

THE NETWORK RAIL (ESSEX AND OTHERS LEVEL CROSSING REDUCTION) ORDER

TRANSPORT AND WORKS ACT 1992

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

THE NETWORK RAIL (ESSEX AND OTHERS LEVEL CROSSING REDUCTION) ORDER

Design Guide

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Executive Summary

This report sets out the design proposals for the Network Rail (Essex and Others Level Crossing Reduction) Order. This Order includes the county of Essex, the county of Hertfordshire, the unitary authorities of Thurrock and Southend-on-Sea and the London Borough of Havering.

Volume 1 describes the design principles and infrastructure components to be incorporated into the project. The infrastructure components described in this document are illustrative and therefore give a good representation of what will be built when the scheme is implemented, but the final works will be subject to detailed design and agreement with the relevant adopting authorities.

Any level crossings where the proposals require more than the standard infrastructure components are described in more detail.

Volume 2 describes the design freeze proposals and includes drawings for each level crossing closure proposal. The drawings show the proposed diversion routes together with necessary infrastructure components required to make the routes useable. These proposals have been arrived at following:

- · An optioneering process,
- Environmental assessment,
- Extensive landowner, stakeholder and public consultations.

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Volume 1

1 Design Objectives and Principles

1.1 Introduction

1.1.1 Context

- 1.1.1.1 Network Rail has taken steps to close or reduce potential risk at level crossings on the railway network and is continually looking at ways to improve safety, reliability and value for public money. This is achieved through various existing programmes and initiatives including the National Level Crossing Closure Programme which is based around safety criteria. Additionally, Network Rail has developed the Anglia Level Crossing Reduction Strategy to consider options to provide alternative means of crossing the railway to help expedite the process.
- 1.1.1.2 In particular the strategy will help to:
 - Improve the safety of level crossings users;
 - Deliver a more efficient and reliable railway, which is vital in supporting the regional and UK economy;
 - Reduce the ongoing operating and maintenance cost of the railway;
 - Reduce delays to trains, pedestrians, and other highway users; and
 - Improve journey time reliability for all railway, highway, and other rights of way users.
- 1.1.1.3 The purpose of the Anglia Level Crossing Reduction Strategy is to bring about safety benefits, allow Network Rail to manage their assets more effectively, to reduce the ongoing maintenance liability of the railway and help enable various separate enhancement schemes.
- 1.1.1.4 The Strategy is being coordinated with other projects in the Anglia region where there are relevant interfaces, such as the Network Rail Kings Lynn Service Enhancement scheme.

1.1.2 Design principles

1.1.2.1 In order to extinguish a public or private right of way over a level crossing, allowing the level crossing to be closed or downgraded, an alternative convenient and suitable replacement for existing users has to be provided unless it can be demonstrated that one is not required. The powers to implement level crossing closures in Essex and Others are being sought through an application under the Transport and Works Act 1992 - the county of Essex,

the county of Hertfordshire, the unitary authorities of Thurrock and Southend-on-Sea and the London Borough of Havering (The Essex and Others Level Crossing Reduction Order);

- 1.1.2.2 This design guide sets out the proposals required for each level crossing closure that are included in the Order application.
- 1.1.2.3 The project is at Network Rail Grip Stage 3 (Option selection) and therefore work has been undertaken to establish design details in principle only, which enabled the works to be assessed and costed, and sufficient land and rights to be acquired under the TWAO application.
- 1.1.2.4 The proposals principally affect public rights of way and as such most of the diversions, new routes and new infrastructure will be adopted by the local Highway Authorities (Essex County Council, Hertfordshire County Council, Thurrock Council, Southend-on-Sea Borough Council and London Borough of Havering).
- 1.1.2.5 Regular consultation has been undertaken throughout the development of the proposals with local Highways Authorities to establish their requirements with regard to the design of level crossing closure solutions and necessary works details, via written correspondence, telephone calls and with specific meetings as follows:
 - GRIP stage 1 meeting with Essex County Council 11th January 2016
 - GRIP stage 1 teleconference with Hertfordshire County Council 18th January 2016
 - Post Round One Consultation teleconference with London Borough of Havering (LBH) - 03th August 2016,
 - Post Round One Consultation meeting with Essex County Council 05th August 2016.
 - Post Round One Consultation teleconference with Southend-on-Sea Borough Council - 08th August 2016,
 - Post Round One Consultation meeting with Hertfordshire County Council 16th August 2016,
 - Post Round One Consultation meeting with Thurrock Council 16th August 2016
 - Post Round Two Consultation teleconference with Hertfordshire County Council -20th October 2016
 - Post Round Two Consultation teleconference with London Borough of Havering -21th October 2016
 - Post Round Two Consultation teleconference with Thurrock Council 26th October 2016
 - Post Round Two Consultation meeting with Essex County Council 31th October 2016
 - Post Round Two Consultation teleconference with Southend-on-Sea Borough Council - 31th October 2016
- 1.1.2.6 The key issues raised by the councils of Essex County, Southend-on Sea Borough, Thurrock, Hertfordshire and Havering Borough included:
 - Users' safety concerns (walking along busy roads),
 - Inadequate facilities (width of the paths, fencing, rails, surfacing, sign posting, drainage)
 - The length of the diversions,

- Creation of dead end routes,
- Loss of amenity,
- Flooding risk in some areas,
- Impact on new developments.
- 1.1.2.7 Selection of appropriate infrastructure proposals was based on the above concerns and the principles outlined in the documents below:
 - Manual of Contract Documents for Highway Works Volume 1 Specification for Highway Works,
 - Manual of Contract Documents for Highway Works Volume 3 Highway Construction Details,
 - BS 1722-1:2006 Fences. Specification for chain link fences,
 - BS 1722-2:2006 Fences. Specification for strained wire and wire mesh netting fences.
 - BS 1722-5:2006 Fences. Specification for close-boarded fences and wooden palisade fences.
 - BS 1722-7:2006 Fences. Specification for wooden post and rail fences
 - BS 1722-12:2006 Fences. Steel palisade fences. Manufacturing and installation. Specification,
 - DMRB BD 29/04 Design Criteria for Footbridges,
 - Traffic Signs Manual Chapter 3,
 - Network Rail Management of Fencing and Other Boundary Measures NR/L2/TRK/5100, Issue no 2,
 - Suffolk County Council Standard footbridges Type 3-8 (drawing number 2810/101, Revision A), Bridleway Bridge Types 4, 6 & 8 (drawing number 2810/201), Gates Guide
 - Thurrock Council Standard footbridges Types 1 4
 - Path bridges planning, design, construction, and maintenance Paths for All Partnership with support from Scottish Nature Heritage and Forestry Civil Engineering,
 - Countryside Access Design Guide Information Sheet No.2.3 Scottish Nature Heritage,
 - Leicester County Council Standard Details Drawings Fencing & Gates,
 - Jacksons Fine Fencing Drawings,
 - British Horse Society "Advice about specification and standards of mounting blocks",
 "Advice on: Equestrian use of level crossings", "Advice on Gates",
 - Department for Transport LTN 2/95 The design of pedestrian crossings,
 - Department of the Environment, Transport, and the Regions: *Guidance on the use of Tactile Paving Surfaces*,
 - Department for Transport 2005: Inclusive mobility. A guide to best practice on access to pedestrian and transport infrastructure.
- 1.1.2.8 Depending on the scope of the work required to close the crossing, 6 categories have been identified. Table 1 shows the categories, descriptions, and number of crossings in each category within the Essex, Hertfordshire, Thurrock, Southend-on-Sea and Havering areas.

The category and the description of proposed works at each crossing location is listed in volume 2, section 4 of this report.

Table 1: Level Crossing Proposals Categories

Category	Description	Essex and Others Design Freeze Proposals	Crossings
	rial works as the crossing does not exist on the where a grade separated solution has been provided ver been completed.	2	E23, HA3
any works outside of Network	ents of the level crossing rights and do not involve Rail's land. Involves the removal of the crossing tinguishment of only the PRoW routed over the	14	E01, E07, E10, E12, E26, E32, E36, E49, E54, H02, H03, H08, HA1, HA2
	of Way (PRoWs) are diverted on either private land or that involve no substantive physical works.	16	E02, E04, E06, E11, E13, E15, E16, E35, E37, E42, E47, E48, E52, E56, HA4, T01
	diverted on either private land or within the public ch as new steps, new ramps, footway provision etc.	27	E05, E08, E09, E17, E18, E19, E20, E21, E22, E25, E28, E29, E30, E31, E33, E38, E41, E43, E45, E46, E51, H04, H05, H06, H09, T04, T05
Closures that involve works of affect the PROW.	n private land or within the public highway but do not	0	-
Proposals to downgrade the s to a private user worked cross	tatus of the crossing, for example from a public road sing and a bridleway.	2	E57, H01
Proposals that will enable the another Network Rail Scheme	status of a level crossing to be changed as part of	0	-
Total		61	

Source: Based on P3 Design Freeze Plans

2 Design Components

2.1 Overview

- 2.1.1.1 Following the discussions with Local Authorities the illustrative types and details of infrastructure proposed for the level crossing closures within the county was agreed in principle.
- 2.1.1.2 This design guide provides general information about typical infrastructure to be provided and sets out the reason for the selection of each type of feature for use on the project. Relevant national organisation and Local Authorities (LA) standard detail drawings and resources have been adopted in Network Rail's proposals. The works will be completed to the reasonable satisfaction of the Highways Authority.
- 2.1.1.3 Table 2 and Table 3 below shows the infrastructure to be used at each of the Essex, Hertfordshire, Thurrock, Southend-on-Sea and Havering crossings. Each of the components used in the Essex and Other areas have been described in paragraphs 2.2 to 2.7 of this report. Other types of infrastructure component are shown in Table 2 and Table 3, but only those components included for use in designs within the Essex and Other areas have been described within this report.

