

## **TRANSPORT AND WORKS ACT 1992**

### **Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006**

## **THE NETWORK RAIL EAST WEST RAIL (WESTERN SECTION) PHASE 2 ORDER**

### ***APPENDIX 1.3 GLOSSARY AND ABBREVIATIONS***

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### Glossary and Abbreviations

#### LIST OF ABBREVIATIONS

Abbreviation	Definition
A1	Appendix 1 species (Birds Directive)
AA	Appropriate Assessment
AADT	Annual Average Daily Traffic
AAL	Area of Attractive Landscape
AHLV	Area of High Landscape Value
ALARP	As low as reasonably practicable
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
ARS	Active Roost Site
ASPT	Average Score Per Taxon
AStGWF	Areas Susceptible to Groundwater Flooding
ATC	Automatic Traffic Counters
AVDC	Aylesbury Vale District Council
AVDLP	Aylesbury Vale District Local Plan
AW	Ancient Woodland
AWI	Ancient Woodland Inventory
AWIS	Ancient Woodland Indicator Species
BAP	Biodiversity Action Plan
BAS	Buckinghamshire Archaeological Society
BAT	Broad Habitat Type
BBC	Bedford Borough Council
BBG	Bedfordshire Bat Group
BBOWT	Buckinghamshire, Berkshire and Oxfordshire Wildlife Trust
BC	Butterfly Conservation

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Abbreviation	Definition
BCC	Buckinghamshire County Council
BCT	Bat Conservation Trust
BGS	British Geological Society
BLBRMC	Bedfordshire and Luton Biodiversity Recording and Monitoring Centre
BLE	Brown long-eared bat
BMERC	Buckinghamshire and Milton Keynes Environmental Records Centre
BMV	Best and Most Versatile
BMWP	British Monitoring Working Party
BNS	Biological Notification Site
BOA	Biodiversity Opportunity Areas
BoCC Amber	Birds of Conservation Concern 3 Amber listed species
BoCC Red	Birds of Conservation Concern 3 Red listed species
BOCN	Barn Owl Conservation Network
BOT	Barn Owl Trust
BPM	Best Practicable Means
BS	British Standard
BTO	British Trust for Ornithology
CA	Conservation Area
CBC	Central Bedfordshire Council
CBCe	Common Bird Census
CCI	Community Conservation Index
CDC	Cherwell District Council
CDM	Construction (Design and Management) Regulations 2007
CEMP	Construction Environmental Management Plan
CIEEM	The Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CLA	Country Land and Business Association
CL:AIRE	Contaminated Land: Applications in Real Environments

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Abbreviation	Definition
CLR	Contaminated Land Report
CoCP	Code of Construction Practice
COPA	Control of Pollution Act
COSHH	The Control of Substances Hazardous to Health (COSHH) Regulations 1999
CP5	Control Period 5
CRE	Contract Requirements – Environment
CRN	Calculation of Railway Noise
CRoW Act	Countryside and Rights of Way Act 2000
CSM	Conceptual Site Model
CTA	Conservation Target Areas
CTMP	Construction Traffic Management Plan
CWS	County Wildlife Sites
DBA	Desk-based Assessment
DCLG	Department for Communities and Local Government
DCMS	Department of Culture, Media and Sport
Defra	Department for Environment, Food and Rural Affairs
DETR	Department of the Environment, Transport and Regions
DfT	Department for Transport
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DMU	Diesel Multiple Units
DMV	Deserted Medieval Village
EA	Environment Agency
EC	European Commission
EcIA	Ecological Impact Assessment
EcMP	Ecological Management Plan
eDNA	Environmental DNA
EH	English Heritage
EIA	Environmental Impact Assessment

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Abbreviation	Definition
ELC	European Landscape Convention
ELR	Engineering Line Reference
ELS	Entry Level Stewardship
EMC	Electromagnetic Compatibility
EMF	Electromagnetic Fields
EMI	Electromagnetic Interference
EMS	Environmental Management System
EPA	Environmental Protection Act
EPS	European Protected Species
EPSML	European Protected Species licence
EPSML	European Protected Species mitigation licence
EPUK	Environmental Protection UK
ES	Environmental Statement
EU	European Union
EWR	East West Rail
EWR1	East West Rail Phase 1
EWR2	East West Rail Phase 2
FCS	Favourable Conservation Status
FHT	Freshwater Habitats Trust
FOC	Freight Operating Company
FRA	Flood Risk Assessment
FSS	Field Survey Standards
FWMA	Flood and Water Management Act 2010
GB	Green Belt
GCN	Great Crested Newt
GES	Good Ecological Status
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GLVIA	Guidelines for Landscape and Visual Impact Assessment

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Abbreviation	Definition
GPS	Global Positioning System
GQA	General Quality Assessment
GQRA	Generic Quantitative Risk Assessment
GUC	Grand Union Canal
HA	Highways Agency
HE	Historic England
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HLS	High Level Stewardship
HLOS	High Level Output Specification
HMA	Habitat Modification Assessment
HMC	Habitat Modification Classification
HMS	Habitat Modification Score
HPI	Habitat of Principal Importance
HQA	Habitat Quality Assessment
HRSA	Habitats Regulations Screening Assessment
HS2	High Speed Two (Phase One)
HSI	Habitat Suitability Index
HWG	Highways Working Group
IAQM	Institute of Air Quality Management
IBA	Important Bird Area
IDA	Industrial Denatured Alcohol
IDB	Internal Drainage Boards
IEF	Important Ecological Features
IEMA	Institute of Environmental Management and Assessment
IP	[Network Rail] Infrastructure Projects
ITS	Integrated Transport Strategy
IUCN	International Union for the Convention of Nature
JNCC	Joint Nature Conservation Committee

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Abbreviation	Definition
LAQM	Local Air Quality Management
LB	Listed Building
LBAP	Local Biodiversity Action Plan
LCA	Landscape Character Areas
LCT	Landscape Character Types
LEC	London Euston to Crewe Line
LED	Light-Emitting Diode
LEL	Lower Explosive Limit
LHA	Local Highway Authority
LI	Landscape Institute
LIFE	Lotic-invertebrate Index for Flow Evaluation
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserve
LPA	Local Planning Authority
LTP	Local Transport Plan
LTV	Landscape, Townscape and Visual
LTVIA	Landscape, Townscape and Visual Impact Assessment
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MAFF	Ministry of Agriculture, Fisheries and Food
MAGIC	Multi-agency Geographic Information for the Countryside
MAVIS	Modular Analysis of Vegetation Information System
MKC	Milton Keynes Council
MKSMSRS	Milton Keynes and South Midlands Sub
MML	Midland Main Line
MNR	Marine Nature Reserve
MoU	Memorandum of Understanding
MTR	Mean Trophic Rank
NBN	National Biodiversity Network



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Abbreviation	Definition
NCA	National Character Areas
NCRVP	National Cycle Route Viewpoint
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NERC S41	Natural Environment and Rural Communities Act 2006, Section 41
NFU	National Farmers' Union
NGO	Non-Governmental Organization
NIDP	National Infrastructure Delivery Plan 2016-2021
NIR	The Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996
NNNPS	National Networks National Policy Statement
NNR	National Nature Reserve
NOx	Nitrogen Oxides
NO2	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NR	Network Rail
NR IP	Network Rail Infrastructure Projects
NRMI	Network Rail Managed Infrastructure
NS	Nationally Scarce
NSIP	Nationally Significant Infrastructure Project
NSR	Noise Sensitive Receptor
NSRI	National Soil Resources Institute
NTAXA	Number of Taxon
NT	National Trust
NVC	National Vegetation Classification
OBS	Occupied Breeding Site
OCC	Oxfordshire County Council
OGL	Open Government Licence
OLE	Overhead Line Electrification

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Abbreviation	Definition
ONS	Office of National Statistics
OS	Ordnance Survey
OWLS	Oxfordshire Wildlife and Landscape Study
PAVA	Public Address and Voice Alarm
PB	Parsons Brinckerhoff
PBRA	Preliminary Bat Roost Assessment
PDC	Pulsed Direct Current
PFRA	Preliminary Flood Risk Assessment
pLWS	Proposed Local Wildlife Site
PM2.5	Particulate matter less than 2.5 microns in diameter
PM10	Particulate matter less than ten microns in diameter
PNS	Potential Nest Site (confirmed by stage 3 survey)
PNS*	Potential Nest Site (unconfirmed) not subject to stage 3 survey
POS	Public Open Space
PPE	Personal Protective Equipment
PPG	Planning Policy Guidance
PPG	Pollution Prevention Guidelines
pph	Bat passes per hour
PPICP	Pollution Prevention and Incident Control Plan
ppm	Bat passes per minute
PPS	Planning Policy Statements
PPV	Peak Particle Velocity
PRoW	Public Right of Way
PSCA	Population Size Class Assessment
PSI	Proportion of Sediment-sensitive Invertebrates
PSYM	Predictive System of Multimetrics
PU	Partially-used
RCS	River Corridor Survey
RCT	Rail Carbon Tool

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Abbreviation	Definition
RDB	Red Data Book
RHS	River Habitat Survey
RLB	Red Line Boundary
RNR	Roadside Nature Reserve
RPG	Registered Park and Garden
RSPB	Royal Society for the Protection of Birds
RSSB	Railway Standards Safety Board
S1	Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended)
S41	Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006
SAC	Special Area of Conservation
SBI	Site of Biological Interest
SEGI	Site of Ecological or Geographical Interest
SFRA	Strategic Flood Risk Assessment
SINC	Site of Importance for Nature Conservation
SM	Scheduled Monument
SOAT	Sustainability Options Appraisal Tool
SHT	Specific Habitat Types
SPA	Special Protection Area
SPI	Species of Principal Importance
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan
TA	Transport Assessment
TAB	Traffic Accident Blackspot
THR	The Hedgerow Regulation (1997)
TL5	Taxonomic Level 5
TOC	Train Operating Company
TPO	Tree Preservation Order

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Abbreviation	Definition
TRS	Temporary Rest Site
TSS	Train Service Specification
TVERC	Thames Valley Environmental Records Centre
TWA	Transport and Works Act
TWAO	Transport and Works Act Order
UA	Unitary Authority
UAA	Utilisable Agricultural Area
UK BAP	UK Biodiversity Action Plan
UTBBC	Upper Thames Branch of Butterfly Conservation
UU	Un-used
UXO	Unexploded Ordnance
VALP	Vale of Aylesbury Local Plan
VER	Valued Ecological Receptor
VP	Viewpoint
VTA	Visual Tree Assessment
WACA-Sch5	Wildlife and Countryside Act 1981 Schedule 5 species
WCA	Wildlife and Countryside Act (1981) (as amended)
WCA1	Wildlife and Countryside Act 1981 Schedule 1 species
WCC	White-clawed crayfish
WCML	West Coast Main Line
WCP	Wildlife Conservation Partnership
WDC	Wycombe District Council
WeBs	Wetland Bird Survey
WFD	Water Framework Directive
WLC	Whole Life Cost
WPP	Work Package Plans
WPZ	Water Protection Zone
WSI	Written Scheme of Investigation
WU	Well-used

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### Glossary and Abbreviations

Abbreviation	Definition
Zol	Zone of Influence
ZTV	Zone of Theoretical Visibility

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## GLOSSARY

Term	Definition
1D hydraulic modelling	One dimensional hydraulic modelling
2D hydraulic modelling	Two dimensional hydraulic modelling
Abutment	A structure built to support the lateral pressure of an arch or span.
Agricultural Land Classification	The system devised and introduced by the Ministry of Agriculture, Fisheries and Food to classify agricultural land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. Land is graded from 1 (excellent quality) to 5 (very poor quality), with grade 3 subdivided into agricultural subgrades 3a and 3b.
Agri-environment scheme	A mechanism by which landowners and other individuals and bodies responsible for land management can be incentivised to manage their land in a manner sympathetic to the environment.
Adjacent Line Open	Working under conditions where an adjacent line of railway is open to rail traffic
Amber list	Amber list of Birds of Conservation Concern
Amenity	The pleasantness or attractiveness of a place. Amenity may be affected by a combination of factors such as: sound, noise and vibration; dust/air quality; traffic/congestion; and visual impacts.
Ancient replanted woodland	Ancient woodland where the original native tree cover has been felled and replaced by planting, usually with conifers and usually this century.
Ancient semi-natural woodland	Ancient woodland that has retained the native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally.
Ancient Woodland	A woodland that has existed continuously since 1600 or before in England, Wales and Northern Ireland (or 1750 in Scotland).
Ancient Woodland Inventory	Woodland included in Natural England's Ancient Woodland Inventory GIS data set. Ancient woodland is land that has had continuous woodland cover since at least 1600 AD.
Ancient Woodland Indicator Species	Plant species which indicate that woodland has been in existence on any one site since at least 1600 AD <sup>1</sup> . The number of AWI that occur in a site increases the likelihood that the woodland is ancient.
Applications Rules	See 'The Applications Rules'
Area of Attractive Landscape	A locally defined area of county wide landscape value, demanding high level of protection.
Avoidance [biodiversity]	Measures taken to avoid biodiversity loss from the outset, such as carefully placing or spacing elements of infrastructure development in order to avoid damage to components of biodiversity (as used within the mitigation hierarchy).
Ballast	The material used to support and secure track, usually made up of granite stones. Also provides a drainage function.

<sup>1</sup> Rose, F 1999 Indicators of Ancient Woodland. The use of vascular plants in evaluating ancient woods for nature conservation. *British Wildlife*. 10: 241-251.

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Term	Definition
Barrier down time	Refers to the length of time for which a level crossing barrier is closed (down) to enable rail traffic to pass safely
Batters (haul road)	A receding slope of a wall, structure, or earthwork
Best and most versatile land	Land defined as Grade 1, 2 or 3a of the Agricultural Land Classification. This land is considered the most flexible, productive and efficient and is most capable of delivering crops for food and non-food uses.
Biological Notification Site	These sites precede Local Wildlife Sites as a local non-statutory designation. All Biological Notification Sites are in the process of being re-surveyed and assessed under the Local Wildlife Site criteria
Bi-directional track	A track that allows trains to travel both ways on the same line i.e. normal direction and the opposite direction
Biodiversity 2020	National plan for conservation of the UK's biodiversity and ecosystems.
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.
Biodiversity offsets	Compensating for significant residual loss of biodiversity arising from development projects after appropriate prevention and mitigation measures have been taken, by creating gains in biodiversity at a different location. Biodiversity offsets are distinguished from other forms of compensation by the requirement for measurable conservation outcomes.
Biodiversity units	Calculated by multiplying the scores assigned to a habitat's distinctiveness, condition and size (in hectares).
Blockade	The closure of a railway line to rail traffic for the purposes of maintenance, improvement or construction.
Broadleaved deciduous woodland	A category of habitat used in the NE GIS data set which was mainly comprised from desk study sources. The level of confidence attributed to areas of mapped broadleaved deciduous woodland is considered by NE to be 'low' meaning that many are not of HPI quality and some may be other habitats e.g. scrub.
Broad scale hydraulic modelling	Modelling of hydrology that provides an indication of the extent of flood risk. Not as accurate as detailed modelling.
Bunded	Where a storage facility, such as a tank, has a constructed retaining wall around it for pollution control purposes.
Carbon emissions/CO <sub>2</sub> e emissions/CO <sub>2</sub> equivalent/Greenhouse gas emissions*	Shorthand for emissions of any of the six greenhouse gases (GHG) that affect climate change. These are: carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF <sub>6</sub> ). *Carbon emissions are usually expressed as CO <sub>2</sub> e (i.e. CO <sub>2</sub> equivalent), which is a unit of measurement that is based on the relative impact of a given gas on global warming (the so called global warming potential).
Carrier pipe drain	A form of drainage infrastructure.
Calvert Waste Transfer Station	An existing and operational rail waste transfer station serving the Calvert landfill site. Waste arrives in containers by freight train and is then unloaded onto lorries to be taken to the landfill site.

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Term	Definition
Chainage	A hypothetical line used to measure distance, often corresponding to the centre of a straight road or railway.
Chord	A railway line which connects two main lines.
Clunch	Soft limestone capable of being easily worked
Code of Construction Practice	The mechanism through which construction phase mitigation will be documented and implemented.
Commercial holding	Holdings with substantial levels of farming activity, exceeding Defra defined thresholds (5 ha of agricultural land, 1 ha of orchards, 0.5 ha of vegetables or 0.1 ha of protected crops).
Compound Area	An area of construction compound.
Condition	A description of the quality of a particular habitat. For example, a habitat in poor condition would fail to support the rare or notable species for which it is valued. The Defra biodiversity unit metric requires habitat condition to be assessed using the system presented in Natural England's Farm Environment Plan Manual <sup>2</sup> .
Construction (access) route	An existing road used to transport equipment and materials from the main roads to the construction site.
Construction compound	An area used by the contractors during construction. These can be principal (main) or satellite construction compound areas which will be used for civil engineering works, railway installation works and the storage of materials.
Construction Environmental Management Plan	A management plan forming part of the implementation of the CoCP.
Construction phase	The period when construction of EWR2 takes place.
Contaminated Land	Defined by Section 78A(2) of Part 2A of the Environmental Protection Act (1990) as: <i>"any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:</i> <ul style="list-style-type: none"> <li><i>significant harm is being caused or there is the significant possibility of such harm being caused; or</i></li> <li><i>significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused."</i></li> </ul>
County HPI	Habitat of Principal Importance information derived from BLBMRC, BMERC or TVERC mapping data.
County Scarce	A species or habitat considered to be scarce within that county or metropolitan area.
County Wildlife Sites	Are considered to be of value for wildlife in a county context. They have no statutory protection but are given some protection through the planning system by counties advising planning authorities on their importance
Cultural value of biodiversity	The aesthetic, spiritual, educational and recreational significance that people attach to biodiversity; this may be connected with people's traditions, customs and way of life.
Culvert	A structure that allows water to flow under the railway from one side to the other.
Cutting	Where material (generally soil or rock) is removed to make way for the railway below the surrounding ground level to avoid a change

<sup>2</sup> Natural England (2010). *Higher Level Stewardship, Farm Environment Plan (FEP) Manual, 3<sup>rd</sup> Edition.*



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Term	Definition
	in level of the railway itself. A cutting is open at the top, thereby differentiating it from a tunnel. Can be considered opposite to an embankment.
Designation [landscape]	Internationally or nationally valued landscape recognised on a formal statutory basis and through planning policy. Locally valued landscape recognised by local authorities through planning policy.
Diesel Multiple Units	Multiple unit train, powered by on-board diesel engines
Distinctiveness	Habitat distinctiveness is a component of Defra's biodiversity unit calculation. In this context, it is defined as a collective measure of biodiversity and includes parameters such as the number of variety of species found there (richness and diversity), how rare the species are, and how many species the habitat supports that are not common elsewhere. Defra list habitats and their corresponding distinctiveness bands are in Appendix 1 of its Biodiversity Offsetting: guidance for developers.
Double banded tank	A tank with an inbuilt pollution control mechanism; essentially a tank within a tank.
Double track	A railway where one track runs in each direction, compared to a single-track railway where trains in both directions share the same track.
Draft Scheme Drawings	Draft drawings of the TWAO Scheme, part of EWR2, submitted for consultation alongside the Draft ES.
Edge effects (ecology)	The changes in population or community structures that occur at the boundary of two habitats
EIA Regulations	See 'The EIA Regulations'.
Electromagnetic compatibility	Electromagnetic compatibility is the ability of equipment or a system to function satisfactorily in its electromagnetic environment, without introducing intolerable electromagnetic disturbances to anything in that environment.
Electromagnetic interference	Electromagnetic Interference can prevent electrical or electronic equipment from functioning correctly.
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	Measures proposed as part of the design that will avoid or reduce environmental effects.
Engineering Line References	National system used in Britain to describe individual railway routes
England HPI	HPI habitat information derived from Natural England mapping data.
Entry Level Stewardship	Provides a straightforward approach to supporting good stewardship of the countryside. This is done through simple and effective land management that goes beyond the Single Payment Scheme requirement to maintain land in good agricultural and environmental condition
Environmental Impact Assessment	The process by which the anticipated effects on the environment of a proposed development or project are measured
Environmental Impact Assessment: A guide to good	A guide produced by the UK government for developers and their advisors which provides a general understanding of EIA

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Term	Definition
practice and procedures	subdivided by technical discipline.
Environmental receptor	A human aspect of the environment, such as users of dwellings (residents), places of recreation, places of employment and community facilities, or the employment market, which may be affected by a proposed development or project.
Environmental resource	A biophysical aspect of the environment, including those elements that are essential to, or of value to, the functioning of natural or human systems, such as areas or elements of ecological, landscape or heritage value, soil, air, watercourses and water bodies, and physical spaces used by humans (dwellings, places of employment and community facilities).
Environmental Statement	The report setting out the process and findings of an Environmental Impact Assessment
EPS	EPS are those species listed in Schedule 2 the Conservation of Habitats and Species Regulations 2010 (as amended).
Estry	Hydraulic modelling software
EWR	The name used for the proposed reinstated railway between Oxford and East Anglia, the proposed development of which is known as East West Rail.
EWR Phase 1	The first phase of the western section of EWR, between Oxford and Bicester, promoted by Chiltern Railways, completed in December 2016.
EWR2	The second phase of the western section of EWR, between Bicester and Bedford, and Princes Risborough via Aylesbury
EWR Alliance	Collaborative partnership of project owner participant Network Rail along with three delivery partners Laing O'Rourke, VolkerRail and Atkins to build EWR2.
EWR corridor	The broad, regional, geographical area running east-west across the country taking in Oxford, Milton Keynes, Aylesbury, Bedford and Cambridge.
EWR Consortium	A group of local authorities and strategic partners promoting the reinstatement of the strategic EWR route.
EWR Western Section	The section of EWR works between Oxford and Bedford, and Princes Risborough, via Aylesbury, made up of EWR Phase 1 and EWR2.
Existing railway corridor	The 100 kilometres of railway corridor that already exists between Bicester, Bletchley, Milton Keynes, Bedford, Aylesbury and Princes Risborough.
FCS	FCS is a concept defined in Article 2 of the EC Habitats Directive (Council Directive 92/43/EEC). It relates to EPS and to designated sites which are notified under this directive.
Filter pipe drain	A form of drainage infrastructure
Flood Zone 1	Land having a less than 1 in 1,000 annual probability of flooding from rivers or the sea
Flood Zone 2	Land having between a 1 in 100 and 1 in 1,000 annual probability of flooding from rivers, or between a 1 in 200 and 1 in 1,000 annual probability of flooding from the sea
Flood Zone 3a	Land having a greater than 1 in 100 annual probability of flooding from rivers or 1 in 200 annual probability of flooding from the sea

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Term	Definition
Flood Zone 3b (functional floodplain)	Land where water has to flow or to be stored in times of flood
Formation	The ground on which the track will be laid. It can be at existing ground level ('at grade') or on an embankment or in a cutting.
Freight loops	A low-speed track section distinct from a running line. A freight loop provides space for a freight train to pull in (known as recessing) and allow faster passenger services to overtake them, thereby preventing restrictions to passenger services as a result of freight using the line.
Geo-textile	A strong synthetic fabric usually used in construction to stabilise loose soil and prevent erosion
GI (ground investigation)	Intrusive ground investigation works involving the drilling of exploratory hole locations and the recovery of soil samples which has been undertaken across the Project.
Granular fill	Coarse, loose material used as a bulk fill material in construction
Greatmoor Energy from Waste Plant	An operational energy from waste facility at Greatmoor, fuelled by residual household and commercial waste.
GSM-R masts	A Global System for Mobile Communications- Railway is an international wireless communications standard for railway communication and applications.
Habitats Directive	Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora
Habitat of Principal Importance	These habitats of principal importance in England are published in a list by the Secretary of State under the Natural Environment and Rural Communities (NERC) Act, 2006, Section 41
Haul road	A temporary road built to facilitate the movement of equipment and materials during Project construction
Hedgerow Regulations	Section 97 of the Environment Act 1995. They include new arrangements for local planning authorities in England and Wales to protect important hedgerows by controlling their removal.
High Level Output Specification	Sets out information for the Office of Rail Regulation (ORR) and for the rail industry about what the Secretary of State for transport wants to be achieved by railway activities during railway control period 5 (April 2014 to March 2019). The HLOS is a statutory requirement introduced by the Railways Act 2005.
High-level Platforms	The proposed platforms to be placed on Bletchley Flyover and connected to the existing Bletchley Station
Higher Level Stewardship Scheme	A Defra initiative managed by Natural England targeting 110 areas across England aiming to deliver significant environmental benefits in priority areas
Horizontal Alignment	The route of a track between two points in plan
HS2 Area	The area between the western edge of Grebe Lake (Calvert), Queen Catherine Road (Steeple Claydon) and Station Road (Quinton) covered by the HS2 Scheme
HS2 ES	The Environmental Statement documents associated with the HS2 Scheme
HS2 Works	The approximate 12.5 km of works to the railway within the HS2 Area, which have consent under the HS2 Phase One Act
HS2 Scheme	Phase One of the London to West Midlands High Speed Rail

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Term	Definition
Important Ecological Feature	The Chartered Institute for Ecology and Environmental Management (CIEEM) define an important ecological feature as one with sufficient nature conservation importance to warrant a detailed assessment in an Ecological Impact Assessment (EclA).
Important Hedgerow	A hedgerow that is more than 30 years old and meets one or more of the following criteria set out in the Hedgerow Regulations
Inclusive stakeholder engagement	Enabling stakeholders to participate in, and benefit from, the decision-making process and removing barriers to those who are often excluded.
ISIS	Hydraulic modelling software
IUCN Red List of Threatened Species	Provides taxonomic, conservation status and distribution information on plants, fungi and animals that have been globally evaluated using the IUCN Red List Categories and Criteria, designed to determine relative risk of extinction (i.e. those listed as Critically Endangered, Endangered and Vulnerable).
Jet grouting	The use of high velocity fluid jets to construct cemented soil of varying geometries in the ground
JFlow	Hydraulic modelling software
Landscape Character Area (LCA)	Discrete geographical areas having their own individual character and identity.
Land Cover	Term defining physical materials or elements that cover the surface of the land such as grass, woods, trees, hedges, agriculture.
Landscape Receptor	The constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape in different areas.
Land take	The acquisition of land
Level crossings	A place where a railway and a highway or right of way cross at the same level.
LIDAR	Optical remote-sensing technique that uses laser light to densely sample the surface of earth, producing highly accurate x,y,z measurements
Listed Building Consent	Required for all works of demolition, alteration or extension to a listed building that affect its character as a building of special architectural or historic interest.
Local Landscape Area (LLA)	Geographical areas of distinctive quality at a District level. They make special contributions to the appearance and character of landscape character areas.
Local Nature Reserve	Statutory designations with wildlife or geological features that are of interest locally under Section 21 of the National Parks and Access to the Countryside Act, 1949 (amended by schedule 11 of the Natural Environment and Rural Communities Act 2006)
Local Wildlife Site	An exceptional area of land and some of the most valuable wildlife areas. They are identified and selected through a robust scientifically determined criteria and detailed ecological surveys
Local Plans	Plans prepared by a Local Authority, in accordance with National planning policy, which set out a vision and a framework for the future development of the area, addressing needs and opportunities in relation to housing, the economy, community

## The Network Rail East West Rail (Western Section) Phase 2 Order

### Glossary and Abbreviations

Term	Definition
	facilities and infrastructure – as well as providing a basis for safeguarding the environment, adapting to climate change and securing good design. As such, Local Plans are also a critical tool in guiding decisions about development proposals.
Maintenance compound	Compound area used to support maintenance of the Project once it is operational.
Main River	A main river is a statutory watercourse which has been designated by Defra. They typically include larger streams and rivers.
Mineral local plans	Plans developed by local authorities set out local policies, strategies and objectives for mineral land use planning. The plans outline important mineral resources which should be protected from development
Mineral Safeguarding Areas	Areas of identified mineral resources which should be protected from non-mineral development which limits their future use (sterilisation).
Minor River	A minor river is a non-statutory watercourse.
Mitigation	See ‘Mitigation Measures’.
Mitigation (Ecology)	Measures taken to reduce, as far as is practically feasible, the duration, intensity and / or extent of impacts on biodiversity (including direct, indirect and cumulative impacts, as appropriate) that cannot be completely avoided (as used within the mitigation hierarchy).
Mitigation hierarchy	The mitigation hierarchy sets out the order in which mitigation actions should be considered, from most desirable to least desirable, to address likely effects identified during an EIA. Avoid, minimise or reduce and restore or compensate.
Mitigation measures	Measures identified to reduce likely significant effects arising from the construction or operation of the Project
Modular Analysis of Vegetation Classification System	A programme that analyses vegetation data using different types of classification systems, including NVC.
Mothballed section	Section of railway between Winslow and Bletchley which is not currently open to traffic
National Character Area	Subdivisions of England that are based on a combination of landscape, biodiversity, geodiversity and economic activity. These broad divisions form the basic units of cohesive countryside character, giving each a distinct ‘sense of place’. There are 159 National Character Areas in England, each uniquely numbered.
National Infrastructure Delivery Plan	Sets out how the government will support the delivery of key infrastructure projects and programmes to the end of this parliament
National Nature Reserve	Established by Natural England for the protection of some of the most important habitats, species and geology. They also provide outdoor laboratories’ for research and study.
Nationally Scarce	A species or habitat considered to be scarce at a UK or country level.
National Vegetation Classification	A system of classifying natural habitat types in the United Kingdom according to the vegetation they contain.
National Vegetation Classification Areas	Distinct areas of land screened in for NVC survey.



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### Glossary and Abbreviations

Term	Definition
Net positive	Net Positive is the end result of a process applied to infrastructure development so that overall, there is a Net Positive outcome for biodiversity.
Network Rail managed infrastructure	Land owned and managed by Network Rail.
No Net Loss	The principle of 'no loss' recognises that biodiversity losses in one location are compensated for by gains in another, achieving an overall 'no net loss' to biodiversity. Furthermore, when biodiversity gain exceeds any loss, the project has achieved a 'Net Positive' outcome for biodiversity.
Offset multiplier	These account for risks to offset delivery, for example the difficulty of creating a certain habitat type. Different countries apply different multipliers, which are essentially used by planners or regulatory authorities to increase the chance that the offset achieves no net loss of biodiversity. For its national pilot test on biodiversity offsetting, Defra introduced three multipliers: difficulty of creation; spatial risk; and, time to when the offset reaches its target condition. Network Rail IP adopts the multipliers introduced by Defra.
Off-site receptor	A receptor geographically located outside of the Project Area but that may experience effects arising from the Project
OLE support structure	Support structure to hold the OLE system in place.
On-Site receptor	A receptor geographically located within the Project area boundary
Operational phase	The period when the Project is in operation.
Ordinary watercourse	Any watercourse not designated as a 'main river'
Outside running edge	Outer most rail of the track on which train services runs
Overbridge	A bridge crossing over the railway.
Paladin fencing	Welded mesh panel fence.
Part 2A	Part 2A of the Environmental Protection Act 1990
Permanent access road	Access road installed during construction which is retained permanently as part of the operational Project
Permanent compound	Compound installed during construction which is retained permanently as part of the operational Project
Permanent land take	The land that is acquired for an indefinite period of time.
Permitted development rights	To describe the consent to be acquired for the Project, where not under the TWAO.
Phase 1 Habitat Survey	Standard technique for environmental audit based on habitat type.
Phase 2 Surveys	Macroinvertebrates, fish, white-clawed crayfish, macrophytes, RHS, RCS and/or PSYM.
Possession	A period of time when one or more tracks are closed for maintenance or repair. For the duration 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.

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### Glossary and Abbreviations

Term	Definition
Principal Aquifer	Layers of rock or drift deposits that usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.
Priority Habitat	Semi-natural habitat identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP)
Private User Worked Crossings	A type of crossing protected by gates, or lifting barriers, on both sides of the railway, operated by the users
Project Area	See 'The Project Area'.
Project Boundary	See 'The Project Boundary'.
Pure Alliance agreement	A form of project organisation in which employer (or client) and contractors are contracted to work together as one integrated team (or organisation) for the duration of a project.
Rail	Linear steel support for train wheels. Two rails secured to sleepers make up the track.
Railway	General term referring to the rail transport system as whole and the corridor in which it sits.
Railway gauge clearance	The system of standard sizing applied to trains and railway infrastructure to ensure sufficient clearance is provided between them for the safe operation of the railway.
Ramsar site	Are wetlands of international importance designated under the Ramsar Convention
Red list	Red list of Birds of Conservation Concern
Re-laying	The removal of old railway materials (such as rails, sleepers or ballast) and replacement with new materials for the purpose of maintenance or upgrade
Restoration	Measures taken to restore degraded habitat following impacts from a development that cannot be completely avoided or minimised.
RSSB Rail Carbon Tool (RCT)	The carbon calculation tool selected through an RSSB working group to be used for embodied carbon accounting across the UK rail sector
(Safety) Clearance	The amount of space need between running and rail infrastructure for safe operation of the railway
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
Scoping Opinion	The formal opinion of the relevant statutory stakeholders on the information to be supplied in the Environmental Statement
Scoping Report	A formal request for a Scoping Opinion.
Secondary A Aquifer	Permeable layers capable of supporting water supplies at a local rather than strategic scale, in some cases forming an important source of base flow to rivers
Secondary B Aquifers	Predominantly lower permeability layers which may store and yield limited amounts of groundwater
Semi-improved grassland	Semi-improved grassland is not a formal HPI type but this is the name used in the NE data GIS set which was mainly compiled from desk study sources. The level of confidence attributed to areas of mapped semi-improved grasslands is considered by NE to be 'low' meaning that many may not be of HPI quality.

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### Glossary and Abbreviations

Term	Definition
Single track	A railway where trains travelling in either direction share the same section of track.
Site Compound	Comprising working areas for individual structures such as highway bridges or footbridges
Site of Special Scientific Interest	Sites protected by law for the conservation of their wildlife or geology
Sleeper	Wooden or concrete slab onto which rails are secured, to prevent movement of the rails.
Slewing	Horizontal adjustment to rail alignment.
Soakaway	A pit into which waste water is piped so that it drains slowly out into the surrounding soil.
Source Protection Zones (SPZ)	Indicate the risk of contamination of high-value groundwater resources used for drinking water supply from any activities that may cause pollution in the area
Special Area of Conservation	A strictly protected site that is designated under the EC Habitats Directive. Areas of conservation include natural habitats and wild flora and fauna
Species of Principal Importance	These species of principal importance in England are published in a list by the Secretary of State under the Natural Environment and Rural Communities (NERC) Act, 2006, Section 41
Special Protection Area	Strictly protected sites classified in accordance with article 4 of the EC Birds Directive. They are classified for rare and vulnerable birds and for regularly occurring migrating species
SPZ Outer Zone (Zone 2)	Defined by a 400 day travel time from any point below the water table to the source
SPZ Total Catchment (Zone 3)	Defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source
Stakeholders	Stakeholders include persons or groups who are directly or indirectly affected by a project and/or an offset, as well as those who are interested in a project and/or offset and have the ability to influence its outcome, for good or bad. They include persons or groups who hold rights over land and resources in the area of the project and offset. Stakeholders can include, but are not limited to, indigenous peoples, local communities, non-governmental organisations and members of scientific bodies such as university departments and research institutes, local and central government, customers, shareholders, management, employees and suppliers.
Stock fencing	Fencing to prevent livestock from straying.
Strategic compound	Larger, main compound from which construction and main project management is undertaken providing main office space, main canteen areas, main welfare facilities and processing and storage of site won materials
Study Area	The identified spatial scope over which the assessment has been undertaken. The study area is topic specific and varies by technical chapter.
Sub-section	Area used to sub-divide the Environmental Statement geographically for ease of interpretation.
Switches and crossings	A mechanical installation enabling trains to be guided from one railway track to another, such as at a junction or at a siding.
Tamping	Vertical adjustment to rail alignment.



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### Glossary and Abbreviations

Term	Definition
Temporary land take	The area of land that is acquired for a fixed and finite period of time with the intent to discontinue such use upon the expiration of a defined length of time.
The Applications Rules	The Transport and Works (Applications and Objections Procedure)(England and Wales) Rules 2006
The Bern Convention	The Convention on the Conservation of European Wildlife and Natural Habitats
The EIA Regulations	The Town and Country Planning (Environmental Impact Assessment) Regulations 2011.
The Habitats Regulations	The Conservation of Habitats and Species Regulations 2010, as amended
The NERC Act	The Natural Environment and Rural Communities Act 2006
The 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.
The Project	Those parts of EWR2 that have not been environmentally assessed and are therefore covered by the Draft ES.
The Project Area	The geographical footprint of the Project, delineated by the Project Boundary.
The Project Boundary	The boundary marking the edge of the footprint of temporary and permanent land take associated with the Project.
The TWAO Scheme	The EWR2 works proposed under the Network Rail East West Rail (Western Section) Phase 2 TWAO
Time-lag	This represents the mismatch in the timing of impact and offset and the loss of biodiversity over that time, i.e. the time between the negative impact on biodiversity and the offset reaching its required level of maturity.
Track	Rail system consisting of two rails, secured on sleepers, on which trains run.
Track Out	the inadvertent movement of soils/materials offsite on the wheels and bodies of construction traffic and plant
Traffic Levels	The number of vehicles on a road.
Train Service Specification	A train timetable.
TUFLOW	Hydraulic modelling software
TWAO Application	An application for a Transport and Works Act Order
TWAO Scheme	See 'The TWAO Scheme'.
Underbridge	A bridge crossing under the railway.
Unproductive strata	These are rock layers or drift deposits with low permeability which have negligible significance for water supply or river base flow.
Valued Ecological Receptor	Is an ecological feature this is considered for inclusion in EclA. There are many terms of references that determine the importance/value of an ecological receptor such as: geological location, designated sites and legislation.

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### Glossary and Abbreviations

Term	Definition
Vertical Alignment	The longitudinal profile of a track relative to a fixed datum
Visual Receptor	The places that people may occupy where people's views or visual amenity will be affected by changes in those views or places.
Wheel squeal	A screeching sound generated from friction between the train wheels meet the rail, commonly occurring on sharp curves in the track.
Water Abstraction License	License required to be obtained from the EA if more than 20m <sup>3</sup> a day is taken from surface water or groundwater resources
Water Constraints map	Map showing constraints related to water environment that may impact proposed development
Water Framework Directive	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy
Wichert	A subsoil like chalk
Zone of Influence	The areas/resources that may be affected by the biophysical changes caused by activities associated with the Project.