach to reducing the primary contribution from road emissions as highlighted by the Combined Authority in the Carbon Reduction Report as follows:

“Rail capacity must increase to accommodate modal shift of passengers and freight, with electrification mitigating emissions growth”

- 6.12.5 The Carbon Reduction Report gives the example of “Northern Powerhouse Rail” increasing future capacity on the rail network in the region, thus encouraging modal shift. The Carbon Reduction Report does not mention the Order Scheme by name but does highlight that capacity increase can in part be met by improvements to current infrastructure. The Order Scheme will increase capacity on the route and therefore directly contributes to this vision.
- 6.12.6 It should be noted that the Department for Transport’s “Rail Environment Policy Statement: On track for a cleaner, greener railway” (“dft policy statement”) document published in July 2021 (NR94), amongst other ambitions directly targets the ambition to electrify more of the railway network as a means to address climate change and reduce carbon emissions.
- 6.12.7 In considering the Order Scheme and one of the benefits, rail capacity is increased on the existing infrastructure, thus generating potential modal shift and the line is electrified for bi-mode use. The Order Scheme has the potential to be carbon net zero by the year 2050, with an initial reduction in CO<sub>2</sub>e generated by the electrification, projected to potentially reach zero by 2050 as the UK becomes less reliant on fossil fuels to generate electricity. This is considered consistent with the Combined Authority’s Carbon Reduction Report.

***Kirklees Council’s Carbon Neutral Vision***

- 6.12.8 The Kirklees Carbon Vision centres around a declaration that they aspire to being carbon neutral by the year 2038. It is considered in general that the

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electrification of the Order Scheme and potentially achieving carbon net zero in operation contributes to this aspiration.

- 6.12.9 Kirklees Council makes a number of statements in their Carbon Vision that outlines how the vision will be achieved and I address these statements below as they are applicable to the Order Scheme.

***Increase the amount of electric vehicle charging points***

- 6.12.10 I refer to the evidence of David Vernon (NR/PoE/DV/1.2) who outlines why electric vehicle charging points are not included in the remit for the Order Scheme in considering replacement car parking at stations. Network Rail has been advising Kirklees Council on how they might take this discussion further with the rail operators that manage the stations.

***Add more electric vehicles to Kirklees Council fleet***

- 6.12.11 The Alliance is investigating the potential to utilise electric cars for construction staff in moving around the Order Scheme during construction in support of this Kirklees statement. Any developments on this potential would be reported in the Travel Plan that will form part of the CTMP.
- 6.12.12 Kirklees Council is clearly targeting the need to stimulate a move from fossil-fueled road vehicles to electric vehicles. Though this targets the high emission contribution from road vehicles, the Order Scheme contributes directly to this challenge in electrifying a railway that currently runs diesel train units.

***Plant more trees***

- 6.12.13 I refer to section 6.8.13 of my proof of evidence that outlines the requirement to submit a LEMP to Kirklees Council as a condition for their approval. A final detailed landscaping scheme will be approved that can include planting in consideration of the aspiration to plant more trees within the Kirklees area. This will be addressed in a Statement of Common Ground which is under discussion between the two parties (Network Rail and Kirklees Council)..
- 6.12.14 In addition, I refer to section 7 of my proof of evidence that outlines the commitment by condition to Biodiversity Net Gain (BNG), that is offsetting the effects on habitat and adding 10% enhancement. The replacement and enhancement activity, that will be reflected in the LEMP if within the Order Scheme, and also in any BNG reporting if through 3<sup>rd</sup> party agreement outside the Order Scheme, will inevitably result in the planting and maintenance of additional trees.

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6.12.15 The Order Scheme also provides, as mitigation, for the replacement of Public Open Space permanently removed by the works in the form of two areas of exchange land as detailed in the ES in Volume 4 Figures: Figure 20-2 Areas of public open space to be provided. The two areas identified in Figure 20-2, both in the Ravensthorpe area, that will be included in the detail of the LEMP, represent an opportunity for Network Rail to consult with Kirklees Council and other external stakeholders to include specific items of landscaping that can include tree planting in consideration of the Kirklees Carbon Vision.

***Increase recycling rate***

6.12.16 The construction of the Order Scheme is a temporary activity in considering the permanent commitment to increase the recycling rate across the Kirklees area. However, sections 6.10.15 to 6.10.17 (Materials Management Plan) and sections 6.10.18 to 6.10.20 (Network Supply Chain Operation) of my proof of evidence demonstrates the project strategy to re-use excavated material on the scheme and recycle rail infrastructure within the rail system in preference to transporting materials off site for use elsewhere or to landfill. This is consistent with the Kirklees Carbon Vision.

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- 7.1.1 Network Rail is committed by strategy and in its contractual documentation to the principle of Biodiversity Net Gain (BNG) on the TRU programme of works. This commitment for Network Rail projects originates from Network Rail's Biodiversity Action Plan 2020 that looks at the rail estate as an entity. The dft policy statement (NR105) reinforces the commitment to BNG across the network by 2035. In response to these strategies the Alliance has set BNG as one of its Key Performance Indicators (KPIs). This KPI requires BNG to be achieved across the whole of the TRU route from Manchester to York. For the purposes of the KPI, BNG is stated as meaning offsetting the effects on habitat caused by TRU works and adding 10% habitat enhancement as measured by the Defra metric<sup>3</sup>.
- 7.1.2 This commitment to BNG applies equally to the Order Scheme as it does to all other schemes on the TRU route that are not the subject of a TWA Order.
- 7.1.3 I will discuss how BNG will be implemented on the Order Scheme and why it has been treated separately to the consideration of required mitigation as assessed in the Biodiversity chapter of the ES that is considered in Niall Machin's proof of evidence (NR/PoE/NM/9.2).

**7.2 Consideration of Biodiversity Net Gain**

- 7.2.1 As I have explained in section 7.1 above, the Alliance already commits to BNG as a programme-wide measure.
- 7.2.2 The guidance in the National Planning Policy Framework (NPPF) (NR29 and NR29a) at section 174(d) outlines that planning policies and decisions should contribute to and enhance the natural environment by minimising impacts on and providing net gains for biodiversity. Minimising impacts are directly covered in a separate proof of evidence and are compliant with the requirements of EIA legislation. In terms of enhancement, this is covered by the commitment to BNG as outlined in this proof of evidence.
- 7.2.3 As the NPPF is only guidance on the matter of enhancement, I do not consider it justifiable to compulsorily acquire land for the purpose of biodiversity enhancement – i.e. for the sole purpose of achieving BNG. The Order does not therefore include land to be acquired for this purpose, or

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<sup>3</sup> The Defra metric is a mathematical calculation of habitat loss that is reported in number of units. This forms the basis of identifying mathematically or scientifically the number of units or habitat to be replaced and then added as part of any commitment to enhancement, in the case of the Order scheme, an additional 10%.

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specific powers or obligations to achieve a 10% BNG. Instead the ES submitted with the Order application restricts itself to a consideration of the effects on biodiversity and provides mitigation for those effects in compliance with EIA requirements.

- 7.2.4 On a practical level, it is also imprecise to attempt to calculate a true value of 10% enhancement as required by BNG at the time an Order application is made and then compulsorily acquire land on that projection. It is only as the Order Scheme heads into delivery that the true value of biodiversity habitat loss can be calculated and thus enhancement requirements identified, noting that in all events the required revegetation defined by the temporary or permanent removal of habitat is always within the Order limits of the Scheme.

**7.3 Statutory Stakeholders**

- 7.3.1 The Alliance has engaged with Natural England and Kirklees Council on the matter of BNG and consistently stated that it is committed to implementing Network Rail's general BNG commitment: that is to include 10% enhancement measures to be calculated by reference to the Defra metric.
- 7.3.2 Natural England has agreed with the position taken by the Alliance as outlined in section 7 of this proof of evidence and accepted that the commitment was sufficient for their purposes.
- 7.3.3 Kirklees Council has requested that a condition be imposed on the Order Scheme in preference to a side agreement committing to BNG. The Deemed Planning Permission now includes a proposed condition for BNG.

**7.4 Biodiversity Net Gain: in practice**

- 7.4.1 The commitment to BNG through a planning condition embeds the delivery of 10% biodiversity habitat enhancement on a future calculation of precise habitat loss.
- 7.4.2 In order to achieve BNG it is incumbent on Network Rail to consult proactively and collaboratively with interested statutory stakeholders, principally in the case of the Order Scheme, Kirklees Council and the Canal and River Trust.
- 7.4.3 In addition, it will serve as benefit to consult with other third parties to identify, commit to and deliver biodiversity enhancement as part of BNG.
- 7.4.4 The commitment ensures that biodiversity enhancement will be realised on Network Rail land where practicable and other third party land by agreement that is either within or adjacent to the Order Scheme by preference.

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- 7.4.5 The overall benefit is that the commitment will ensure a sustainable approach to biodiversity enhancement that necessarily involves a collaboration of effort between Network Rail and statutory and non-statutory stakeholders.

**7.5 Biodiversity Net Gain Integration into the Order Scheme**

- 7.5.1 In effect BNG is a separate deliverable to ecological mitigation for the scheme that is embedded with the delivery of the LEMP as discussed in more detail by other witnesses.
- 7.5.2 Nevertheless, I can confirm that the LEMP does provide opportunities to capture elements of BNG in addition to the biodiversity mitigation for which it is partly intended.
- 7.5.3 Specifically, the Order provides for two areas of public open space in the form of exchange land at Ravensthorpe as mitigation for public open space permanently removed by the Order Scheme. These areas will be considered in the LEMP and it is a matter of consultation and approval as a condition on the scheme so that agreement on habitat to be planted in the exchange land can contribute to the BNG commitment.

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8.1.1 The draft Order makes provision for the disapplication of specific elements of existing environmental legislation, as I describe further below. Disapplication generally applies to what would normally be consents related to flood control and land drainage. In the case of this Order, specific Articles have been added in regards the transfer of environmental permits and for demolition activity.

8.1.2 It is useful to highlight the aspects of environmental legislation that are not disapplied and the legislation that remains in force as follows:

- Protected Species Licensing;
- Waste legislation covering the categorisation, storage, transfer and disposal of waste; and,
- Network Rail commitment to complying with the Control of Pollution Act 1974 with regards Noise and Vibration control and submitting Section 61 applications to Kirklees Council.

**8.2 Disapplication of legislative provisions in TWA Orders**

8.2.1 Section 5 of the Transport and Works Act 1992 provides that a TWA Order made under sections 1 and 3 of that Act may include provision to exclude (i.e. disapply) statutory requirements. In particular section 5(3)(a) of that Act provides that a TWA Order may include provision to:-

“apply, modify or exclude any statutory provision which relates to any matter as to which an order could be made under section 1 or, as the case may be, 3,....”

8.2.2 Accordingly, the Transport and Works Act 1992 provides a legislative basis for a TWA Order to include provisions which modify or disapply statutory provisions for the purposes of the particular scheme being authorised by a TWA Order. This is so to enable that a TWA Order provides the legislative framework within which the scheme authorised by that TWA Order should be constructed and operated and to enable the powers conferred by such a TWA Order to be exercised in a manner compatible with existing statutory provisions.

8.2.3 Where a TWA Order does seek to include provisions to disapply statutory requirements further to section 5(3)(a) of the Transport and Works Act 1992, the promoter of that TWA Order will need to demonstrate that the

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disapplication sought is required in connection with the purposes of that TWA Order.

**8.3 Overarching justification for disapplication**

- 8.3.1 The TWA Order acts as a global consent and avoids the need for multiple consent applications during the delivery of a scheme and this makes the process more efficient. This does not avoid the scrutiny of the statutory consultee through the Order itself and the protective provisions given to them. It has also been used previously on other Network Rail schemes.
- 8.3.2 This principle is illustrated by the Network Rail (East West Rail) (Bicester to Bedford Improvements) Inspector's Report and Secretary of State decision letter (NR112). The Secretary of State (decision letter section 23) confirmed the Inspector's view that the statutory objector's position that their control would be compromised by the disapplication process was not correct (Inspector's report IR 8.51).
- 8.3.3 The Inspector found that the inclusion of the relevant Article in the Order would not compromise the ability of the statutory undertaker to carry out its duties. In adding further clarification, the Inspector noted in their report in section 8.145, that the article would provide the correct balance between giving the statutory undertaker:
- “sufficient time and control over making a decision on a discharge application and avoiding unnecessary delay to the Scheme”.
- 8.3.4 As regards the disapplication of legislative provisions sought through this Order, I discuss this below in the context of the railway scheme to be authorised by this application. More details can also be found in the discussion of Articles 5 and 6 of the Explanatory Memorandum (NR03).

**8.4 Article 5 (1)(a) Disapplication of legislative provisions: Environment Agency**

- 8.4.1 Article 5(1)(a) disapplies additional consents that otherwise would be required from the Environment Agency for “main river” under the Environmental Permitting (England and Wales) Regulations (EPR). This is for a consent to operate a regulated facility (in this case the Order Scheme) in relation to a flood risk activity, that is in connection to the erection, construction or the carrying out of works to any structure in a watercourse which is part of a “main river”. For example, Work number 15 includes the plan to construct the new Baker Viaduct over the River Calder where ordinarily consent would be sought from the Environment Agency under the Permitting Regulations, but in this case consent is not required. Instead, the



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Order provides for the approval of detailed plans for the works under the protective provisions given to the EA.

- 8.4.2 This process of disapplication and the approval of details through protective provisions is preceded in article 5 of the Network Rail (Hope Valley Capacity) Order 2018, the Network Rail (Werrington Grade Separation) Order 2018 and the Network Rail (East West Rail) (Bicester to Bedford Improvements) Order 2020. The Network Rail (Ordsall Chord) Order is a scheme that has been completed where disapplication of drainage into the River Irwell from the Ordsall Chord structure worked effectively.
- 8.4.3 In addition to the works over the River Calder, the disapplication will apply to other main river elements of the construction that in the case of the Order Scheme are limited to Route Section 6: Ravensthorpe to Westtown.
- 8.4.4 In accordance with the Application Rules, the EA has been consulted with regards to the Flood Risk Assessment and developing design, in this case an example being the design of the Baker Viaduct over the River Calder. If the EA is not satisfied there is sufficient information on these matters which has been provided as part of the application, then it may raise those concerns in any objection or representations it may make to the Order. If the Order is made, then the design, which has been subject to that scrutiny through the Order process, is effectively authorised. The disapplication of the EPR requirements essentially avoids the situation where Network Rail is then required to re-submit those designs by way of a permit application: despite the fact that consent has previously been granted for the scheme. Although the formal permitting requirements are disapplied, the Order includes protective provisions so that the Environment Agency can validate the detailed design of the design in principle from Order plans submitted.
- 8.4.5 The effect of the disapplication provisions is therefore to avoid a situation of having to seek a second consent for that aspect of the works where the subject matter of that consent has already been considered through the TWAO application process, including the opportunity for scrutiny of the proposals by the EA.
- 8.4.6 The Alliance is currently in discussion with the Environment Agency to agree the wording of disapplication articles applicable to them and the protective provisions they receive.