Anglia Level Crossing Reduction Strategy

Туре	Fence Description	E01	E02	E04	E05	E06	E07	E08	E09	E10	E11	E12	E13	E15	E16	E17 E18	E19	E20	E21	E22	E23	E25	E26	E28	E29	E30 E31	E32	E33	E35	E36	E37
F1	Fencing with concrete posts and six wires without barbed wire - height 1.275m														٧							٧						٧			
F2	Fencing with concrete posts and six wires and barbed wire - eight 1.275m																														
F3	Fencing with timber posts and intermediate timber posts and wire wooden -																														
F4	picket fence - height 1.2m Chain Link Fencing to BS 1722 - height 1.8m	٧			٧	V	٧	٧	٧	٧	V		.,,		٧	٧	V	V		٧			٧		٧	٧		٧			
F5	Wooden Palisade fencing to BS 1722 - height 1.8m	V			V	•	•	•	•	V	V		٧		V	V	V	V		V			V		•	•		v			
	Wooden Post and Three Rail - height 1.3m				٧								٧													٧		-	-		
F6 F7	Stained wire fence with stock proof fence - height 1.35m					٧		٧			./	-1	v	-1					٧	٧				٧		V		$\overline{}$	٧	٧	٧
	·					V					٧	٧		٧					•				-1	V					_	_	_
F8 F9	Close Boarded wooden fencing to BS 1722 -height 1.8m																					٧	٧		v	٧	٧	-			
F10	Steel palisade security fence - height 2m																								V	V	·		\longrightarrow		
FIU	Acoustic fence - height 2.1m																														
01	Gate Description												4										4		1						
G1	Wicket Wooden Footpath Gate - 1m												1										1		1						
G2	Wooden Bridleway Gate																											\longrightarrow			
G3	Steel Footpath Gate - used at NR boundary																						_								
G4	Steel Bridleway Gate - used at NR boundary																														
G5	Single Leaf Acoustic Gate																														
G6	Double Leaf Acoustic Gate																														
G7	Wooden footpath stile																														
G8	3.5m wide 3 bar steel farm vehicle gate																														
G9	Kissing Gate																														
	Footpath Description																														
P1	Footpath Type 1 - unsurfaced footpath PROW - 2m		٧	٧	٧	٧		٧	٧		٧		٧			_	٧		٧	٧		٧		٧	٧	٧		٧	٧		٧
P2	Footpath Type 2 - unsurfaced bridleway PROW - 3m														٧	٧		٧													
P3	Footpath Type 3 - gravel/stone surface footpath PROW																														
P4	Footpath Type 4 - stone block footpath PROW																														
P5	Tarmac planings surfaced Cyclepath				٧																			٧							
P6	Wooden Footpath boardwalk																									٧		٧			
P7	Asphalt footway																						٧								
P8	Planings footway																														
P9	Tactile crossing																														
P10	Pedestrian Refuge Island																														
P11	Hogging Footpath																														
P12	Typical Turning Head																														
	Bridge Description																														
B5	Culvert															1															
E-B1	Footbridge Essex et al - wooden <4m							1																							
E-B2	Footbridge Essex et al - wooden <6m																														
E-B3	Footbridge Essex et al - wooden >6m																														
E-B4	Standard Plan Footbridge Essex et al <3m																														
E-B5	Bridleway Bridge Essex et Al																														
	Steps Description																														
S1	Wooden sleeper steps																														
S2	Timber board steps																								2						
S3	Mounting blocks																														
S4	Concrete modular access stairs																														
	Fingerposts and Signage Description																														
FP1	Fingerpost																														
SG	Traffic Signs																														
	Bollards Description																														
BO1	Bollard																														

Table 2: Standard Details Summary Table E01-E37

Source: Based on Design Freeze Plans P3

Anglia Level Crossing Reduction Strategy

Туре	Fence Description	E38	E41	E42	E43	E45 E46	E47	E48	E49	E51	E52	E54	E56	E57	H01	H02	H03	H04	H05 H06 H09	H08	HA1	HA2	НАЗ	HA4	T01	T04	T05
F1	Fencing with concrete posts and six wires without barbed wire - height 1.275m				٧	٧		٧						٧				٧									
F2	Fencing with concrete posts and six wires and barbed wire - eight 1.275m																										i
F3	Fencing with timber posts and intermediate timber posts and wire wooden - picket fence - height 1.2m																										
F4	Chain Link Fencing to BS 1722 - height 1.8m	٧	٧	٧	٧	٧	٧					٧		٧			٧	٧	٧						٧	٧	√
F5	Wooden Palisade fencing to BS 1722 - height 1.8m																										
F6	Wooden Post and Three Rail - height 1.3m																										
F7	Stained wire fence with stock proof fence - height 1.35m						٧	٧		٧	٧		٧							٧				٧			
F8	Close Boarded wooden fencing to BS 1722 -height 1.8m																										
F9	Steel palisade security fence - height 2m		٧						٧								٧				٧	٧					
F10	Acoustic fence - height 2.1m																										i
	Gate Description																										
G1	Wicket Wooden Footpath Gate - 1m			1																	2	2					
G2	Wooden Bridleway Gate																										
G3	Steel Footpath Gate - used at NR boundary																										
G4	Steel Bridleway Gate - used at NR boundary																										
G5	Single Leaf Acoustic Gate																										
G6	Double Leaf Acoustic Gate																										
G7	Wooden footpath stile																										
G8	3.5m wide 3 bar steel farm vehicle gate																										
G9	Kissing Gate																										$\overline{}$
	Footpath Description																										
P1	Footpath Type 1 - unsurfaced footpath PROW - 2m	٧		٧		٧	٧	٧		٧	٧		٧					٧	٧				٧	٧	٧	٧	٧
P2	Footpath Type 2 - unsurfaced bridleway PROW - 3m																										$\overline{}$
P3	Footpath Type 3 - gravel/stone surface footpath PROW		٧																							٧	
P4	Footpath Type 4 - stone block footpath PROW																										
P5	Tarmac planings surfaced Cyclepath													٧													
P6	Wooden Footpath boardwalk																										
P7	Asphalt footway	٧	٧									٧															
P8	Planings footway																										
P9	Tactile crossing																										
P10	Pedestrian Refuge Island				2																						
P11	Hogging Footpath																										
P12	Typical Turning Head																										
	Bridge Description																										
B5	Culvert																										
E-B1	Footbridge Essex et al - wooden <4m																										
E-B2	Footbridge Essex et al - wooden <6m		1															1									
E-B3	Footbridge Essex et al - wooden >6m																		1								$\overline{}$
E-B4	Standard Plan Footbridge Essex et al <3m																										
E-B5	Bridleway Bridge Essex et Al																									1	
	Steps Description																										
S1	Wooden sleeper steps																										
S2	Timber board steps	2																								2	1
S3	Mounting blocks																										
S4	Concrete modular access stairs																	1									
	Fingerposts and Signage Description																										
FP1	Fingerpost																										
SG	Traffic Signs																								-		
	Bollards Description																										
BO1	Bollard																										
501	Dollaru																										

Table 3: Standard Details Summary Table E38-T05

Source: Based on Design Freeze Plans P3

2.2 Fencing

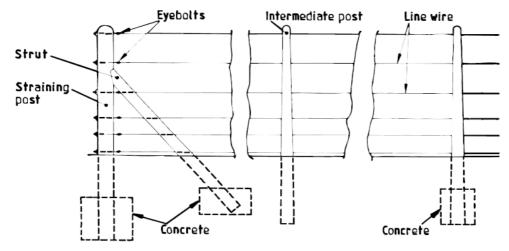
2.2.1 General fencing assessment

- 2.2.1.1 The assessment of fencing within Network Rail land or on the Network Rail boundary has been carried out by Network Rail. The assessment includes the extent and type of fencing required.
- 2.2.1.2 The extent and type of fencing required remote from the rail network has been assessed as part of the general design development by Mott MacDonald.
- 2.2.1.3 The fencing types detailed below are indicative of those that will be provided as part of the works, however, the exact construction details could vary from those shown following detailed design and agreement with adjacent landowners.

2.2.2 Fencing with concrete posts and six wires type F1

2.2.2.1 1.35m high fencing with concrete posts and six wires without barbed wire (Type F1) is considered appropriate for general use to deter trespass onto the railway network. The fence should have 3.15mm diameter zinc or zinc coated high tensile wire, general pattern SC135A and comply with BS 1722-2:2006. Figure 1 shows typical details for this type of fence. The photographs in Figure 2 and Figure 3 are provided to show fencing of a similar nature to F1 fencing but they are for illustrative purposes only and may not represent the exact specification of type F1 fencing.

Figure 1: Fencing with concrete posts and six wires



Source: BS 1722-2:2006

Figure 2:Illustrative example of fencing Type F1



Figure 3:Illustrative example of fencing Type F1

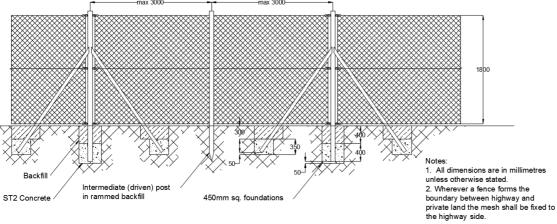


Source: MM site visit Source: MM site visit

2.2.3 Chain link fencing type F4

2.2.3.1 1.8m high fencing type F4 with concrete posts and chain link mesh in accordance with British Standard 1722-1:2006 is proposed where there is higher risk of trespass on to the rail network. The fence should be style 180B and utilising zinc or zinc coated mesh with high tensile steel wire. Figure 4 represents typical details and dimensions for this type of fence. The photograph in Figure 5 is provided to show fencing of a similar nature to F4 fencing but is for illustrative purposes only and may not represent the exact specification of type F4 fencing.

Figure 4: Chain Link Fencing



Source: Mott MacDonald SD 505

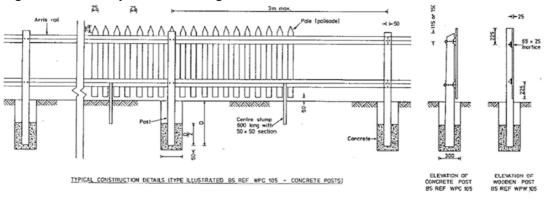
Figure 5: Illustrative example of chain link fencing



2.2.4 Wooden palisade fencing type F5

2.2.4.1 1.8m high wooden palisade fencing with concrete posts (Type F5), specified in accordance with British Standard 1722-5:2006, is proposed at the locations where there is wooden palisade fencing adjacent to the proposed fencing location or where it is more appropriate for use remote from the Network Rail Boundary (Accommodation Fencing). Figure 6 shows typical details and dimensions for this type of fence. The photograph in Figure 7 is provided to show fencing of a similar nature to F5 fencing but is for illustrative purposes only and may not represent the exact specification of type F5 fencing.

Figure 6: Wooden palisade fencing



BS REF	SUITABLE	POST LENGTH	DETAILS SECTION	HEIGHT OF FENCE	NUMBER OF ARRIS RAILS	SPACING BETWEEN RAILS	VALUE OF D
WPC 105 WPW 105	Housing, Parks (inner fence)	1600 1650	100 x 100	1050	2	630 550	600
WPC 120 WPW 120	General	1750 1800	100 × 125	1200	2	760 700	600
WPC 150 WPW 150	General	2200 2250	100 x 125	1500	3	540 500	750
WPC 165 WPW 165	Housing	2350 2400	100 x 125	1650	3	615 575	750
WPC 180A WPW 180A	,	2500 2550	100 × 125	1800	3	690 650	750
WPC 1808 WPW 1808	Parks, Railways, Commercial and Public Buildings	2500 2550	100 x 150	1800	3	690 650	750

Section 140 x 115 at the base tapering to 100 x 1 See fig. 1 of BS 1722 Part 5

Source: Leicestershire County Council SD/3/15

Figure 7: Illustrative example of Wooden palisade fencing

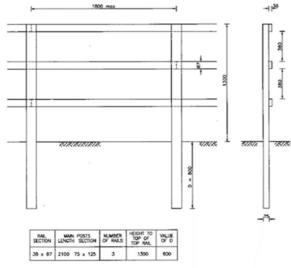


Source: MM site visit photograph

2.2.5 Wooden Post and Three Rail Fencing type F6

2.2.5.1 1.3m high wooden post and three rail fencing (Type F6) in accordance to BS 1722-7:2006 is proposed at the locations where there is this type of fence adjacent to the proposed fencing. The new fence provides continuity of the landscape. Figure 8 shows typical details and dimensions for this type of fence. The photograph in Figure 9 is provided to show fencing of a similar nature to F6 fencing but is for illustrative purposes only and may not represent the exact specification of type F6 fencing.

Figure 8: Wooden Post and Three Rail Fencing



Source: Leicestershire County Council SD/3/19

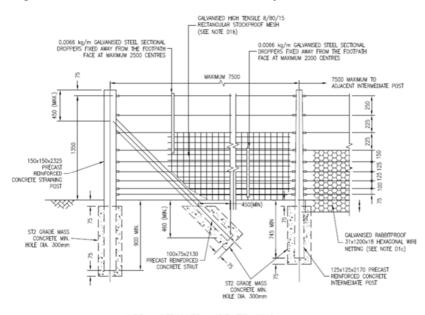
Figure 9: Illustrative example of Type F6 fence



2.2.6 Strained wire fence with stock proof mesh type F7

2.2.6.1 1.35m high strained wire fence with stock proof mesh and concrete posts (Type F7) in accordance with BS 1722-2:2006 has been proposed at the locations where there is a potential risk that animals could stray onto the railway. Figure 10 shows typical details and dimensions for this type of fence. The photograph in Figure 11 is provided to show the stockproof mesh of a similar nature to that used for F7 fencing but is for illustrative purposes only and may not represent the exact specification of type F7 fencing.

Figure 10: Strained wire fence with stock proof fence



1.35m STRAINED WIRE FENCING
SCALE 1:20

Source: Network Rail NR/CIV/SD/380

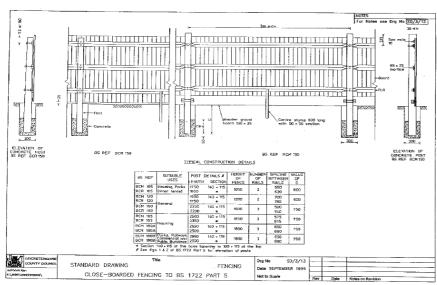
Figure 11: Illustrative example of stock proof mesh



2.2.7 Close boarded wooden fencing type F8

2.2.7.1 1.80m high close boarded wooden fence (Type F8) has been proposed at the locations where there is a potential risk for trespassing. The fence should comply with BS1722-5:2006. Figure 12 shows typical details and dimensions for this type of fence. The photograph in Figure 13 is provided to show the close boarded wooden fence of similar nature to that used for F8 fencing but is for illustrative purposes only and may not represent the exact specification of type F7 fencing.

Figure 12: Close boarded wooden fence



Source: Leicestershire Councty Council Standard Drawings

Figure 13: Illustrative example of Close Boarded Wooden Fence

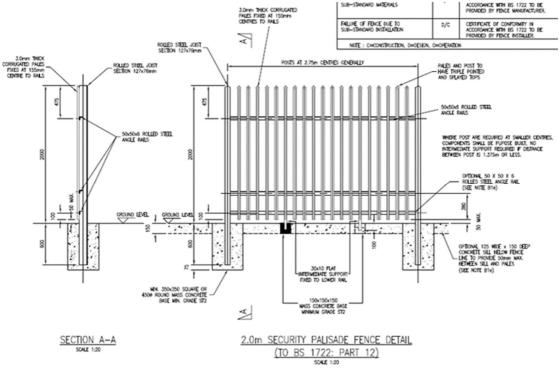


Source: MM Site Visit Photograph

2.2.8 Steel palisade security fence type F9

2.2.8.1 2.00m high steel palisade security fence (Type F9) has been proposed at the locations where there is a potential risk for trespassing. The fence should comply with BS 1722-12:2016. Figure 14 shows typical details and dimensions for this type of fence, and the photograph on Figure 15 below shows an example of Type F9 fencing

Figure 14: High Steel Palisade Security Fence



Source: Network Rail NR/CIV/SD/380

Figure 15: Illustrative example of Steel Palisade Security fence



Source: MM Site Visit Photograph

2.3 Gates

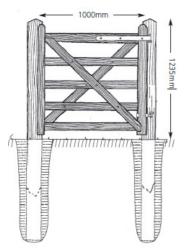
2.3.1 General gates assessment

2.3.1.1 The gate types detailed below are indicative of those that will be provided as part of the works, however, the exact construction details could vary slightly from those shown following detailed design and agreement with adjacent landowners.

2.3.2 G1 Wicket Wooden Footpath Gate

2.3.2.1 1.5m wide wooden footpath gates type G1 are planned for crossings where the new proposals require a gate on a boundary line. Figure 16 and Figure 17 below show indicative details of the proposed footpath gate and a photograph of an example type G1 gate.

Figure 16: G1 Wooden Footpath Gate



Source: Suffolk County Council Gates Guide

Figure 17: G1 Wooden Footpath Gate Example



Source: MM site visit

2.4 Surfacing

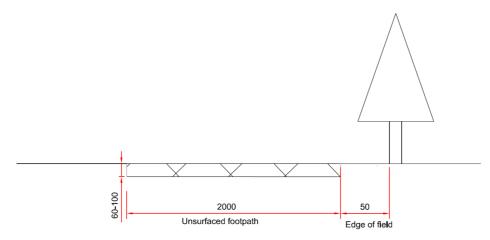
2.4.1 General surfacing assessment

- 2.4.1.1 The majority of public rights of way considered as part of the scheme are rural routes and therefore have a natural grass surface at present. This is therefore considered the most appropriate surface for many of the proposed diversion routes, however, other surface options have been proposed where necessary to reflect the nature of the routes and specific site conditions.
- 2.4.1.2 The surfacing types detailed below are indicative of those that will be provided as part of the works, however, the exact construction details could vary slightly from those shown following assessment of ground conditions, detailed design and agreement with the highway authority.

2.4.2 Footpath Type P1 - unsurfaced footpath PROW

- 2.4.2.1 Footpath Type P1 is a new unsurfaced footpath 2.0m wide to be used as the general surfacing for rural footpath diversions. Where provided adjacent to field edges there will be a minimum offset of 0.5m to ensure that the proposed footpath is clear from adjacent vegetation.
- 2.4.2.2 Where necessary to achieve a suitable walking surface along the route, the existing ground is to be excavated 60-100mm deep and this material will be re-laid, and compacted to form a surface with a crossfall of approximately 2%. The surface should be smooth, well compacted and firm underfoot. Any area where this work is carried out will be re-seeded.
- 2.4.2.3 Figure 18 shows sketch details of the proposed footpath. The photograph in Figure 19 is provided to show a path of a similar nature to a P1 path but is for illustrative purposes only and may not represent the exact specification of type P1 path

Figure 18: Footpath Type P1 - unsurfaced footpath PROW



Source: MM sketch

Figure 19: Illustrative example of Type P1 Footpath



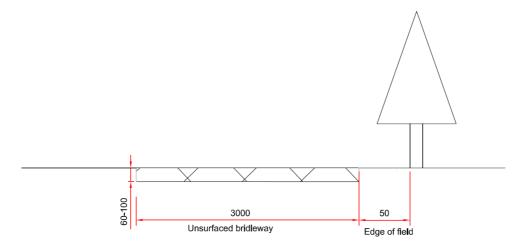
2.4.3 Footpath Type P2 - unsurfaced bridleway PROW

2.4.3.1 Footpath Type P2 is a new unsurfaced bridleway 3.0m wide to be used as the general surfacing for rural footpath diversions. Where provided adjacent to field edges there will be a minimum offset of 0.5m to ensure that the proposed bridleway is clear from adjacent vegetation.

2.4.3.2 Where necessary to achieve a suitable surface along the route, the existing ground is to be excavated 60-100mm deep and this material will be relaid and compacted to form a surface with a crossfall of approximately 2%. The surface should be smooth, well compacted and firm underfoot. Any area where this work is carried out will be reseeded.

2.4.3.3 Figure 20 shows a standard detail of the proposed bridleway. The photograph in Figure 21 is provided to show a path of a similar nature to a P2 path but is for illustrative purposes only and may not represent the exact specification of type P2 path.

Figure 20: Footpath Type P2 - unsurfaced bridleway PROW



Source: MM Sketch

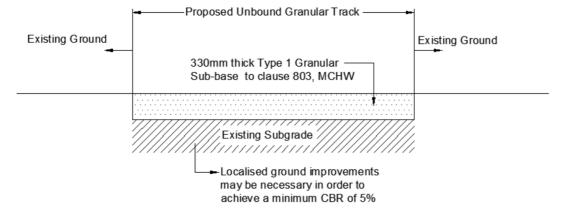
Figure 21: Illustrative example of unsurfaced bridleway Type P2



2.4.4 Footpath Type P3 - gravel/stone surface footpath PROW

2.4.4.1 At locations where there is risk of flooding it is proposed to provide a more durable surface that is more appropriate for use in wet conditions. Figure 22 shows the typical sketch of stone/gravel surfaced path construction. The photograph in Figure 23 is provided to show a path of a similar nature to a P3 path but is for illustrative purposes only and may not represent the exact specification of type P3 path.

Figure 22: Footpath Type P3 - gravel/stone surface footpath PROW.



Source: MM sketch

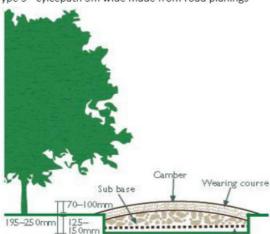
Figure 23: Illustrative example of Type P3 path



2.4.5 Tarmac planings surfaced cyclepath Type P5

2.4.5.1 This type is suitable for a path used by walkers, cyclists and/or horse-riders. Figure 24 shows the typical sketch of tarmac surfaced path.

Figure 24: Tarmac planings surfaced cyclepath Type P5



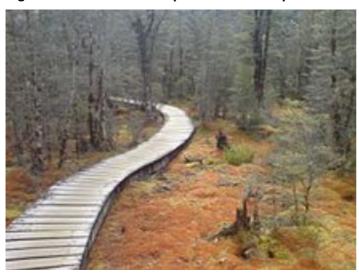
Type 5 - cylcepath 3m wide made from road planings

Source: Hampshire County Council

2.4.6 Timber footpath boardwalk Type 6

2.4.6.1 A 2m wide timber boardwalk footpath (Type 6) is considered suitable for locations where the footpath route crosses very soft or boggy ground. The boardwalk support construction details will depend on the ground conditions at each location. 150mm wide timber deckboards with 10mm gaps will form the boardwalk surface. Anti-slip flat sheets of glass reinforced plastic, impregnated with bauxite chips, fixed on top of the decking boards to provide an anti-slip surface will be provided where appropriate. An example of a timber boardwalk is shown in Figure 25.

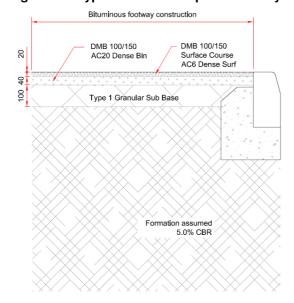
Figure 25 Illustrative example of timber footpath boardwalk



2.4.7 P7 Asphalt footway

2.4.7.1 Where a sealed surface is required it is considered appropriate to provide a standard bituminous footway in accordance with MCHW Volume 1, series 900 and the typical detail shown in Figure 26 below. Concrete kerbs or channels will be provided where the footway is next to a carriageway. Concrete edgings will be provided where this type of footway is set back from the carriageway or remote from a highway.

Figure 26: Typical detail of asphalt footway



Source: Mott MacDonald standard detail

2.4.8 P8 Planings footway

2.4.8.1 Asphalt planings surfaced paths, in accordance with MCHW Volume 1, series 800, are proposed where suggested for use by Network Rail and Local Authority highways officers, as a suitable option for use within Network Rail land and highway verges. The width will vary to suit the existing features but will generally be between 1.0 and 2.0m. The photograph in Figure

27 is provided to show a path of a similar nature to a P8 path but is for illustrative purposes only and may not represent the exact specification of type P8 path.

Figure 27: Example of planing path

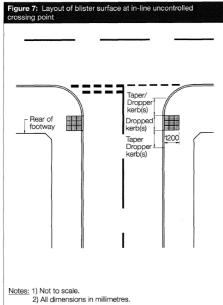


Source: MM site visit

2.4.9 P9 Tactile crossing

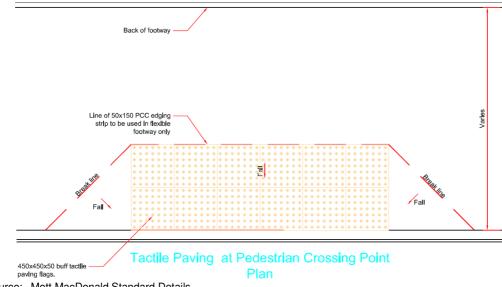
Tactile crossings have been considered appropriate for use at locations where users are routed along new or existing footways and need to cross the carriageway. In particular they are appropriate where the routes provide links to nearby residential areas, schools, and other amenities. The tactile crossings should be in accordance with *Guidance on the use of Tactile Paving Surfaces (DETR)*. Figure 28, Figure 29, Figure 30 shows the typical detail for a tactile crossing and Figure 31 an illustrative example of a tactile crossing.

Figure 28: Typical tactile crossing



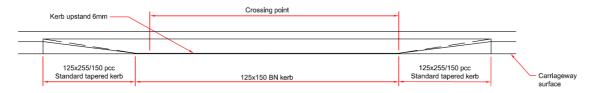
Source: Guidance on the use of Tactile Paving Surfaces

Figure 29: Typical tactile surface at uncontrolled crossing



Source: Mott MacDonald Standard Details

Figure 30: Typical section at tactile crossing point



Tactile Paving at Pedestrian Crossing Point

Source: Mott MacDonald standard detail

Figure 31: Tactile crossing example



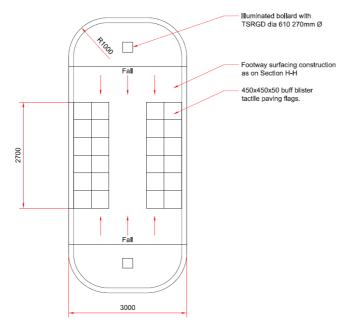
Source: MM site visit

2.4.10 P10 Pedestrian Refuge Island

Pedestrian refuge islands are considered appropriate where proposed diversion routes involve crossing a carriageway where the volume of traffic may result in users having difficulty crossing all lanes of traffic in one movement. The pedestrian refuge island should be a minimum of 1.5m wide and to accordance with Department for Transport *LTN 2/95 The design of pedestrian*

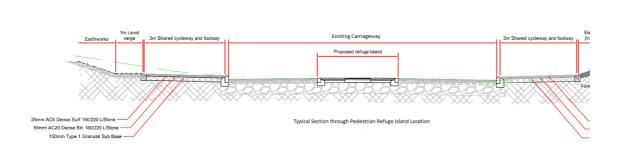
crossings. Figure 32, Figure 33 below shows typical details for standard refuge island adopted from Leicestershire County Council drawings and Figure 34 an illustrative example.

Figure 32: Pedestrian Refuge Island standard detail



Source: Mott MacDonald standard detail

Figure 33: Typical section at refuge island



Source: Mott MacDonald standard detail

Figure 34: Example of pedestrian refuge island



Source: MM photo

2.5 Bridges and Culverts

2.5.1 General assumptions

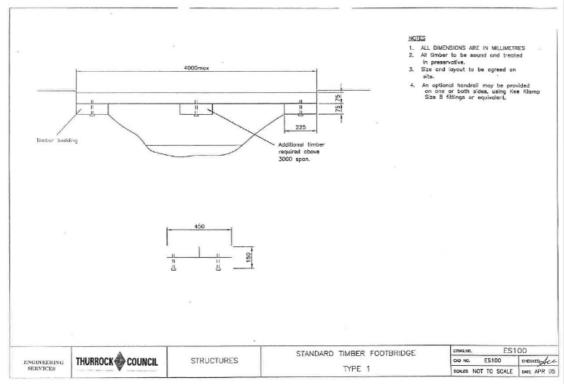
- 2.5.1.1 Bridges and culverts are required on proposed diversion routes where appropriate crossings are required over watercourses.
- 2.5.1.2 All watercourses that require a crossing structure are ordinary watercourses which are under the management of the relevant Local Authority (as the Lead Flood Authority), the relevant Internal Drainage Board (IDB), the Local Highway Authority or the riparian landowner.
- 2.5.1.3 All bridge spans requirements have been assessed to ensure that the proposed abutments and structure clear the full extents of each watercourse in order to minimise the impact on water flow, flood risk and ecology.
- 2.5.1.4 The bridge types detailed below are indicative of those that will be provided as part of the works, however, the exact construction details could vary slightly from those shown following assessment of ground conditions, detailed design and agreement with the highway authority.

2.5.2 Type E-B1 Footbridge Essex et al - wooden <4m

2.5.2.1 The footbridge Type E-B1 is suitable for providing a clear bridge span over watercourses up to 4m wide. The footbridge will have a clear deck width of 0.45m. It is constructed from timber beams, with a timber deck and an optional handrail provided on one or

both sides using Kee Klamp Size 8 fittings or equivalent. Figure 35 show typical details and Figure 36 an illustrative example sketch of a footbridge type E-B1.

Figure 35: Type E-B1 Footbridge - wooden, up to 4m span



Source: Thurrock Council Standard Details

Figure 36: Illustrative example of a footbridge type E-B1



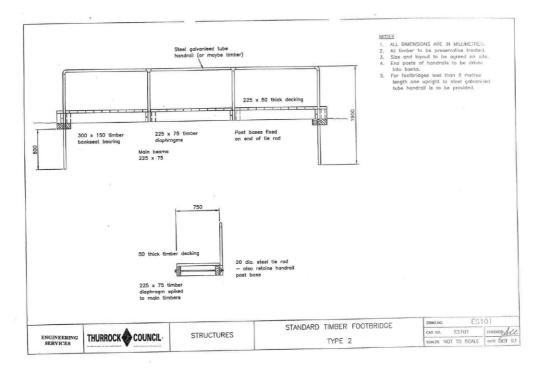
Source: https://www.myfarmlife.com/wp-content/uploads/2016/12/0117bridge01.jpg

2.5.3 Type E-B2 Footbridge Essex et al – wooden <6m

2.5.3.1 The footbridge Type E-B2 is suitable for providing a clear bridge span over watercourses between 4 – 6m wide. The footbridge will have a clear deck width of 0.75m wide. It is constructed from timber beams, with a timber deck and an optional handrail provided on

one or both sides using Kee Klamp Size 8 fittings or equivalent . Figure 37 show typical details and Figure 38 and Figure 39 illustrative example photos of a footbridge type E-B2.

Figure 37: Type E-B2 Footbridge



Source: Thurrock Council Standard Details

Figure 38: Illustrative example of Type E-B2 Figure 39: Illustrative example of Type E-B2 **Footbridge**



Footbridge

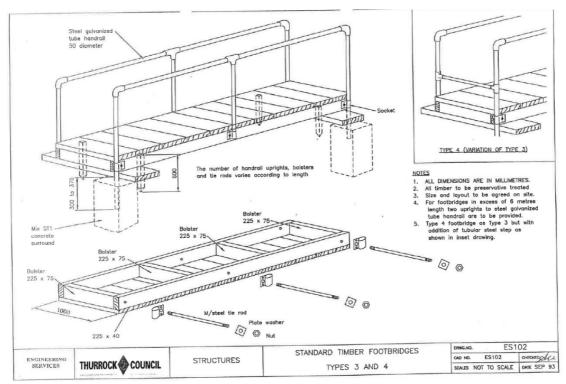


Source: http://www.langham.org.uk Source: http://www.harlowwildlife.org.uk

2.5.4 Type E-B3 Footbridge wooden >6m

The footbridge Type E-B3 is suitable for providing a clear bridge span over 2.5.4.1 watercourses greater than 6m wide. Figure 40 below show indicative construction details for this type of the bridge, however the bridge should be 2m wide with concrete bollards at each end to prevent vehicular access. The timber deck is to be non-slip and with a gradient to comply with Equality Act 2010. Figure 41 shows a photograph of an illustrative example of a Type E-B3 footbridge.

Figure 40: Type E-B3 Footbridge wooden >6m



Source: Thurrock Council Standard Details

Figure 41: Illustrative example of footbridge (with Timber parapets) Type E-B3



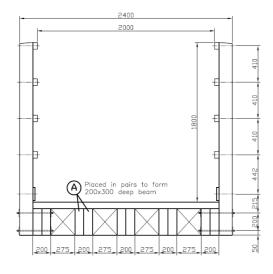
Source: CTS

2.5.5 Type E-B5 Bridleway Bridge

The Bridleway Bridge Type E-B5 has been proposed where diverted bridleways cross existing watercourses and is suitable for providing a clear bridge span over watercourses up to 8m wide. It is required to be 2m wide with 1.8m high parapet, and infilled solid panels. A

timber toe board to prevent hooves from slipping off the deck is also required. Figure 42 and Figure 43 below show indicative construction details for proposed bridleway bridge Type E-B5

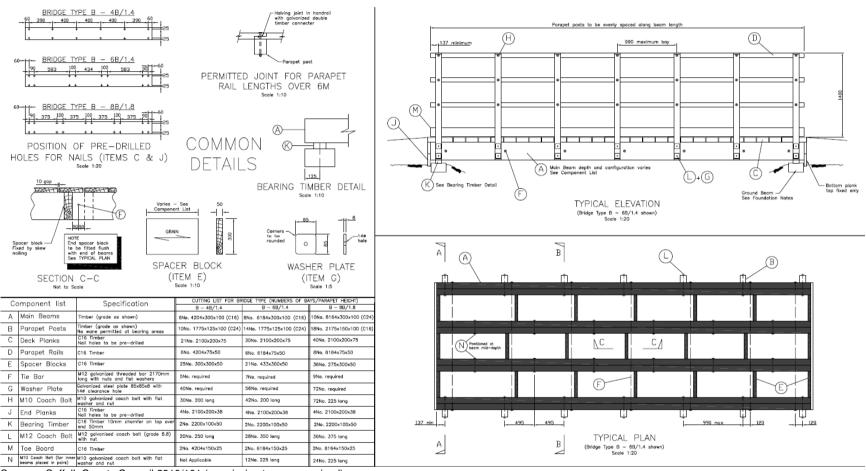
Figure 42: Typical details of Bridleway Type E-B5



SECTION B-B

Source: Suffolk County Council 2810/101 (permission to copy received)

Figure 43: Typical details of Bridleway Type E-B5

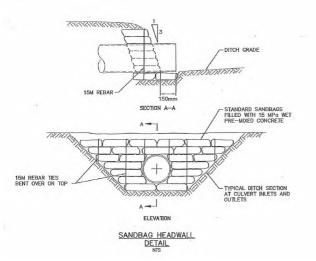


Source: Suffolk County Council 2810/101 (permission to copy received)

2.5.6 Type B5 Culvert

2.5.6.1 Culverts are proposed at locations where it is acceptable to have a restricted opening within the watercourse. Figure 44 below shows typical details of a culverted watercourse.

Figure 44: B5 culvert standard details



Source: Essex County Council

2.6 Steps

2.6.1 General assumptions

2.6.1.1 The step types detailed below are indicative of those that will be provided as part of the works, however, the exact construction details could vary slightly from those shown following assessment of ground conditions, detailed design, and agreement with the highway authority.

2.6.2 Type S2 Timber board steps

2.6.2.1 Type S2 Timber board steps have been proposed wherever it is considered there is need to improve access to overbridge/underbridges to which the PROWs have been diverted. The steps are 1.2m wide with min 300mm tread depth and min 150mm riser height. Figure 45

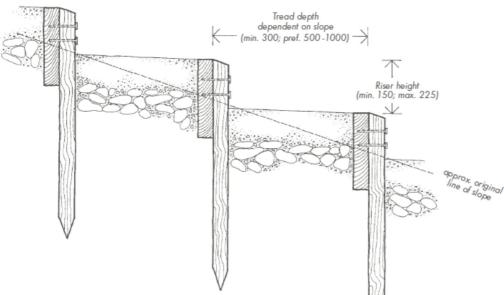
and Figure 46 show typical details and a photograph showing an illustrative example of Type S2 Timber board steps.

Figure 45: Illustrative example of timber board steps



Source: MM site visit

Figure 46: Type S2 Timber board steps



Source: Scottish Nature Heritage Information Sheet no 4.1

2.6.3 Type S4 Concrete modular access steps

2.6.3.1 Type S4 Concrete modular steps have been proposed wherever it is considered necessary improve access to overbridge/underbridges to which the PROWs have been diverted and where minimal disturbance to the existing ground is required. Figure 47 and Figure 48 show

typical details of concrete modular steps and Figure 49 shows a photograph of an illustrative example of Type S4 steps

Figure 47: Concrete modular access steps

Riser Dimensions

Slope	g	h
	(mm)	(mm)
2/1	295	148
7/4	287	163
3/2	277	179

The stairway system is designed for both permanent and temporary installation and can be applied to embankment slopes with a gradient of between 25 and 45 degrees, ensuring compatibility with most roadside locations.

<u>Please note</u> the angle of the risers will vary subject to the angle of the slope.

Source: Stanton Bonna

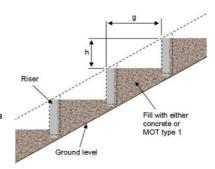
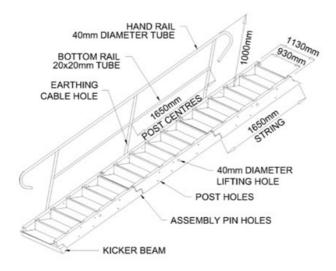


Figure 48: Concrete modular access steps



Source: Stanton Bonna

Figure 49: Illustrative example of concrete modular access steps

Source: Stanton Bonna

2.7 Signs and Bollards

2.7.1 General assumptions

2.7.1.1 The signs and bollard types detailed below are indicative of those that will be provided as part of the works, however, the exact construction details could vary slightly from those shown following further assessment at detailed design and agreement with the highway authority.

2.7.2 Type FP1 Fingerpost

2.7.2.1 Fingerpost signs are proposed where necessary to indicate the PROW route, usually at the start of a path, as well as at junctions with other paths. The locations of the finger post signs are not shown on the design freeze plans as the requirement at each location will be

determined at detailed design stage. Figure 50 below shows a photograph of an illustrative example of a fingerpost sign.

Figure 50: Finger post sign



Source: MM site visit

2.7.3 Type BO1 Bollard

2.7.3.1 Concrete bollards are proposed where necessary to prevent vehicle access over bridleway bridges and at some underbridges and subways. Figure 51 below shows a photograph of an example of a concrete bollard.

Figure 51: Example of concrete bollard



Source: MM site visit

2.7.4 Signs

2.7.4.1 Where necessary due to stopping up or downgrade of the public highway, traffic signs are proposed to indicate weight, height and access restrictions. All traffic signs are to be in accordance with the Traffic Signs Regulations and General Directions 2016 and the Traffic Signs Manual Chapter 3 diagram 619 or 619.1 "No through for traffic/vehicle" and diagram 629.2a "Height restriction".

3 Specific Design Proposals

3.1 **E09** – **Elephant**

3.1.1.1 Figure 52 shows a photograph of the existing bridge on Debden Road to be used for crossing the railway on the diversion route. The bridge is a humpback bridge with limited forward visibility for both non motorised road users and vehicles. The road width is only currently sufficient for single way use across the bridge and difficult for pedestrians to use.

3.1.1.2 The proximity of the access road to the railway station to the eastern side of the bridge adds to the difficulty of use of the bridge by all road users.





Source: Site visit photograph

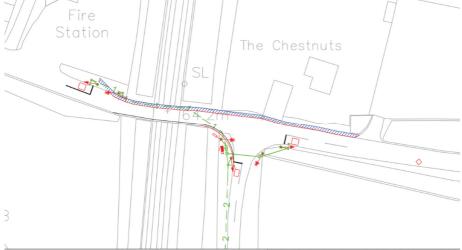
3.1.1.3 Proposed works

• In order to enable a pedestrian zone to be created over the railway bridge, traffic signals to be installed at the Debden Road Bridge to formalise the single lane working that currently operates over the bridge. Stoplines and signal equipment to be installed on all three entries, these being Debden Road eastbound, Debden Road westbound and the access road from the railway station. See Figure 53 for a preliminary layout.

- To provide a segregated zone for pedestrians over the bridge a 1.0m footway minimum will be provided on the northern side of the bridge along with a 0.45m hard strip on the southern side. This will reduce the carriageway width to 2.99m.
- Narrow lanes are required on the approaches to the bridge.
- A hurry-call to be considered from the fire station, which would turn the signals green for the fire service if required.



Figure 53: Proposed signal layout at Debden Road



Source: MM drawing

3.2 **E42 Sand Pit**

3.2.1.1 Figure 54 shows a photograph of the existing bridge to be used for crossing the railway on the diversion route. Alresford Road is a single carriageway road subject to the national speed limit of 60 mph, with the 85th percentile of traffic recorded at travelling at 46mph or below. There is good forward visibility over the bridge. There is insufficient width to accommodate any pedestrian facilities over the structure whilst maintaining 2 lanes of traffic.

Figure 54: Photo looking north along diversion route over bridge



Source: Google Earth

3.2.1.2 Proposed works

- Install necessary infrastructure to reduce speed limit on Alresford Road/Wivenhoe Road to 40 mph. This reduction would reduce the speed limit between existing changes in speed limits between the villages of Wivenhoe and Alresford.
- Install solar powered VMS on bridge approaches as traffic calming measure.
- Provide additional road marking (SLOW) and additional signage warning of pedestrians in the carriageway.
- Remove 10m length of verge from both approaches to bridge and extend hardstanding in verge to provide safe standing area for pedestrians. Existing road cambers to be maintained to remove need for drainage measures. See Figure 55.

Figure 55: Sketch of verge hardening on bridge approaches



3.3 E51 Thornfield Wood

3.3.1.1 Figure 56 and Figure 57 show photographs of the existing bridge to be used for crossing the railway on the diversion route. The bridge is a humpback bridge with limited forward visibility.

Figure 56: Photo looking west along diversion route over bridge



Source: Google Earth

Figure 57: Photo looking east along diversion route over bridge



Source: Google Earth

3.3.1.2 Proposed works

- Clear vegetation from road across bridge
- Overgrown vegetation to be cut back on approaches to bridge to provide safe standing area for pedestrians.

3.4 E52 Golden Square

3.4.1.1 Figure 58 shows a photograph of the existing bridge to be used for crossing the railway on the diversion route. The bridge is a humpback bridge with limited forward visibility.

Figure 58: Photo looking east along diversion route over bridge



Source: Google Earth

3.4.1.2 Proposed works

- Clear vegetation from road across bridge
- Overgrown vegetation to be cut back on approaches to bridge to provide safe standing area for pedestrians.

3.5 H05 – Pattens, H06 – Gilston & H09 Fowlers

3.5.1.1 Figure 59 shows the existing underpass located between H09 Fowlers level crossing and H05 Pattens level crossing. The underpass is currently used by private users and the proposal would enable use by the public. The soffit of the underpass has relatively large voids which could present a hazard to the public in its current form.

Figure 59: Existing underpass



Source: MM Site Visit

3.5.1.2 Proposed works

Figure 60 shows the proposed works.

- Proposed mesh to be installed to prevent access to the railway sleepers by the public and to prevent debris from trains affecting the Public Right of Way.
- Regrading of ground profile to provide a suitable 2m wide footpath with 2.5% fall towards the existing drainage ditch to the south.
- Fixing arrangement for the railway sleepers amended by tack welding to enable future maintenance of the structure.

H05 / H06 / H09 - INDICATIVE PROPOSAL TO ACCOMMODATE PEDESTRIAN WALKWAY Nut tack welded **BENEATH THE RAILWAY** to angle Sleeper 50mm diameter hole within mesh at each bolt location Proposed Torque wrench with extension Mesh and socket used to maintain each bolt See Amended Fixing Detail Nut tack welded to threaded bar. Bar trimmed back to allow 1/2" socket/torque wrench to be used to tighten bar Proposed wall fixing for mesh Proposed 50x50x3 mm galvanised mesh attached to angle brackets with galvanised clamps AMENDED FIXING DETAIL NTS Level increased locally with 2.5% fall towards existing drainage ditch Granular material to Existing drainage ditch form 2m wide footpath **UNERPASS CROSS SECTION**

Figure 60: Indicative proposal to accommodate pedestrian walkway beneath the railway

Volume 2

Design Freeze Proposals

4 Description of Proposals

Level Crossing

Description of Proposals

E01 Old Lane

Roydon Parish Grid Reference: 541805, 210547

Existing Context

The crossing is located on a public footpath (EX/203/13) in a rural area. From the south side of the railway the footpath network runs in a north-easterly direction across fields before crossing the railway. The footpath then heads in a northeast direction towards the River Stort, located approximately 120m northwest of the crossing at its nearest point.

Proposed Work

Proposal Category:

Existing public footpath over the level crossing will be extinguished.

Users from the south heading north on existing footpath EX/203/45 or northeast on existing footpath EX/203/13 towards Old Lane level crossing will be diverted east onto existing footpath EX/185/79 where they can cross the railway at Wildes level crossing. Users can then continue north of the railway on existing footpath EX/203/44 and re-join the Public Right of Way network.

Footpath EX/203/13 over the level crossing, south of the railway up to Footpath EX/203/45 and north of the railway up to Footpath EX/203/44 will be extinguished to prevent the creation of a footpath dead-end.

Level crossing infrastructure at the level crossing will be removed and 1.8m high chain link fencing will be installed for a maximum length of 100m on each side of the railway.

New public wayfinding signage will be provided.

E02 Camps

Non Civil Parished Area Grid Reference: 542395, 210889

Existing Context

The level crossing is located on a public footpath (EX/185/75) in a rural area. From the south the footpath runs in a north westerly direction from Roydon Lea before crossing the railway and heading north towards the River Stort. The surrounding area is agricultural and the nearest properties are located at Roydon Lea, approximately 200m south east of the crossing. Adjacent to the footpath level crossing is a private vehicular level crossing.

Proposed Work

Proposal Category: 3

Existing public footpath over the level crossing will be extinguished and private vehicular rights will be retained.

Users heading south on existing footpath EX/185/75 towards Camps footpath level crossing will be diverted either west to Wildes level crossing or east to Sadlers level crossing. The route to Wildes level crossing would be on existing footpath EX/185/181 and then south onto existing footpath EX/203/44. Users can then continue south of the railway on existing footpath EX/203/44 where they will connect to a proposed 2m wide unsurfaced footpath Type P1 along field margins (approximately 715m in length). This new footpath will divert users east to existing footpath EX/185/122. The route via Sadlers level crossing from existing footpath EX/185/75 would be to head east on existing footpath EX/185/181 and then south onto existing footpath EX/185/74. Users can then continue south over the railway and connect to existing footpath EX/185/122.

Footpath EX/185/75 approaching the level crossing north of the railway will be extinguished (approximately 280m in length) and footpath EX/185/75 south of the railway will be extinguished (approximately 270m in length) to prevent the creation of a dead end.

Level crossing infrastructure associated with pedestrian use over the level crossing will be removed. New public wayfinding signage will be provided.

E04 Parndon Mill

Non Civil Parished Area

Existing Context

Grid Reference: 543684, 211025

The existing public footpath runs in a north easterly direction through a caravan park which is located immediately south of the railway, before theoretically crossing the railway and heading north over the River Stort to join a byway.

Proposal Category: 3

Proposed Work

There is currently no infrastructure to facilitate the crossing of the railway at this location. The proposal is to formalise the closure of this level crossing.

Users heading east along footpath EX/185/73 towards Parndon Mill level crossing would be diverted south along a proposed 2m wide unsurfaced footpath (approximately 170m in length) to Elizabeth Way. Users would then continue east along a segregated footway on Elizabeth Way and finally walk along Parndon Mill Lane using an existing overbridge to cross the railway.

This proposal would require the extinguishment of part of footpath EX/185/73 south of the railway on approach to the level crossing (approximately 80m in length) and footpath EX/185/73 north of the level crossing (approximately 40m in length) to prevent the creation of a dead-end.

New public wayfinding signage will be provided.

E05 Fullers End

Elsenham Parish Grid Reference: 553469, 225953

Proposal Category: 4

Existing Context

The crossing is located in the southern outskirts of Elsenham. The crossing is located between Robin Hood Road to the north of the railway and Tye Green Road to the south. A public footpath EX/13/29 also runs from the crossing in a south westerly direction. There are residential properties to the north and east of the crossing, the nearest of which are approximately 10m to the north on Robin Hood Road.

Proposed Work

Existing public footpath over the level crossing will be extinguished.

Users of existing footpath EX/13/29 heading east towards Fullers End level crossing, north of the railway will be diverted south on a new 2m wide unsurfaced footpath in field margin type P1 (approximately 20m in length) to connect to a new 2m wide tarmac planings surfaced footpath type P5 within field margin (approximately 110m in length). Low level directional footpath lighting (fold down lighting columns) to be provided along the type P5 footpath. This new footpath will allow users to head east to connect to Robin Hood Road where users can continue north along the existing highway to connect to existing footpath EX/13/28. Alternatively, users can head south along the new footpath and cross the railway via an existing underpass where new lighting will be provided, and continue east on a new 2m wide tarmac footpath (approximately 120m in length) to connect users to Tye Green Road.

Approximately 80m of footpath EX/13/29 linking to Robin Hood Lane, north of the railway will be diverted to the field boundary. Level crossing infrastructure at the level crossing will be removed and 1.8m high of chain link fencing will be installed on both sides of the railway to prevent trespass. A NR pedestrian access gate will be provided on Tye Green Road side. The fencing will extend along the railway to the underpass on the north side of the railway. New public wayfinding signage will be provided.

E06 Elsenham Emergency Hut

Henham Parish Grid Reference: 553132, 227337

Proposal Category: 3

Existing Context

The crossing is located in the northern outskirts of Elsenham. The crossing is located on footpath EX/25/32. which joins Old Mead Road, a public road, approximately 40m east of the railway, to Bedwell Road southwest of the level crossing. The land to the west of the railway comprises agricultural fields. There are a small number of residential properties immediately east of the railway on Old Mead Road, the nearest of which is within 10m of the crossing. The more densely populated residential area of Elsenham is located approximately 220m to the south. The M11 is approximately 280m to the west.

Proposed Work

Existing public footpath over the level crossing will be extinguished.

Users from the east wanting to reach existing footpath EX/51/14 from Elsenham Emergency Hut Level Crossing will be diverted south along Old Mead Road to cross the railway at the existing level crossing or nearby footbridge at Elsenham Station. Users will continue west along the footways on New Road and Bedwell Road to reach footpath EX/51/14. Users will continue northeast towards the level crossing before joining a new 2m wide unsurfaced footpath in field margin (approximately 1400m in length) on the west side of the railway outside of Network Rail land heading north between the railway and the M11 to connect to existing footpath EX/51/24.

To mitigate some road walking users of footpath EX/25/15, south of the level crossing, will be diverted south and west on a new 2m wide unsurfaced footpath to cross the railway at the existing level crossing or footbridge at Elsenham Station.

Existing footpath EX/25/7 to the north of the level crossing will be extinguished (approximately 550m in length). There is currently no infrastructure to facilitate the crossing of the railway at this location.

In addition, footpath EX/13/22 to the south of the level crossing, will also be extinguished (approximately 165m).

Level crossing infrastructure at the level crossing will be removed and 1.8m high of chain link fencing will be installed on the east side of the railway to prevent trespass. On the west side of the railway, 1.35m high strained wire and stock proof fence will be installed to prevent trespass and a Network Rail pedestrian access gate will be provided. New public wayfinding signage will be provided.

E07 Ugley Lane

Henham Parish Grid Reference: 552856, 229338

Proposal Category: 2

Existing Context

The crossing is located on an private access road that runs parallel to the north of North Hall Road and which connects to North Hall Road on the west and east of the railway. The surrounding area is predominantly agricultural, with a small number of properties along North Hall Road. The nearest is the 'Club House', approximately 40m to the north west. An electricity substation is located immediately north of the crossing on the north side of the railway.

Proposed Work

Existing private rights over the level crossing will be extinguished. There are no public rights at the level crossing.

Users of Ugley Lane level crossing will be diverted east on North Hall Road via the existing underbridge 50m south east of the level crossing which has a 3m headroom restriction. Larger private vehicles would be diverted south to the M11 underbridge at Ugley Green approximately 2.3km away. Access to the substation on the east side of the railway will remain.

Level crossing infrastructure at the level crossing will be removed, however a vehicular access gate and decking will be retained on the east side for Network Rail use only and 1.8m high chain link fencing will be installed on the west side of the railway to prevent trespass.

E08 Henham

Widdington Parish Grid Reference: 552538, 230429

Proposal Category: 4

Existing Context

The level crossing is on footpath EX/55/26 which runs in an easterly direction from North Hall Road, approximately 50m west of the railway, across the railway and continues east along the southern boundary of an area designated as ancient woodland. The surrounding area is predominantly agricultural, with a small number of properties along North Hall Road. The nearest is approximately 15m to the west. The M11 is approximately 160m to the west.

Proposed Work

Existing public footpath over the level crossing will be extinguished.

Pedestrian users of existing bridleway EX/51/21 heading east towards the railway will be diverted south via a new 2m wide unsurfaced footpath along field boundary adjacent to North Hall Road (approximately 200m in length), then east onto to the existing underbridge where users can cross the railway. Users can then continue north, on the east side of the railway to existing footpath, EX/55/26 to via a new 2m wide unsurfaced footpath along field boundary (approximately 320m in length). Existing footpath EX/55/26 west of the level crossing will be extinguished and the existing footbridge on this footpath will be removed.

The new footpath on the west side of the railway will require a timber footbridge (less than 4m long) to cross a highway ditch where the footpath connects onto North Hall Road. Level crossing infrastructure at the level crossing will be removed and 1.8m high of chain link fencing will be installed on the east side of the railway with a NR pedestrian access gate and 1.35m strained wire and stock proof fence will be installed on the west side of the railway to prevent trespass.

E09 Elephant

Newport Parish Grid Reference: 552265, 234000

Existing Context

The existing public footpath EX/41/14 runs in a north easterly direction from the High Street, approximately 100m west of the railway, and through agricultural land on the east side of the railway. The land to the west of the level crossing comprises Newport village and is largely residential.

Proposal Category: 4

Proposed Work

Existing public footpath over the level crossing will be extinguished. Footpath EX/41/14 will be extinguished west of the railway and for a length of approximately 50m east of the railway. From High Road, users would be diverted south along the existing footway on High Street to Debden Road. Users would then use the existing carriageway along Debden Road up to railway bridge. Traffic signals are proposed on the approach to and the departure from the bridge and the station access road which runs parallel to and east of the railway. This would regulate the single flow of traffic over the bridge. A proposed 1m wide raised footway Type P7 would be proposed over the bridge which would connect to a new footpath east of the railway. The new footpath would run in a northerly direction in field margins for a length of approximately 180m and connect to footpath EX/41/14 approximately 50m east of the level crossing. This new footpath will be 2m wide and unsurfaced.

Level crossing infrastructure at Elephant level crossing will be removed and 1.8m high chain link fencing will be installed for a maximum length of 100m on each side of the railway to prevent trespass.

New public wayfinding signage will be provided.

E10 Dixies

Newport Parish Grid Reference: 551934, 234863

Existing Context

The existing public footpath runs in a north easterly direction from Whiteditch Lane, approximately 280m west of the railway, to Cambridge Road, approximately 70m east of the railway. The land immediately west of the railway is occupied by school sports pitches, beyond which is a small number of residential properties and agricultural land. Cambridge Road leads into Newport village centre to the south.

Proposal Category: 2

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. Footpath EX/41/7 will be extinguished for a length of approximately 120m west of the railway and for a length of approximately 70m east of the railway. From the west side of the level crossing, users would be diverted south along the existing Footpath EX/41/4 to Bury Water Lane over a length of approximately 480m, then travel along the footway on Bury Water Lane for approximately 50m and join Footpath EX/41/22. At Gaces Acre, users would use the existing footway and travel in an easterly direction to Cambridge Road.

Users can continue to walk along the footway on Cambridge Road to cross beneath the railway, or alternatively, cross Cambridge Road and walk along the carriageway on Water Lane and the footway on Bridge End and re-join Cambridge Road.

Level crossing infrastructure at Dixies level crossing will be removed and 1.8m high chain link fencing will be installed on the both side of the railway to prevent trespass.

E11 Windmills

Newport Parish Grid Reference: 551775, 235782

Existing Context

The existing unsurfaced public footpath runs in easterly direction through agricultural land on both sides of the railway. It joins the B1383 London Road approximately 200m east of the level crossing.

Proposed Work

Proposal Category: 3

Existing public rights of way over the level crossing will be extinguished. Footpath EX/41/8 will be extinguished for a length of approximately 180m west of the railway. Users would be diverted along the existing Footpath EX/41/8 and Footpath EX/52/17 to Rookery Lane, travel on Rookery Lane in an easterly direction and join Footpath EX/52/12. Users would then walk along Footpath EX/52/12 and EX/52/19, re-join Rookery Lane and cross the railway at Trees (CCTV) level crossing. Users who want to re-join Footpath EX/41/8 to the east of the railway would use a new 45m long footpath within NR land and then a new 70m footpath within the field boundary. Both proposed footpaths would be 2m wide and unsurfaced Type P1.

Level crossing infrastructure at Windmills level crossing will be removed. On the west side of the railway, 1.35m strained wire fence with stock proof fencing would be installed. On the east side of the railway, 1.8m high chain link fencing would be installed between Windmills and Trees level crossing to prevent trespass.

E12 Wallaces

Wendens Ambo Parish Grid Reference: 551412, 237601

Existing Context

Wallaces private footpath level crossing is located in a rural area. The level crossing is located south of Chestnut Avenue. There is little development in the immediate surrounding area and the M11 is approximately 500m west of the railway.

Proposal Category: 2

Proposed Work

Existing private rights over the level crossing will be extinguished. Private users would use private tracks and cross the railway via Chestnut Avenue north of the level crossing. Users on Chestnut Avenue would be able to walk along the verge under the railway and on the carriageway to the east of the railway. Alternatively, private users would be able to travel to the south via private tracks and cross the railway at the existing private overbridge.

Level crossing infrastructure at Wallaces level crossing will be removed and 1.35m high strained wire fence with stock proof fence Type F7 will be provided on both sides of the railway to prevent trespass.

E13 Littlebury Gate

Littlebury Parish Grid Reference: 551431, 239624

Existing Context

The level crossing is located at the western end of Peggys Walk which is a residential public road that passes through the village of Littlebury on the eastern side of the railway. On the western side of the railway, an existing public byway open to all traffic runs north to south parallel with the railway line from Strethall Road to the level crossing for a length of approximately 250m.

Proposal Category: 3

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. To the west of the railway the existing Byway Open to All Traffic (BOAT) EX/31/3 would be retained for approximately 90m south

of Strethall Road. The remaining BOAT up to the level crossing would be downgraded to a footpath over a length of approximately 160m. At the transition point between BOAT and footpath, wooden post and three rail fencing and a wooden gate would be provided.

The footpath would then extend parallel to the railway for approximately 320m to meet Littlebury Green Road. Users would head in an easterly direction over the railway tunnel and join a proposed in field Public Right of Way footpath to the south of Littlebury Green Road for a length of approximately 200m. This new footpath will be 2m wide and unsurfaced.

Level crossing infrastructure at Littlebury Gate House will be removed. On the west side of the railway, 1.8m high chain link fence would be provided and this would extend to Littlebury Green Road adjacent to the proposed footpath to prevent trespass on to the railway. On the east side of the railway, 1.8m high chain link fence would be provided to prevent trespass on to the railway. New public wayfinding signage will be provided.

E15 Parsonage

Lane/Margaretting Margaretting Parish Grid Reference: 567273, 201148

Existing Context

The level crossing is located on Parsonage Lane which runs south towards the railway past Parsonage Farm Cottage. Over the railway, the existing adopted road continues for approximately 110m in a south-westerly direction parallel to the railway. An existing public footpath EX/226/32 runs alongside the south side of the railway from Parsonage Lane in a north-easterly direction. The footpath then crosses beneath the railway and re-joins Parsonage Lane on the north side of the railway.

Proposal Category: 3

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. Private authorised vehicular rights would be granted over the level crossing. Pedestrian users would use the existing Footpath EX/226/32 to cross the railway via the existing underpass to the north east of the level crossing.

Level crossing footpath infrastructure at Parsonage Lane / Margaretting will be removed and a chain and padlock added to the existing vehicular gates. A 1.35m high strained wire fence with stock proof fence Type F7 would be provided on both sides of the railway to prevent trespass.

E16 Maldon Road

Margaretting Parish Grid Reference: 568128, 202103

Existing Context

The level crossing is located in Margaretting Parish near Maldon Road and about 400m south of the A12. The immediate surrounding area is predominantly agricultural.

Proposed Work

Proposal Category: 3

Existing Public Rights of Way over the level crossing will be extinguished. Footpath EX/226/21, which is approximately 530m in length will be extinguished either side of the level crossing. Users on the south side of the railway would join Bridleway EX/226/22 at its junction with Malden Road. Approximately 40m south of Maldon Road a proposed bridleway (approximately 400m in length) in field margin would link Bridleway EX/226/22 and the existing footway to the west on Maldon Road. The proposed bridleway would be a 3m wide, unsurfaced and fenced to one side with 1.35m high concrete post and wire fencing. Users would then walk along the existing footway to cross beneath the railway.

Level crossing infrastructure at Maldon Road level crossing will be removed and 1.8m high chain link fencing would be installed on both sides of the railway to prevent trespass.

New public wayfinding signage will be provided

E17 Boreham

Boreham Parish Grid Reference: 574379, 209837

Existing Context

An existing Bridleway (EX/213/23) runs from the level crossing in a north westerly direction through existing agricultural fields. The immediate surrounding area is predominantly agricultural, with the exception of the A12. The existing bridleway route is severed somewhat by the A12. The nearest watercourse, a tributary of the River Chelmer, is located approximately 300m to the east.

Proposal Category: 3

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. No diversion route over the railway has been proposed, due to severance caused by the A12. Instead a circular bridleway route is proposed. A proposed bridleway, approximately 550m in length would be formed between existing bridleway EX/213/23 and existing footpath EX/213/24. This proposed Bridleway would be 3m wide and unsurfaced. A concrete culvert is required along the proposed bridleway to enable users to cross a watercourse. North of where the proposed bridleway meets Footpath EX/213/24, Footpath EX/213/24 would be upgraded to a bridleway.

Bridleway EX/213/23 leading to the north side of the level crossing will be partly extinguished (approximately 35m in length).

Level crossing infrastructure at Boreham level crossing would be removed and 1.8m high chain link fencing would be installed on both sides of the railway to prevent trespass.

New public wayfinding signage will be provided.

E18 Noakes

Boreham Parish Grid Reference 574786, 210025

Proposal Category: 3

Existing Context

An existing footpath (EX/213/24) runs from the level crossing in a northerly direction through existing agricultural fields. The immediate surrounding area is predominantly agricultural, with the exception of the A12. The existing footpath network over the level crossing is severed somewhat by the A12. The nearest watercourse, a tributary of the River Chelmer, is located 150m to the west.

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. No diversion route over the railway has been proposed, due to severance caused by the A12. Instead a circular bridleway route is proposed. A proposed bridleway, approximately 550m in length would be formed between existing bridleway EX/213/23 and existing footpath EX/213/24. This proposed Bridleway would be 3m wide and unsurfaced. A concrete culvert is required along the proposed bridleway to enable users to cross a watercourse. North of where the proposed bridleway meets Footpath EX/213/24, Footpath EX/213/24 would be upgraded to a bridleway.

Footpath EX/213/24 leading to the north side of the level crossing will be partly extinguished (approximately 160m in length).

Level crossing infrastructure at Noakes level crossing would be removed and 1.8m high chain link fencing would be installed on both sides of the railway to prevent trespass.

New public wayfinding signage will be provided.

E19 Potters

Rivenhall Parish Grid Reference 583905, 216987

Proposal Category: 3

Existing Context

Existing footpath EX/105/43 runs in a south easterly direction crossing the railway at Potters level crossing where it continues as footpath EX/105/45. The area surrounding the level crossing comprises agricultural land. The nearest properties to the crossing are in the village of Rivenhall End, located to the south west. A tributary of the River Blackwater is located south of the crossing.

Proposed Work

Existing Public Rights of Way over the level crossing would be extinguished. On the north side of the railway, users heading south on existing footpath EX/105/43 would be diverted west via a proposed footpath, within field margins to connect to footpath EX/105/48. Users will continue south along footpath EX/105/48 towards the railway and onto on Oak Road. Users can then use the existing underpass to cross the railway and connect onto existing Footpath EX/105/47. Footpath EX/105/43 approaching the level crossing on the north side of the railway will be extinguished.

Level crossing infrastructure at Potters level crossing will be removed and 1.8m high chain link fencing will be installed for a maximum length of 100m on each side of the railway to prevent trespass.

New public wayfinding signage will be provided.

E20 Snivellers

Kelvedon Parish Grid Reference 584576, 217632

Proposal Category: 3

Existing Context

Bridleway EX/92/34 runs in a south westerly direction crossing the railway at Snivellers level crossing, where it joins Snivelles Lane (track) south of the railway. The area surrounding the crossing comprises agricultural land. The nearest property is Clarks Farm, north east of the level crossing.

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished.

Users of bridleway EX/92/34 approaching Snivellers level crossing on the north side of the railway will be diverted north east onto a proposed bridleway, which connects to Cranes Lane. The proposed bridleway would be 3m wide, unsurfaced and run within field margin parallel to the railway. Users can then walk along Cranes Lane to cross the railway via the existing overbridge. A cycleway is provided along the A12 to return to Sniveller's Lane (track).

Level crossing infrastructure at Snivellers level crossing will be removed. On the south side of the railway, 1.8m high chain link fencing would be installed over a maximum length of 100m. On the north side of the railway, 50m of 1.8m high chain link fencing southwest of the level crossing and a length between Snivellers level crossing and Crane's Lane would be provided. New public wayfinding signage will be provided.

E21 Hill House 1 Feering Parish

House 1

Existing Context

Grid Reference:

588407, 221099

The level crossing is on footpath EX/78/7 which runs in an south easterly direction from Little Tey Road, approximately 400m northwest of the railway, across the railway and continues south through private farm buildings and access roads to the A12 London Road. The surrounding area north of the railway line is predominantly agricultural and there is a farm business south of the railway line.

Proposal Category: 4

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/78/7 heading south towards Hill House 1 level crossing will be diverted east via a new 2m wide unsurfaced footpath along field boundary (approximately 170m in length), parallel to the railway, to connect to existing Byway Open to all Traffic EX/78/5. Users can then cross the railway at Hill House 2 footpath level crossing.

South of Hill House 1 level crossing, footpath EX/78/7 will be extinguished (approximately 125m) to prevent the creation of a dead end.

Level crossing infrastructure at the level crossing will be removed and 1.35m high strained wire fence with stock proof fence will be installed on both sides of the railway to prevent trespass. New wayfinding signage will be provided.

E22 Great Domsey

Feering Parish Grid Reference:

588856, 221451

Existing Context

The level crossing is on footpath EX/78/3 which runs in a south easterly direction from Little Tey Road, approximately 500m northwest of the railway, across the railway and continues south to the A12 London Road. The surrounding area north and south of the railway line is predominantly agricultural and there is a farm north of the railway line.

Proposed Work

Proposal Category: 4

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/78/3 heading south towards Great Domsey level crossing will be diverted via a new 2m wide unsurfaced footpath along field boundary (approximately 170m in length running parallel to the railway, to connect to Domsey Chase. Users can then continue south on Domsey Chase via an existing bridge to connect to the A12 London Road.

Footpath EX/78/3 south of the railway will be extinguished (approximately 200m) to prevent the creation of a dead end. Level crossing infrastructure at the level crossing will be removed and 1.35m high strained wire fence with stock proof fence will be installed on both sides of the railway to prevent trespass. New wayfinding signage will be provided.

E23 Long Green

Marks Tey Parish Grid Reference:

590601, 223139

Existing Context

The level crossing is currently closed to users and has physically been replaced by a new accessible footbridge. The crossing is located at the western end of Dobbies Lane, which runs in north west direction from the A12, a dual carriageway approximately 300m to the south east, and joins Long Green and Jays Lane at a T-junction immediately west of the railway. This is the south east edge of Long Green village with the land on the western side of the railway occupied by residential housing where the nearest properties are approximately 30m from the crossing.

Proposed Work

Proposal Category: 1

The proposals involve legally dedicating the replacement accessible footbridge as the definitive public right of way.

E25 Church 2

Stanway Parish Grid Reference:

592955, 224529

Existing Context

The level crossing is currently closed to users. The level crossing is on footpath EX/149/29 which runs in a north/south direction from London Road in the village of Copford (via footpath EX/128/1) south of the railway to footpath EX/132/11, approximately 650m north of the railway and onwards to Chippetts Lane to the north. The surrounding area north of the railway line is predominantly agricultural. