

Infrastructure Projects

Northern Programmes



Transpennine Route Upgrade

Work Package 4 – Dewsbury to Leeds Lady Ann Crossing ELR: MDL1

Ecological Constraints Report

Network Rail

Reference No: 151667-TSA-00-TRU-REP-W-EN-000880

Issue Date: 09/08/2021

Version: P01



Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Approval and Authorisation

	Name	Job Title	Signature
Prepared By:	Larissa Masterson	Ecologist	
Checked By:	Niall Machin	Associate Director	
Approved By:	Alex Watson	Associate Director	
Authorised By:	Jim Pearson	Environment Manager	

Document Identity and Metadata Information

This information is a mandatory requirement.

Scope of Document:

☐ All of Northern Programmes
☐ Northern Programmes Enhancements
☐ Northern Hub
☐ North West Electrification
☒ Transpennine Route Upgrade
☐ Northern Powerhouse Rail

Document Category:
Applicable Grip Stage(s):
Briefing Required:
Security Classification:

ReportReport
ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
☐
OFFICIALOFFICIAL

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Document History

Version	Date	Modification	Originator
1.0	01/12/2020	First issue	LM
2.0	09/08/21	Second issue	DMc

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Implementation

The latest version of this document shall supersede any previous versions.

Compliance

This document is mandated across the 'scope' detailed in section document identity, scope and metadata.

Specific authority not to comply with this document can be requested from the Approval Signatory using the Technical Query process found with the Common Data Environment (CDE).

Disclaimer

In issuing this document for its stated purpose, Northern Programmes make no warranties, expressed or implied that compliance with all or any documents it issues is sufficient on its own to ensure safe systems of work or operation. Users are reminded of their own duties under health and safety legislation.

All references made within this document were considered correct at time of approval.

Supply

Copies of this document are available electronically via the Common Data Environment but shall be deemed uncontrolled once printed.

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Table of Contents

1. INTRODUCTION 7

2. METHODOLOGY 8

 2.1 Desk Study 8

 2.2 Field Surveys 9

 2.3 Limitations 10

3. RESULTS 11

 3.1 Designated Sites 11

 3.2 Habitats 11

 3.3 Protected and Priority Species 12

4. CONSTRAINTS AND RECOMMENDATIONS 14

APPENDIX A SUMMARY OF PRELIMINARY BAT ROOST ASSESSMENT RESULTS... 19

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

1. INTRODUCTION

- 1.1.1 Waterman Infrastructure & Environment Limited (Waterman) was commissioned by Atkins (a member of the SNC-Lavalin Group) on behalf of Network Rail to undertake an ecological assessment of land adjacent to Lady Ann Crossing, closest post code WF17 0PY (central Ordnance Survey National Grid Reference SE 24943 24264) which is being considered for works in relation to Transpennine Rail Upgrade (TRU) including the possible installation of a works access route between Batley Station and the existing Lady Ann pedestrian crossing, a new footbridge to replace the crossing, an access ramp and locations for bore holes.
- 1.1.2 The working area proposed covers all land surveyed; hereafter referred to as 'the Site'. Works (hereafter referred to as the 'proposed works') will include the implementation of bore holes, the construction of a ramp within a vegetated bank between Primrose Hill and the railway line to facilitate access for plant/machinery, as well as the establishment of storage and build up areas for track panels and overhead line equipment.
- 1.1.3 The purpose of the ecological assessment was to appraise the habitats present and determine the actual or potential presence of protected/ priority species within and adjacent to the Site in order to inform an initial assessment of potential ecological constraints to the proposed works.

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

2. METHODOLOGY

2.1 Desk Study

2.1.1 The sources of information and search areas used in the desk study are summarised in **Error! Not a valid bookmark self-reference.** below. The search areas reflect the likely maximum zone of influence of the proposed works on different ecological features.

Table 2-1 Desk study data sources and search areas

Data source	Ecological feature	Search area
Multi-Agency Geographic Information for the Countryside (MAGIC) website ¹ [accessed November 2020]	Existing and proposed international statutory designated sites (Ramsar sites) and European statutory designated sites including Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	2 km
	National statutory nature conservation designations (Sites of Special Scientific Interest (SSSI); National Nature Reserves (NNR))	2 km
	Local Nature Reserves (LNR)	1 km
	Ancient woodlands and Habitats of Principal Importance (HPI) ²	500 m
	Granted European Protected Species Mitigation (EPSM) licences	1 km
West Yorkshire Record Centre (WYRC) [data supplied in April 2020]	Non-statutory nature conservation designations (Sites of Biological Importance (SBI))	1 km
	Recent records of protected and priority flora and fauna ^{3,4} (defined as records from 2010 onwards)	1 km
Online Ordnance Survey (OS) maps and publicly available satellite imagery [accessed November 2020]	Information on habitats (including ponds ⁵) and habitat connectivity relevant to the assessment of protected / priority species constraints	250 m

¹ <https://magic.defra.gov.uk/>

² Habitats of Principal Importance for nature conservation in England listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006

³ As listed under Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended), Schedules 2 and 4 of The Conservation of Habitat & Species Regulations 2017 and species of Principal Importance for nature conservation in England listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Records of invasive non-native plant species (listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) were also reviewed

⁴ Data supplied by GMLRC includes all data held by the South Lancashire Bat Group and the Greater Manchester Bird Recording Group

⁵ Given the relatively small scale of vegetation clearance that is likely to be required to facilitate the proposed works, there is a very small risk of encountering any great crested newts (*Triturus cristatus*) within the Site that are associated with ponds located over 250 m away. This assessment of risk is informed by using the Natural England rapid risk assessment tool and this method is consistent with the proportionate and risk-based approach to survey and licensing promoted by Natural England (Natural England (2019) Template for Method Statement to support application for licence under Regulation 55(2)e of The Conservation of Habitats and Species Regulations 2017 (as amended) in respect of great crested newts *Triturus cristatus*. Form WML-A14-2 (Version March 2019)).

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

2.2 Field Surveys

Extended Phase 1 habitat survey

2.2.1 A Phase 1 habitat survey was undertaken on the Site on the 20th and 28^h October 2020, in accordance with best practice guidance⁶. The field survey area comprised all accessible land within the Site, as well as accessible land within 50 m of the Site where there was the potential for the presence of protected, priority or invasive species that could be impacted (directly or indirectly) by the proposed works, such as badger setts and bat roosts. All habitat types within the field survey area were characterised and mapped.

2.2.2 Invasive non-native species were searched for during the surveys. In particular, effort was made to record the following plant species because they are often problematic within the railway environment: Japanese knotweed (*Reynoutria japonica*), giant knotweed (*Reynoutria sachalinensis*), hybrid knotweed (*Reynoutria japonica x sachalinensis*), giant hogweed (*Heracleum mantegazzianum*), Himalayan balsam (*Impatiens glandulifera*), rhododendron (*Rhododendron ponticum*), New Zealand pygmy weed (*Crassula helmsii*) and cotoneaster species (*Cotoneaster* spp).

2.2.3 The Phase 1 habitat survey methodology was also extended by undertake an assessment of the actual or potential presence of protected and priority species³.

Preliminary bat roost assessment

2.2.4 A preliminary bat roost assessment (PBRA) of all buildings, structures and trees within the field survey area were undertaken during the Phase 1 habitat survey, in accordance with best practice guidelines⁷.

2.2.5 An assessment of each building, structure and tree was made in terms of its suitability to support roosting bats, in accordance with the criteria in Table 2-2 (adapted from best practice guidelines⁷). PBRA consisted of ground-level visual inspections (including the use of binoculars and torches where required) of the exterior of structures and trees for evidence of use by bats (e.g. droppings, feeding remains or sightings of bats). A number of factors were considered, including the presence of features suitable for use by roosting bats, proximity to foraging habitats or cover, and existing levels of disturbance. Notes were made relating to relevant characteristics of features providing potential access points and roosting opportunities for bats.

2.2.6 The results for all buildings/ structures were recorded (refer to Appendix A), but trees were only recorded individually if they were assessed as having potential suitability for roosting bats (Low, Moderate or High suitability). Trees with Negligible suitability were not recorded individually.

⁶ JNCC (2010) Handbook for Phase 1 Habitat Survey. Nature Conservancy Council

⁷ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Table 2-2 Guidelines for assessing the suitability of buildings, structures and trees for roosting bats⁷

Suitability for roosting bats	Description
Known or confirmed roost	Evidence of roosting bats within the building, structure or tree.
High	A building, structure or tree with one or more Potential Roost Features (PRF) that are obviously suitable for use by large numbers of bats on a regular basis and potentially for long periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A building, structure or tree with one or more PRF that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only).
Low	A building or structure with one or more PRF that could be used by individual bats opportunistically. However, the PRF do not provide enough space, shelter, protection, appropriate conditions and/ or suitable surrounding habitat to be used on a regular basis or by large numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRF but with none seen from the ground or features seen with only very limited roosting potential.
Negligible	No suitable roosting features present.

2.3 Limitations

Desk study

2.3.1 Relevant recent ecological records were obtained in 2020 from WYRC. However, it should be recognised that an absence of records does not necessarily mean the likely absence of a species.

2.3.2 The search for ponds using online OS mapping and aerial imagery may not have identified all ponds that are present within 250m of the Site because ponds such as garden ponds and newly created ponds are not always included on OS maps and may not be visible on aerial imagery if obscured by vegetation.

Field survey

2.3.3 A Phase 1 habitat survey completed in late October is at the end of the survey season for this survey method. However, useful information on ecological constraints can be recorded and limitations identified.

2.3.4 There were no limitations to the Phase 1 habitat survey, all areas were thoroughly searched for ecological constraints. Similarly, there were no access limitations with regard to assessment of structures, buildings and trees for their potential to support roosting bats.

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

3. RESULTS

3.1 Designated Sites

Statutory designated sites

3.1.1 No statutory nature conservation designations are located within 2 km of the Site.

Non-statutory designated sites

3.1.2 One Local Wildlife Site is present within 1 km of the Site, as detailed in Table 3-1 below. Areas of 'habitat network', which link together important wildlife sites with each other and other green infrastructure, are also present.

Table 3-1 Non-statutory nature conservation designations within 1 km of the Site

Designation	Approximate distance and direction from the Site	Description
Morley Spring Wood, LWS	980 m north	Replanted ancient woodland with high native bluebell (<i>Hyacinthoides non-scripta</i>) cover.
Kirklees Wildlife habitat network	Within the Site	Wildlife corridor of broad habitat type connecting to the wider environment.

3.2 Habitats

Ancient woodland and Habitats of Principal Importance

3.2.1 There are no ancient woodland sites listed on Natural England's Ancient Woodland Inventory (AWI) within 500 m of the Site.

3.2.2 The following HoPI was identified through the desk study as being present within 500 m of the Site: deciduous woodland – twelve sites (low confidence), the nearest of which is located within the Site.

Field survey results

3.2.3 The habitats identified within and adjacent to the Site are detailed in **Error! Reference source not found.**2 and illustrated on Figure 151667-TSA-00-TRU-REP-W-EN-000882.

Table 3-2 Description of habitats associated with the Site

Habitat	Description
Semi-natural broad-leaved woodland	A semi-mature naturally generated block of woodland is located on a steep bank along the eastern boundary of the Site. Species present include: hawthorn (<i>Crataegus monogyna</i>), goat willow (<i>Salix caprea</i>) sycamore (<i>Acer pseudoplatanus</i>), ash (<i>Fraxinus excelsior</i>), silver birch (<i>Betula pendula</i>), English oak (<i>Quercus robur</i>), elder (<i>Sambucus nigra</i>) and beech (<i>Fagus sylvatica</i>). Ground flora was dominated by bramble (<i>Rubus fruticosus</i>).

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Habitat	Description
Dense scrub	A narrow area of dense scrub is present adjacent to the rail line, dominated by bramble, buddleia (<i>Buddleja davidii</i>), bracken (<i>Pteridium aquilinum</i>) and immature silver birch.
Semi-improved grassland	Semi-improved grassland vegetation is interspersed with some of the areas of dense scrub. These habitat areas were too small to map and should be considered as secondary habitat to the dense scrub.
Tall ruderal	Tall ruderal vegetation, dominated by rosebay willowherb (<i>Chamaenerion angustifolium</i>) and creeping thistle (<i>Cirsium arvense</i>), was interspersed with some of the areas of dense scrub. These habitat areas were too small to map and should be considered as secondary habitat to the dense scrub.
Structures	Four bridges are present within the Site, further details are provided in Appendix A.

3.3 Protected and Priority Species

3.3.1 The results of the assessment of the actual or potential presence of protected and priority species is summarised in Table 3-3 below. This includes relevant results from the desk study and the Phase 1 habitat survey.

Table 3-3 Summary of protected and priority species assessment

Species	Summary results
Badger	WYRC data received for records up to April 2020 contained no recent records of badger (including setts) within 1 km of the Site. The woodland and scrub habitats on the earth embankment along the northern boundary of the Site provides sett building and foraging opportunities for badger. However, no badger setts or any other signs of badger presence were identified within the Site (or adjacent to the Site where visible). No signs of badger were recorded within the area.
Bats	WYRC data contained five recent records (up to April 2020) of bat roosts within 1 km of the Site. All roosts recorded were of common pipistrelle (<i>Pipistrellus pipistrellus</i>), the nearest of which was located approximately 335m south-west of the Site. The data contained 4 records of common pipistrelle and noctule (<i>Nyctalus noctule</i>) bat activity, the nearest of which was located approximately 75 m north-east of the Site. No EPSM licences for bats have been granted within 1km of the Site. There are four bridges present within the Site, one overbridge and two underbridges and a bridge not associated with the track. The bridges are of stone and brick construction with arched spans. One of the underbridges was assessed as having a high suitability for roosting bats, due to the presence of gaps between the confluence of different stone types. The other bridges were assessed as having low to negligible suitability for roosting bats. Further details are provided in Appendix A. No individual trees with potential suitability for roosting bats were identified within or adjacent to the Site.

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Species	Summary results
	The woodland and dense scrub within the Site provides suitable foraging and commuting habitat for bats, which is connected to habitats in the wider area by habitats along the railway corridor.
Breeding birds	WYRC data received for records up to April 2020 contained recent records of six breeding birds within 1 km of the Site, species included: swift (<i>Apus apus</i>), swallow (<i>Hirundo rustica</i>) and house sparrow (<i>Passer domesticus</i>). The nearest record being approximately 85 m to the north east of the Site. None of these species are specially protected. The mature trees and scrub habitats within the Site provide nesting opportunities for common species of birds. The presence of notable assemblages of breeding birds is considered unlikely given the type and age of habitats within the Site, and the high level of disturbance from the adjacent railway line and trading estate. The habitats associated with the Site are largely unsuitable for significant numbers of wintering birds.
Reptiles	The dense scrub in the north of the Site provides limited potential for foraging and shelter opportunities for reptiles such as slow worm. Habitats at the Site are unlikely to support any other reptile species as they do not provide sufficient basking and foraging opportunities.
Great crested newt (GCN) (<i>Triturus cristatus</i>)	GCN is unlikely to be present as there are no ponds within 500 m of the Site. No further consideration is given to this species.
Water vole (<i>Arvicola amphibius</i>)	Water vole are unlikely to be present as there are no watercourses associated with the Site and suitability is low within the footprint of the proposed works. No further consideration is given to this species.
Otter (<i>Lutra lutra</i>)	Otters are unlikely to be present and using the site for holt construction or as couches, hover or lay-up sites as there are no watercourses associated with the Site and habitats have low potential for otter resting and/or breeding places. No further consideration is given to this species.
Invasive non-native plants	WYRC returned a single record of Japanese knotweed from within 1 km of the Site. This was from an isolated field edge approximately 360 m to the east. No invasive non-native plant species were identified within the Site during the field survey and so no further consideration is given to invasive non-native plants. or received in the desk study data .

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

4. CONSTRAINTS AND RECOMMENDATIONS

4.1.1 The ecological constraints relevant to the proposed works are set out in

4.1.2 Table 4-1, together with an assessment of the need for further survey and recommendations for mitigation.

Table 4-1 Ecological constraints and recommendations relevant to the proposed works at the Site

Ecological Feature	Approximate Location	Summary of potential impacts	Further survey required	Mitigation
Designated sites				
Morley Spring Wood, LWS	980 m north	No direct impacts. Potential indirect impacts (such as pollution of air/ water, dust generation, disturbance) are not expected to be significant with the distances involved and with implementation of standard environmental control measures.	No	Standard environmental control measures will be implemented during the construction stage of the proposed works to minimise the risk of impacts on nearby designated sites ⁸ .
Kirklees wildlife habitat network	Within the Site	Temporary loss of habitat to facilitate works.	No	Any works will maintain the green nature of the wildlife corridor. The access ramp will be designed in a way that minimises the removal of/or disturbance to habitat, in order to reduce the impact on habitat connectivity within the wider environment in Kirklees and to

⁸ See current government guidelines at <https://www.gov.uk/guidance/pollution-prevention-for-businesses#construction-inspection-and-maintenance>.

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Ecological Feature	Approximate Location	Summary of potential impacts	Further survey required	Mitigation
				minimise the requirement for mitigation.
Habitats				
Semi-natural deciduous woodland HPI	Within the Site	Loss of habitat to facilitate works.	No	<p>Network Rail is committed to the principle of Biodiversity Net Gain and aims to achieve a demonstrable net gain of at least 10% for all significant projects. Habitat loss will be minimised in final scheme design plans and will not involve disruption to connectivity within the Kirklees wildlife habitat network. Any loss will be mitigated as far as possible through habitat being allowed to regenerate naturally, re-instatement and/or enhancement following works. There will be planting of wildflower grass mix throughout the area of the footbridge itself, as well as planting of a new group of trees next to the retaining wall at the northern end of the Site.</p> <p>The following Network Rail Standards are relevant in relation to the approach to management of biodiversity and vegetation:</p>
Semi-natural habitats (scrub, semi-improved grassland, tall ruderal)				

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Ecological Feature	Approximate Location	Summary of potential impacts	Further survey required	Mitigation
				<ul style="list-style-type: none"> • Lineside vegetation management manual⁹; • Protected Sites and Species Management¹⁰.
Protected species				
Bats	One underbridge with high suitability for roosting bats (MDL1/30) and three bridges with low/negligible suitability for roosting bats.	No direct impacts are planned to the bridge. Significant indirect effects (noise, vibration, artificial light) on any bats roosting in the bridge are considered unlikely given the existing levels of disturbance at this site (i.e. an operational railway crosses the bridge and there is therefore relatively frequent, temporary, noise and vibration disturbance).	No	Standard environmental control measures will be employed to minimise disturbance during works ⁸ . Construction methods, timing and duration will be reviewed by an ecologist to confirm if supervision is required by a Suitably Qualified Ecologist.

⁹ Network Rail (2019) 'Level 2 Manual – Lineside vegetation management manual: NR/L2/OTK/5201.

¹⁰ Network Rail (2008) 'Level 2 Standard – Protected Sites and Species Management Issue 2: NR/L3/MTC/EN0099'

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Ecological Feature	Approximate Location	Summary of potential impacts	Further survey required	Mitigation
Badger	No evidence of badger was recorded on Site. Potential presence within woodland and scrub habitats for foraging purposes.	Disturbance of badgers occupying the area: to setts and/or tracks/foraging and commuting/dispersal routes.	No	A Method Statement detailing working practise designed to avoid harm and/or disturbance to badgers will be produced. This will include a pre-works check for animal burrows by a competent person (with consultation with an ecologist if necessary) and details of measures to minimise the risk of trapping badgers and other animals in open excavations.
Reptiles (slow worm)	Potential presence within scrub habitats	Killing/ injury of reptiles during vegetation clearance.	No	A Method Statement detailing working practise designed to avoid harm and/or disturbance to reptiles will be produced. This will ensure that ground clearance and excavation will be undertaken in a manner sensitive to the possible presence of common reptiles. If any reptiles are found, an ecologist will be consulted for advice about how to proceed.
Birds	Potential for nesting birds within trees and scrub	Damage/ destruction of nests and killing/injury of birds during vegetation clearance.	No	Where possible, tree felling and vegetation clearance will be minimised and undertaken outside the core bird nesting season (1 March to 31 August inclusive). If this is not possible

Reference:	151667-TSA-00-TRU-REP-W-EN-000880
Version:	2
Date:	

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

Ecological Feature	Approximate Location	Summary of potential impacts	Further survey required	Mitigation
				then a nesting bird check, compliant with Network rail Guidance Note (Environment) 'Breeding Bird & Nest Checks' and carried out by a competent person, will be undertaken no more than 24 h prior to the clearance. If any nesting birds are identified during the survey they will be left <i>in situ</i> for their entire nesting period and alternative approaches to the work will be proposed. This may include leaving an exclusion zone around the nests to avoid disturbance. The size of this exclusion will depend on the bird species and the specific impacts from the proposed works.

W4 Dewsbury to Leeds (Lady Ann crossing) – Ecological Constraints Report

APPENDIX A SUMMARY OF PRELIMINARY BAT ROOST ASSESSMENT RESULTS

Structure reference	Description	Suitability rating	Distance and orientation from the Site	Grid Reference
MDL1/29	Arched bridge of three spans, abutments of stone construction and span of brick and stone construction. Gaps present between confluence of stone abutments.	Low	Within the Site.	SE 24968 23996
MDL1/30	Arched underbridge of stone construction. Two instances of gaps between the confluence of different stone types.	High	Within the Site.	SE 24924 24265
MDL1/31	Arched underbridge of stone construction. Several instances of low-quality gaps in stonework.	Low	Within the Site	SE 24915 24314
Bridge 1	Arched bridge of stone construction, stonework in good condition no gaps present. Within railway corridor but not associated with the track. Disused.	Negligible	Within the Site	SE 24909 24453



Network Rail
Infrastructure Projects – Northern Programmes

Square One
4 Travis Street
Manchester
M1 2NY

www.networkrail.co.uk

This document is the property of Network Rail Infrastructure Limited. It shall not be reproduced in whole or part nor disclosed to a third party without the written permission of Network Rail Infrastructure Limited, Kings Place, 90 York Way, London, N1 9AG.
Copyright 2017 Network Rail Infrastructure Limited. All rights reserved.