## **8.5 Article 5(1)(b) and (e) Disapplication of legislative provisions: Land Drainage Act**

- 8.5.1 Paragraphs (1)(b) and 1(e) of Article 5 provide for the disapplication of additional consents which would otherwise be required from the drainage

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authorities under the Land Drainage Act 1991. The Act requires a consent to be acquired to erect obtrusions (e.g. culvert extensions or an improvement to drainage facilities) into the flow of a “main river” (EA) or an “ordinary watercourse” (LLFA), in this case Kirklees Council. As with Article 5(1)(a), this requirement is disapplied, with protective provisions afforded to the Environment Agency or the LLFA, whichever is applicable for the case in consideration. In the case of the Environment Agency, the Baker Viaduct crossing of the River Calder falls into this category too in addition to 5(1)(a) as there will be two discharge points from the structure into the “main river” watercourse. There are a series of culvert extensions and drainage improvements across the Order Scheme that connect to “ordinary watercourses” (e.g. Topaz Close Culvert (MVL3/96AA) that connects from railway drainage into the Huddersfield Broad Canal) that fall into this category and falls under the jurisdiction of the LLFA.

8.5.2 The justification for the disapplication of these provisions is the same as discussed above. The protective provisions for the Environment Agency or LLFA are the appropriate mechanism to facilitate the detail of the relevant design further to the design in principle having been authorised by the granted Order. In other words, the disapplication process provides certainty that the works to be authorised by the Order can proceed.

8.5.3 In the case of Kirklees Council operating in its role as LLFA, regular design meetings are held to discuss and reach agreement on principally culvert design and drainage. The principle of disapplication and protective provisions has been discussed with Kirklees Council.

## **8.6 Article 5(1)(c) and (d) Disapplication of legislative provisions: Flood Risk**

8.6.1 Article 5 (1)(c) and (d) provide for the disapplication of requirements to obtain approvals under the Flood Management Act 2010. The equivalent mechanism for development consent orders is captured under the Planning Act 2008 (Paragraph 7(3), Schedule 3, Flood and Water Management Act 2010). This disapplication has precedent in article 5 of the Network Rail (East West Rail) (Bicester to Bedford Improvements) Order 2020. Article 1(c) removes the restrictions on removing designated features in relation to works authorised under the Order, whereas Paragraph (1)(d) disapplies the requirement to provide approval for the drainage systems constructed under the powers of the Order.

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment***8.7 Article 5(3) Disapplication of legislative provisions: certain demolition controls**

- 8.7.1 Article 5(3) provides for the disapplication of certain demolition controls under the Building Act 1984 so that specific demolition can proceed when the Order is granted. This disapplication is preceded in the High Speed Rail (West Midlands-Crewe) Act 2021. The example provided here is work no.9B at Heaton Lodge where existing properties must be demolished to enable the construction of new railway lines. Works at Hillhouse also fall under this category (Work Nos. 2A and 2B) where various buildings currently standing would have to be demolished to facilitate the area to be used as a construction compound.
- 8.7.2 These works are considered core purpose works, in other words they must happen to facilitate the main construction works, so certainty of occurrence is secured through the disapplication process rather than re-visiting this with the local authority under section 80(2)(b) of the Building Act 1984.
- 8.7.3 In section 5.2.1 of my proof of evidence, I describe the function of the Code of Construction Practice Part B in conditioning the detailed environmental controls through a series of plans that must be submitted to and approved by Kirklees Council as the local authority. The CoCP Part B includes the requirement for a demolition methodology statement for relevant buildings (Condition 5(viii)) to be submitted to and approved by Kirklees Council. It is considered that further controls under the Building Act 1984 are not required in addition to the requirements of Condition 5(viii).

**8.8 Article 6 Disapplication of legislative provisions relating to the surrender of an environmental permit**

- 8.8.1 Regulation 25 of, and Part 1 of Schedule 5 to, the EPR make provision to regulate applications for the surrender of an environmental permit by an operator of a regulated facility (as defined by the Regulations). Such environmental permits do not run with the land on which the regulated facility is operated. Therefore, where land within the Order limits is compulsorily acquired by Network Rail under the powers to be conferred by this Order for the purposes of the construction and operation of the authorised works, any environmental permit relating to that land will remain with the original permit holder and the terms of such an environmental permit will continue to apply to the use of the land notwithstanding its acquisition by Network Rail for the purposes of the authorised works.
- 8.8.2 Whilst the EPR would permit the transfer of the environmental permit to Network Rail as the new owner of the land (upon application and subject to approval by the EA) the Regulations do not appear to allow under a variation

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for the situation where the purpose for which the land transferred is to be used for a different reason: i.e. not for the continued operation of the regulated facility. This also raises some issues regarding the surrender of any such permit by Network Rail if transferred. The disapplication provisions have therefore been included in the draft Order to make sure this situation can be resolved.

**8.9 Thornhill Quarry Landfill Site**

- 8.9.1 The Order, if approved, would authorise Network Rail to permanently acquire land for authorised works that is currently subject to the operation of an existing environmental permit. As with demolition described in section 8.7 of this proof of evidence, the use of the land in question is for works regarded as core works, that is those works required to facilitate critical infrastructure. Certainty of delivery is required through the Scheme Order.
- 8.9.2 The existing environmental permit can only be surrendered under the Regulations by the original permit holder regardless of the compulsory transfer of the land to which the permit applies to Network Rail. In addition, whilst an existing environmental permit may be transferred to Network Rail (with the agreement of the existing permit holder and the Environment Agency) the Regulations do not take into account the eventual surrender by Network Rail of a permit transferred to them in the context of their use of the land not being for operation of a regulated facility, but for the purposes of the authorised works.
- 8.9.3 Regulation 25 is thus disapplied and Network Rail can request surrender of the relevant environmental permit once the Order has been granted whilst complying with Environment Agency protective provisions set out in the draft Order. Network Rail must seek the approval of specific plans that detail the measures for avoiding a pollution risk in considering both the authorised works under the Order and the original use of the site, and then returning the site to a satisfactory state upon the completion of the construction of the authorised works.
- 8.9.4 My proof of evidence, in sections 9.6.6 to 9.6.11, outlines how the Alliance is actively engaging with the EA in considering the mechanism to secure the transfer of any relevant environmental permit without the need to trigger the disapplication process if and when a future Order is granted. The Alliance is consulting with the Environment Agency through their enhanced pre-application advice service and will seek to achieve the environmental permit transfer, by process, through the formal EPR process as agreed with the EA. The disapplication provisions are therefore included in order to ensure that if the permit cannot be dealt with under the existing Regulations, that this will

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not prevent the Scheme being able to be delivered. That is of particular importance where, as here, the works are considered core works critical to the delivery of the Order scheme and must be secured.

- 8.9.5 This principle of including Article 6 in the draft Order as a backstop is being discussed with the Environment Agency but as has been agreed, Network Rail will pursue the transfer of any environmental permit through normal EPR processes as far as is reasonably practicable.

**8.10 Forge Lane Quarry**

- 8.10.1 Forge Lane Quarry has similarly been operating as a regulated facility for deposit for recovery activity.
- 8.10.2 In this case the Order seeks permanent acquisition of a small area of the site adjacent to the railway. Approximately one third of the site is then acquired temporarily through the Order to facilitate temporary works and then returned to the operator on the completion of the works.
- 8.10.3 As in the case of Thornhill Quarry, Network Rail needs to be sure that the permit issues can be addressed in respect of that part of the site which it will acquire permanently. Network Rail seeks temporary use of the rest of the land at the Forge Lane quarry site that is identified in the Order. I can confirm that it too will be the subject of the EA's enhanced pre-application advice service .

**8.11 Statement of Common Ground with the Environment Agency**

- 8.11.1 My proof of evidence outlines the progress made with the EA concerning flood risk and environmental permits operating on regulated facilities. It is agreed between Network Rail and the EA that a Statement of Common Ground will be prepared to identify what has been agreed and if there are still any areas of disagreement. The Statement of Common Ground will be completed in advance of public inquiry.

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- 9.1.1 This section of the environmental proof of evidence addresses objections to the scheme which are relevant to specific areas of the Environmental Statement.
- 9.1.2 Network Rail is currently actively engaging with all objections and representations to the scheme in an attempt to address issues raised.
- 9.1.3 Whilst matters of objection are being addressed, Network Rail is also putting together a Statement of Common Ground (SoCG) with each of the key objectors. It is the intention to agree a SoCG in full so that an objection is removed.
- 9.1.4 Should there be outstanding issues the SoCG will set out agreed matters but will also and equally importantly identify items that still need to be resolved or are still in disagreement. This provides the mechanism to focus on areas of disagreement at public inquiry should that be required.
- 9.1.5 My proof of evidence will address all elements of the objection as put forward but will focus more on areas of disagreement that still remain after further engagement with the objector. I only address below those objections which raise issues relating to the matters which I have discussed above in my Proof. Where specific issues are raised regarding, for example, noise and vibration, impact on protected species, traffic, or construction issues those matters are dealt with by other witnesses.

**9.2 Objection 33 – Kirklees Council**Introduction

- 9.2.1 The Kirklees Council objection to the scheme sits broadly across a number of environmental topics or areas. Network Rail has actively continued to engage with Kirklees Council in the time period since the objection was submitted for the Order Scheme through a series of workshops and correspondence.
- 9.2.2 A SoCG with the Council is in development further to the workshops completed and the output is introduced in the “responses” section under each item below, as applicable.

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- 9.2.3 A draft SoCG resulting from ongoing consultation with Kirklees Council is acceptable to Network Rail that removes the objection to the Order Scheme concerning the environmental matters described in the sections below.

***Kirklees objection***

- 9.2.4 Appendix 5 to the Kirklees SoC includes a list of technical issues raised during the council's review of the ES.

***Network Rail response***

- 9.2.5 Network Rail and Kirklees Council have been discussing the technical issues raised in Appendix 5 of the SoC at a series of workshops conducted during August and September 2021.
- 9.2.6 A Statement of Common Ground between the two parties is being compiled and it is not proposed to comment on this aspect in this proof of evidence. It is addressed, where necessary, in the evidence of others. Additional comments in this section directly address the issues raised in the main report in the Kirklees SoC.

Kirklees Council Section 2: Issue specific representationsKirklees Council Section 2: sub-section 1iii: the environment and biodiversity: landscaping duration***Kirklees objection***

- 9.2.7 Kirklees Council states that the maintenance duration of planting required through the LEMP should be for a period of 30 years.

***Network Rail response***

- 9.2.8 I consider that a 5-year maintenance regime for any landscape planting is sufficient to ensure that the planting will fulfil the purpose it was intended for.
- 9.2.9 The 5-year time period is the same as stated on other comparable TWA Order schemes that have been granted, such as Hope Valley Capacity, so Network Rail sees no reason it should deviate from the 5-year time period as stated in Condition 4 Landscaping and Ecology.
- 9.2.10 The SoCG identifies the mechanism to address the Kirklees objection on this matter for areas of woodland landscaping that will remain in their ownership beyond the 5-year maintenance regime.

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9.2.11 The landscape plans as depicted in the ES in Volume 4 Figures: Figure 2-3 Environmental Mitigation Plan, do not provide sufficient information to satisfy Kirklees Council that mitigation is appropriate concerning biodiversity and landscaping. In addition Kirklees states that the Landscape and Ecological Management Plans should set a high standard.

***Network Rail response***

9.2.12 I do not comment on the subject of biodiversity and the mitigation and compensatory measures proposed in this proof of evidence and these are dealt with elsewhere.

9.2.13 In terms of landscaping, Network Rail has followed a tried and tested methodology, as was used on Werrington TWAO for example, that results in an Environmental Mitigation Plan fit for submission in a TWAO Order. It is conceded that the plans lack complete detail but they are only ever intended to be indicative and serve to secure the implementation of the LEMP that is proposed condition 4 and must be submitted to and approved by Kirklees Council. The LEMP will contain the full landscaping detail in a comprehensive plan to be implemented on the Order Scheme.

9.2.14 In addition, Network Rail has agreed with Kirklees Council to include a condition on the scheme that ensures biodiversity offsetting plus 10% habitat net gain, known as BNG. In committing to BNG, this further secures the detail that will be included in the LEMP and with the knowledge that an additional 10% habitat gain on baseline loss must be demonstrated, this will ensure and secure a high standard as highlighted by Kirklees Council. For further information on BNG refer to Section 7 of my proof of evidence.

Kirklees Council Section 2: sub-section 2: climate change: climate resilience in landscape design***Kirklees objection***

9.2.15 Kirklees Council states that climate resilience should be included in the landscape design.

***Network Rail response***

9.2.16 I do not accept that it is appropriate to include climate resilience in the landscape design. I refer to the ES in Volume 2i: Chapter 16 Vulnerability to climate and specifically section 16.6 Mitigation Measures (mitigation outlined



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in section 16.5). The mitigation described for operational implementation outlines how Network Rail engineering design must comply principally with Network Rail engineering standards that must in any event, comply with vulnerability to climate criteria.

- 9.2.17 The mitigation identified in Section 16.5 of the ES will seek to reduce the vulnerability of the Scheme to climate change. However, it should be noted that the detailed design stage will be led by the operational and technical rail system requirements, to ensure that the final design results in a railway which operates safely. It can be inferred that a safe railway system must consider infrastructure vulnerability to extreme weather that might result from climate change.
- 9.2.18 As examples stated in my proof evidence, this can be shown by the selection of continuous welded rail rather than a jointed design that is more resistant to buckling during high temperature events. A further example would be design choices made to ensure embankments do not slip during high rain events.
- 9.2.19 In considering the specification of planting adjacent to an electrified railway, this must also be compliant with the technical rail system requirements. However, it can be said that any species planting can and will be cognoscente of predicted changes in climate.

Kirklees Council Section 2: sub-section 2: climate change: carbon neutral vision***Kirklees objection***

- 9.2.20 Kirklees council emphasises that its carbon neutral vision should be met by the scheme.

***Network Rail response***

- 9.2.21 I refer to my evidence in section 6.12.8 that demonstrates how electrifying the railway contributes to the Kirklees carbon neutral vision by reducing CO<sub>2</sub>e emissions with a projection of moving towards being carbon neutral by 2050 in line with UK government targets.
- 9.2.22 In reference to sections 6.12.13 to 6.12.15 of this proof of evidence, Network Rail can and will support Kirklees Council's 2038 carbon neutral vision in considering the range of planting opportunities on its infrastructure but it must be noted, this must be in compliance with railway operational and safety standards. It should be noted that this aspect of the carbon neutral vision is safeguarded by the commitment to BNG made by Network Rail that also will likely include planting on 3<sup>rd</sup> party land to meet the 10% enhancement requirement.

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment*Kirklees Council: Section 2: sub-section 2: bus diversion emission standards***Kirklees objection***

9.2.23 Kirklees Council require confirmation that emission standards from bus replacement services comply with emission ratings EURO5 and EURO6.

***Network Rail response***

9.2.24 It is noted that buses and coaches manufactured after October 2008 must be compliant with EURO5 emissions and those manufactured after December 2012 must be compliant with EURO6 emissions.

9.2.25 Whilst train operating companies must ensure rail replacement coaches are fit for safe operation, I do not consider it appropriate that Network Rail stipulates the specific emission ratings of those services as this would not be enforceable.

Kirklees Council: Section 2: sub-section 3: noise and air quality: air quality appendix 5***Kirklees objection***

9.2.26 Kirklees Council states that objections on air quality grounds during construction are outlined in Appendix 5 to their Statement of Case.

***Network Rail response***

9.2.27 As previously stated in section 9.2.6 of my proof of evidence, the items in Appendix 5 are addressed by the Statement of Common Ground that will result further to the discussions between Network Rail and Kirklees Council.

9.2.28 However, I also refer to section 6.2.11 of my proof of evidence that outline the mitigation in place in the form of the implementation of the NMP (condition 5v) to address the potential for nuisance or construction dust.

9.2.29 Section 6.2.21 of my proof of evidence outlines the process that is in place that leads to the production of the CTMP (proposed condition 6) that must be submitted to and agreed with Kirklees Council. This process will be wrapped up into a side agreement with Kirklees Council that will include a working group to agree all traffic matters in advance of the production of the CTMP. This addresses the need to stipulate construction traffic routes as far as is practicable in considering the location of existing Kirklees-designated AQMAs.

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment*Kirklees Council: Section 2: sub-section 9: development management: exchange land***Kirklees objection***

9.2.30 Kirklees Council states it needs clarity on the extent of exchange land in the Ravensthorpe triangle given the uncertainty over the size of the SFC site.

***Network Rail response***

9.2.31 The ES, in Volume 2i: Scheme-wide assessment: Chapter 20 public open space, states the requirement to provide a specified area of exchange land as mitigation for public open space land that is permanently lost to the Order scheme. A specific area of land is designated in the Ravensthorpe triangle adjacent to the SFC site.

9.2.32 This area of land is identified and protected for the function of exchange land with the footprint of the SFC site identified.

Kirklees Council: Section 2: sub-section 10: minerals and waste: Forge Lane quarry approved restoration***Kirklees objection***

9.2.33 Kirklees Council requests confirmation as to whether Network Rail would be responsible for the restoration of the licenced quarry site as the site is acquired. Kirklees council also requests information on the matter of potential mineral extraction sterilisation

***Network Rail response***

9.2.34 Network Rail is only acquiring a small section of land permanently (Plot 23-046) adjacent to the railway with the majority of the land acquired temporarily to facilitate the works. Once works are completed the land will be returned to the operator.

9.2.35 I can confirm it is the responsibility of Network Rail to complete the restoration works on the temporarily acquired site if the main restoration work has been completed by the operator on the rest of the site. This work would be detailed in the LEMP if this becomes applicable.

9.2.36 Otherwise, if the operator has not commenced restoration work, the temporarily acquired land would returned to the operator so that the restoration could be completed in compliance with the applicable environmental permit.

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment***9.3 Objection 35 – Canal and River Trust**

- 9.3.1 For the purposes of responding to the Canal and River Trust (“The Trust”) on environmental matters, as directed by the Trust, I will consider the information supplied in their Objection (Obj35) and then complete this section with any further responses as I consider are applicable in the Trust’s Statement of Case.
- 9.3.2 I shall address information that is put forward in the Trust’s Objection 35 that is relevant to my proof on general environmental management. I refer to other proofs of evidence as may be directly applicable to my own, but for a complete response to the Trust, this proof must be read in conjunction effectively with all other proofs.

Objection 35: Canal and River Trust

- 9.3.3 The Canal and River Trust (“The Trust”) confirm that their Objection 35 be taken as the effective Statement of Case so the following information is in response to that statement. In addition, any relevant additional information put forward in the Trust’s Statement of Case has been considered and a response made where appropriate.

Objection 35: Section 3 Protective provisions: Code of Construction Practice and SoC Section 3: Code of Practice (and Appendix A: Section 2 CoCP)***The Trust’s objection***

- 9.3.4 The Trust objects to Network Rail relying on the Code of Construction Practice (CoCP) as put forward in my proof of evidence in Chapter 5 Environmental Management During Construction. The Trust states they would prefer Network Rail complies with their own Canal & River Trust Code of Practice (“The Code of Practice” (CoP)) in managing the potential impacts on their waterways during the construction of the Order scheme.

***Network Rail response***

- 9.3.5 I refer to my statement on the CoCP in Chapter 5 of this proof of evidence that outlines how the CoCP comprehensively secures all construction-related environmental mitigation required on the scheme, both the overarching Code of Construction Practice Part A that is submitted with the Order that acts as the high-level environment document on which the CoCP Part B is based. The CoCP Part B requires Network Rail to submit to Kirklees Council and have approved, by condition (5), a series of environmental management plans that address all environmental issues during the construction of the scheme.

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- 9.3.6 The implementation of the CoCP Part B, as I outline in Chapter 5 of my proof of evidence, will consider all possible receptors in considering environmental effects and this would include The Trust's assets as outlined in their objection. Network Rail relies on this tried and trusted methodology that has previously been implemented successfully, recently at Werrington and currently for Hope Valley Capacity TWAO schemes, to secure and implement all required construction-related environmental mitigation and I see no reason to deviate from this process.
- 9.3.7 It should be stated that the CoCP restricts itself to considering and managing the potential environment effects of the scheme. In considering the potential impacts on the Trust's physical assets during the construction phase, this is dealt with in a separate proof of evidence. It is not the function of the CoCP to deal with the construction-related interface of the scheme with the Trust's assets. This comment also applies to assets the Trust highlights in Appendix A to their objection letter.

Objection 35: Section 5 Further Concerns: discharge to canal and Appendix A: Section

***The Trust's objection***

- 9.3.8 The Trust states the requirement to consult over discharges into their waterways and that such discharge would be subject to their Code of Practice and would require an interceptor as a mandatory requirement.

***Network Rail response***

- 9.3.9 I can confirm that there will be no additional discharge outfalls to canal as a result of the scheme. All existing discharge outfalls will be utilised in accordance with the Scheme wide Drainage Strategy and the developed design. As culverts are extended with new headwalls into ditch that then discharge to canal as listed in section 9.3.11 and identified by the Trust, Network Rail will liaise with the Trust as well as the Lead Local Flood Authority under the protective provisions stated in the draft Order.
- 9.3.10 In these circumstances the canal is protected under the implementation of the CoCP Part B Pollution Prevention and Incident Control Plan (PPICP) that is condition 5(ii). The draft Order disapplies the requirement to apply for a permit in accordance with the Environmental Permitting (England and Wales) Regulations 2016: Regulation 12(1)(a).
- 9.3.11 In the objection letter: Appendix A, the Trust highlights various current drainage from rail culverts that link to existing drainage outfalls to canal. In all cases the culvert extension and headwall is into ditch and not directly into the

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canal. Under these circumstances further consultation would only be required, in consideration of protective provisions, should the design indicate an increase in volume drainage. Culvert extensions that fall into this category that are identified by the Trust are as follows:

- Red Doles Culvert (MVL3/96A)
- Topaz Close Culvert (MVL3/96AA)
- Bradley Culvert (MVL3/102A) / No.2 culvert (MVL3/102A)
- Potentially Heaton Lodge Culvert (MVL4/4)

9.3.12 I can state that Network Rail applies a reasonable and risk-based approach in identifying whether oil interceptors or specific volume attenuation is required for new discharge outfalls. In the case of open running line, effectively all ballast is recycled as uncontaminated and in this case any form of oil interceptor would not be required or serve any purpose, as is evident with current discharge to watercourses in general from Network Rail infrastructure.

Objection: Appendix 1: Section 12: Static Frequency Site***The Trust's objection***

9.3.13 The Trust indicate that they expect a landscape plan to be required for the SFC that will take account of the adjacent canal.

***Network Rail response***

9.3.14 I can confirm that Network Rail and Kirklees Council has agreed the wording of a draft condition for a landscape plan for the specific footprint of the SFC site. This is dealt with in a separate proof of evidence.

Objection 35: Appendix A: Further concerns: 1. Landscape and Visual Assessment***The Trust's objection***

9.3.15 The Environmental Statement does not include sufficient viewpoints to assess the full impact on the canals.

***Network Rail response***

9.3.16 The extent of the overall study area for the landscape, townscape and visual impact assessment of the Scheme is informed by the Zone of Theoretical Visibility (ZTV), which indicates the potential visibility of the Scheme. Viewpoint locations were established through desk-based research

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and verified through fieldwork. The photographic locations were selected through consultation with the Landscape Officer at Kirklees Council and were chosen in consideration of the potential impacts of the scheme. The selected points are considered as being representative views of the Scheme as seen from key receptors and provide an indication of its setting within its wider landscape/townscape context.

9.3.17 The visual analysis considered receptors including users of Public Rights of Way (PRoW), pedestrians, motorists and also included users of the canal network where appropriate, including areas through the Deighton corridor. Consideration of impacts in the Ravensthorpe area focused on the impacts on PRoW users generally and a location of the Spen Valley Greenway was selected as representative for this area and these impacts are reported in the ES both through the Scheme wide and relevant route section reports.

9.3.18 In reference to views and the relationship of the railway with listed structures such as the grade II listed Lock 2, I refer to the evidence provided in the proof of Katie Rees-Gill (NR/PoE/KR-G/6.2) for heritage. This comment applies to all potential effects on listed structures identified in Appendix A to the Trust's objection:

- Appendix A: Section 4: Grade II listed lock 9
- Appendix A: Section 8: Grade II listed Lock 2 Colne Bridge

Statement of Case: Canal and River TrustObjection SoC: Section 8 Vegetation clearance***The Trust's objection***

9.3.19 The Trust seeks clear justification for tree removal and assurances on buffers to canal infrastructure.

***Network Rail response***

9.3.20 The Order application and land acquisition, both temporary and permanent, is a result of an integrated process involving design and construction and then consultation with 3<sup>rd</sup> party stakeholders, in this case The Trust. Land acquisition and aligned to this, vegetation removal will be detailed in the LEMP such that as detailed design progresses, the amount of vegetation that needs removal will be minimised. This justifies the vegetation removal that is required but the LEMP that is recommended condition 4, that must be submitted to and approved by Kirklees Council, is the stated mitigation in addressing these effects.

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- 9.3.21 I can confirm that the canal infrastructure has been an aspect that has been considered in the EIA landscape assessment and I note the information regarding observing a 10m buffer with replanting adjacent to the canal corridor and this will be factored into the detailed landscape design and accommodated where reasonably practicable.

I acknowledge the comment on tree removal required for the Scheme that may be adjacent to any canal and the potential for root shrinkage affecting canal drainage. This is dealt with in a separate proof of evidence.

**9.4 Objection 38 – Huddersfield Town Association Football Club**Objection: Noise disturbance during use of football pitch for training***Huddersfield FC objection***

- 9.4.1 Huddersfield Town Association Football Club (Huddersfield FC) identify the potential for football training to be disrupted by noise disturbance from the construction works in their objection.

***Network Rail Response***

- 9.4.2 The potential noise impacts from the construction and operational phases of the Order Scheme are dealt with in a separate proof of evidence.
- 9.4.3 The incorporated mitigation recommended during the construction period applies across the whole scheme. The works at Fieldhouse Lane footbridge will be required to be conducted in line with Best Practicable Means (BPM) to reduce noise impacts in compliance with British Standard (BS) 5228: “Code of Practice for noise and vibration controls on construction and open sites”. In compliance with Condition 5(vi) Noise and Vibration Management Plan, Network Rail is required to submit and agree a Section 61 application with Kirklees Council in compliance with the Control of Pollution Act 1974. The Section 61 application assesses noise impact, and outlines relevant BPM. In this way the interests of Huddersfield FC are protected in considering potential noise nuisance from construction activity.
- 9.4.4 As part of BPM, Network Rail keeps all lineside residents and businesses informed about upcoming works and operates a helpline that allows the delivery team to deal with all queries during the works. I refer to my proof of evidence in section 5.2.1 that details the requirement to produce an External Communications Plan (Condition 5(i)) as part of the wider CoCP Part B, that must be submitted to and approved by Kirklees Council in advance of construction works.



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- 9.4.5 Night time or possession works on the railway to the north of the training pitches will not affect daytime training.

Objection: access to the playing fields by vehicle and on foot***Huddersfield FC objection***

- 9.4.6 Huddersfield FC outline in their Statement of case that it is vital access to the playing fields is maintained, both by vehicle and on foot.

***Network Rail response***

- 9.4.7 Network Rail has liaised with Huddersfield FC and provided assurance that full daytime access, both by vehicle and on foot as exists currently, will be maintained.
- 9.4.8 This access will be detailed in the CTMP as proposed Condition 6 that must be submitted to and approved by Kirklees Council.

Objection: Boundary treatment, safety, security and screening***Huddersfield FC objection***

- 9.4.9 Huddersfield FC question that boundary fencing will be removed during works and this may affect safety, security and screening.

***Network Rail response***

- 9.4.10 Network Rail has liaised with Huddersfield FC and provided assurance that no boundary fencing needs to be temporarily removed as part of the scheme, so this will not compromise safety and security. In addition, Network Rail will have to maintain exclusion from the construction works at all times.
- 9.4.11 In terms of screening there will be localised removal of vegetation, as may be required, to facilitate access for construction traffic to the Fieldhouse footbridge site and also to facilitate temporary works at the site. The area of vegetation removal will be replaced with scattered trees and a shrub mix in accordance with the OEMP. This will be detailed in the LEMP that is Condition 4 that must be submitted to and agreed with Kirklees Council.
- 9.4.12 On review of the detailed works in this area, I can confirm that vegetation removal is confined to one corner of the new footbridge location to facilitate a ramp down to lower level and de-vegetation to the east of the footpath leading to the new footbridge to facilitate temporary works. This ensures that tree cover around the perimeter of the football pitches is retained and privacy ensured.

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- 9.5.1 The strategic points raised by West Yorkshire Combined Authority (“the Combined Authority”) are dealt with in a separate proof of evidence.

Objection: SoC Section 4: Acquisition and use of land***Network Rail comment***

- 9.5.2 In justifying the reasons for the acquisition of specific pockets of land, both temporarily and permanently, this is dealt with in a separate proof of evidence.
- 9.5.3 The Combined Authority questions the powers vested in the draft Order that allows Network Rail to stop up roads to facilitate specific works with particular interest in the operation of the bus station at Huddersfield. Network Rail is liaising closely with Kirklees Council (the Highway Authority) on all matters relating to the transport network during the construction period. This is managed through the Highways Working Group that is a meeting held on a regular and periodic basis between the Alliance and the Highway Authority. This will result in agreements on all matters related to the transport network including the operation of Huddersfield bus station.
- 9.5.4 All matters agreed in the Highways Working Group in relation to the articles described in the draft Order will be detailed in the CTMP (proposed condition 6) that must be submitted to and approved by Kirklees Council in advance of all works.
- 9.5.5 In considering the matters of construction methodology this is dealt with in a separate proof of evidence.

Objection: SoC Section 7.1 Communications Plan***Combined Authority objection / recommendation***

- 9.5.6 The Combined Authority recommends that a Communications Plan be produced for the Order Scheme.

***Network Rail response***

- 9.5.7 I refer to my proof of evidence in section 5.2.1 that details the requirement to produce an External Communications Plan (Condition 5(i)) as part of the

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wider CoCP Part B, that must be submitted to and approved by Kirklees Council in advance of construction works.

- 9.5.8 The External Communications Plan must consider potential impacts on all external stakeholders, including residents, landowners and the wider travelling public, with its key aspect being timely and appropriate notification of works and potential temporary disruption.

Objection: SoC Section 7.3 Skills***Combined Authority objection / recommendation***

- 9.5.9 The Combined Authority requests that Network Rail create an employment and skills plan in conjunction with the Combined Authority.

***Network Rail response***

- 9.5.10 I would like to confirm that the Alliance considers skills and employment in line with its Sustainability Strategy July 2020 (NR113). In section 8.9 Inspiring tomorrow's workforce, the Alliance outlines its commitment to creating apprenticeships and work placements in addition to reviewing the labour market and working with industry partners to ensure the right level of skills, both locally and nationally are available and utilised.
- 9.5.11 It is anticipated that the Combined Authority will continue its engagement on such matters at a strategic level through the existing periodic meetings with Network Rail.
- 9.5.12 This commitment to utilising and developing skills, particularly in the local job market, is described in the ES in Volume 2i Scheme-wide Assessment: Chapter 21 Socio-economics sections 21.5.3 to 21.5.6, are described in more detail.

Objection: SoC Sections 8.6 to 8.8 Air Quality and low emissions***Combined Authority objection / recommendation***

- 9.5.13 The Combined Authority makes recommendations in considering the potential effects on air quality, both from the construction and operation of the Scheme.

***Network Rail response***

- 9.5.14 I refer to my proof of evidence in Sections 6.10 Climate Effects, section 6.11 that deals with climate change as outlined in the Statement of Matters and section 6.12 that considers the West Yorkshire Carbon Emission reduction Pathways document. In summary, sections 6.10 to 6.12 outline how the

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electrification of the railway is a positive operational benefit for air quality, if negligibly so in comparison to the dominant negative effects of emissions from road traffic.

9.5.15 In considering the potential to use electric vehicles during the construction period as outlined by the Combined Authority, I highlight this opportunity in section 6.12.11 of my proof of evidence.

9.5.16 The Combined Authority identifies that there should be a greater use of rail freight to reduce the impacts on air quality. The Alliance will maximise the use of rail freight in constructing the Scheme where logistics facilitate this opportunity as described in detail in the proof of evidence of Mike Pedley (NR/PoE/MP/3.2). It should further be noted under materials management, the Alliance will use the services of Network Rail's Supply Chain Operations (SCO) to remove expired infrastructure and ballast by engineering train as described in sections 6.10.18 to 6.10.20 of my proof of evidence.

Objection: SoC Sections 8.9 to 8.10 Inclusivity, Diversity and Equality***Combined Authority objection / recommendation***

9.5.17 The Combined Authority states that inclusivity, diversity and equality must be integrated into the delivery of the Order Scheme.

***Network Rail response***

9.5.18 I refer to a separate proof of evidence that deals with station access and the design development in considering this.

9.5.19 I refer to the TRU Sustainability Strategy of July 2020 and section 8.10 of that document that describes a consideration of Equality, Diversity and Inclusion.

Objection: SoC Sections 8.11 to 8.13 Traffic and Transport***Network Rail comment***

9.5.20 For general road traffic issues raised by the Combined Authority this is dealt with in a separate proof of evidence.

9.5.21 In considering the potential use of rail freight to support the construction of the scheme I refer to my proof of evidence in 6.10.18 to 6.10.20.

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment*Objection: SoC Sections 8.14 to 8.17 Impacts on walking and cycling***Combined Authority objection***

9.5.22 The Combined Authority would like to understand the detailed impacts on walking and cycling.

***Network Rail response***

9.5.23 The detail of the required PRow temporary closures and permanent diversions are included in the ES in Volume 2i Scheme-wide Assessment: Chapter 15 Population and human health: Section 15.7.15 and Table 15-10 Significant adverse residual effects for active travel; and Volume 4 Figures: Figure 2-2 Temporary closures to PRow locations and diversionary routes. This would be managed through the implementation of the Order for the permanent diversions and closures and through the implementation of the CTMP for temporary diversions as proposed condition 6, that must be submitted to and approved by Kirklees Council.

9.5.24 For further detail on the specifics of the impacts on walking and cycling this is dealt with in a separate proof of evidence.

Objection: SoC Section 8.18 and Climate effect and vulnerability***Combined Authority objection***

9.5.25 The Combined Authority makes various comments concerning climate effect and vulnerability.

***Network Rail response***

9.5.26 I refer to sections 6.10 to 6.12 of my proof of evidence that discuss the issues of climate effects in general and this addresses the comments by the Combined Authority.

Objection: SoC Sections 8.24 to 8.25: Cumulative effects PRow and Dewsbury Riverside***Combined Authority objection***

9.5.27 The Combined Authority requests further information the potential cumulative effects on PRow in route section 2 and route section 6; and the effects on the Dewsbury Riverside development.

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- 9.5.28 In route Section 2, temporary closures of the PRow network are required to facilitate construction works to structures from Red Doles Road Underbridge (MVL3/96) to Peel's Pit Underbridge. The closures will be phased such that alternatives are available and so a moderate cumulative effect is anticipated which is not significant.
- 9.5.29 In route Section 6, temporary closures of the PRow network are required to facilitate construction works of the new Ravensthorpe Station and the realignment of Calder Road Overbridge (MNV2/202) as well as works to construct the new Baker Viaduct (RBA/2). When considered with the closures required on the area of land to the south of the railway at the new Ravensthorpe Station to facilitate the overhead power line works a very large adverse cumulative effect is expected due to the lack of suitable alternatives. Access to the PRow network will be severely limited during the construction period.

***Dewsbury Riverside development***

- 9.5.30 The cumulative effects of the Dewsbury Riverside assessment have been assessed in the case that the housing scheme comes forward for construction at the same time as the Order scheme. This is considered worst case for assessment purposes with the main conclusion of effects, as stated in the ES in Volume 2i Scheme-wide Assessment: Chapter 22-8 Potential Effects, that there is a cumulative noise and vibration significant effect for residents on Ravensthorpe Road.
- 9.5.31 The cumulative assessment also speculates that both schemes might not be able to come forward at the same time. For further information on this point it should be noted this is dealt with in a separate proof of evidence.

Objection: Section 8.27: Other comments: Pedestrian footbridge (Hillhouse and Fartown)

***Combined Authority Objection***

- 9.5.32 The Combined Authority state that all footbridges should be accessible to all users.

***Network Rail response***

- 9.5.33 In the case of the specific footbridge referenced this is dealt with in a separate proof of evidence.

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- 9.6.1 The Environment Agency (EA) requests in their Statement of Case that their letter of objection of 17<sup>th</sup> May 2021 be treated as their statement of case. On that basis I will consider the letter of objection in the following information.

Objection: Disapplication of legislative provisions – flood risk activity***EA objection***

- 9.6.2 The EA states that they do not have sufficient information on the location and activities to be undertaken to assess how the protective provisions will work in practice.

***NR response***

- 9.6.3 Network Rail and the EA has made progress on this item in consultation. Network Rail has supplied clarification of information in the ES and locations where disapplication would apply. It is anticipated that disapplication and protective provisions will be agreed and included in a SoCG between the two parties. The relevant locations are entirely contained only within the Route Section 6 area in Ravensthorpe as follows:
- Ladywood Road Culvert (MVN2/200)
  - Ravensthorpe Triangle (SFC site) discharge to groundwater
  - Baker Viaduct (2 outfalls from new viaduct structure only into River Calder)

Objection: Protective provision review***EA objection***

- 9.6.4 The EA has put forward alternative wording on the protective provisions in the draft Order.

***Network Rail response***

- 9.6.5 I can confirm that a response to the EA on August 27<sup>th</sup> includes alternative wording for the EA to consider after review of their proposed wording and NR continues to engage with the EA on this matter. It is anticipated that the alternative wording will be accepted by the EA and this be confirmed in the SoCG

**The Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order 5 October 2021***Proof of Evidence – Environment*Objection: Transfer of operating permit Thornhill Quarry landfill site**EA objection**

- 9.6.6 The EA states it can only accept a surrender of an environmental permit once it is satisfied the necessary measures have been taken to ensure the original permit conditions are discharged in consideration of the new use of the site. This is achieved through the EA's EPR.

**Network Rail response**

- 9.6.7 I deal with this question in section 8.8 of my proof of evidence. Network Rail can accept the request by the EA to comply with the EPR and follow this process but must retain Article 6 to facilitate the surrender of a future licence for the new use of land. Objection: Forge Lane Quarry site compliance issues

**EA objection**

- 9.6.8 The EA does not accept that disapplying the EPR legislation for a site that has been the subject of compliance issues is acceptable.

**Network Rail response**

- 9.6.9 Network Rail, in the permanent case, requires a small section of land adjacent to the railway to facilitate the Order scheme. Otherwise, approximately one third of the permitted Forge Lane quarry site is required temporarily to facilitate the works and for use as a compound. On completion of the works, subject to landscaping requirements, the site will be returned to the operator.
- 9.6.10 Article 6 is included in the Order to facilitate the permanent acquisition of plot 23-046 as defined in the Order plans and so enable NR to relinquish a transferred permit for the new use of this land once the work was completed.
- 9.6.11 I concur with the EA that Network Rail engages with the operator directly concerning the proposed works in the Order and Network Rail continues to do so on this matter, both in relation to the permanently acquired land at plot 23-046 that is subject to Article 6 and the temporarily acquired land that will be managed in accordance with recommended Condition 10 Contaminated Land. I can confirm that it is a matter between Network Rail and the site operator to account for the non-compliant depositing of waste in implementing Condition 10 Contaminated Land. This is agreed with the EA and will be included in the SoCG that will be completed in advance of public inquiry.



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- 9.6.12 There are various questions raised concerning principally flood risk on the Order Scheme. Network Rail and the EA continue to consult over these matters and expect to reach agreement that will be outlined in the SoCG.

***EA Objection***

- 9.6.13 The FRA should highlight areas of flood zones 3ai which is previously developed functional floodplain as designated within the Kirklees Strategic Flood Risk Assessment (SFRA) and 3b (the functional floodplain) but does not currently. The FRA should consider scenarios up to and including the 1% plus climate change.

***Network Rail response***

- 9.6.14 Issues relating to Flood zone 3b are discussed in the ES in Volume 3 Technical Appendices: Appendix 11-1 Flood Risk Assessment. Nevertheless further clarification will be supplied to the EA (as discussed at the meeting on June 3rd 2021) which maps the details provided in the FRA on Scheme works against Flood Zones 2, 3a and 3b as well as providing details of required mitigation.
- 9.6.15 The submitted FRA does assesses the 1% plus climate change scenario, however clearer signposting of how this has been considered through the FRA and modelling is to be provided via the FRA clarification note and maps of the Scheme details onto the climate change scenario baseline has been supplied to the EA and forms part of the ongoing consultation as highlighted by the EA in their Statement of Case..

Objection: Flood Risk Assessment: Further Modelling of the Kirklees SFRA***EA Objection***

- 9.6.16 Further detail is required regarding CFSA considerations across the Scheme area including clarification of modelling undertaken within RS6.

***Network Rail response***

- 9.6.17 The FRA does model and assess CFSA requirements and sets out that, with the exception of Route Section 6 there is no loss of flood storage as a result of the Scheme, including the area around Mirfield. At the meeting on June 3<sup>rd</sup> clarification was provided on the modelling undertaken regarding flood storage requirements in RS6. This information was agreed with the Environment Agency as appropriate, however Network Rail has agreed to provide clarification on the approach to the modelling in the FRA and data in

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Figure 4-23 of the FRA is to be presented in an alternative format with the intention of making this clearer to the Environment Agency.

**Objection: Flood Risk Assessment: Flood risk from temporary compounds****EA Objection**

9.6.18 The FRA does not appear to adequately assess the risk to flood storage of the use of temporary compounds in the flood zone in route section 6.

**Network Rail response**

9.6.19 The FRA does set out information on construction including if compounds are located in the Flood Zone and potential impacts are assessed through the FRA. Figure 2-1 submitted with the ES in Volume 4; Figures, provides a location plan for the construction compounds. Whilst full details on the layouts are not yet available, the CoCP Part A provided as Appendix 2.1 to the Environmental Statement in Volume 3 Technical Appendices, does set out limitations on layouts, particularly around restrictions as to where items of kit are to be located, that is, outside of flood zones (if applicable). Mitigation set out in the FRA also states that where compounds are located in flood zones there is a requirement not to increase ground levels.

9.6.20 These commitments in the CoCP Part A will be described in detail in the CoCP Part B: Pollution Prevention and Incident Control Plan (Condition 5ii) for each compound plan, that must be submitted to and approved by Kirklees Council, where applicable depending on the location of the compounds and the proximity of the flood zone.

**Objection: Flood Risk Assessment: fluvial flood risk****EA Objection**

9.6.21 The FRA must clearly indicate the location of any flood risk mitigation required to address fluvial flood risk.

**Network Rail response**

9.6.22 I consider that the FRA does detail the mitigation proposed in each route section. For ease of reference I confirm that this information will be added to the mapping data to be provided to the Environment Agency. In terms of fluvial flood mitigation measures, this will be limited to the area of identified CFSA (Route Section 6) and confirming the required heights on the soffits of structures.

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*Proof of Evidence – Environment*

**10. WITNESS DECLARATION**

**10.1 Statement of declaration**

10.1.1 I hereby declare as follows:

- (i) This proof of evidence includes all facts which I regard as being relevant to the opinions that I have expressed and that the Inquiry's attention has been drawn to any matter which would affect the validity of that opinion.
- (ii) I believe the facts that I have stated in this proof of evidence are true and that the opinion expressed are correct.
- (iii) I understand my duty to the Inquiry to help it with matters within my expertise and I have complied with that duty.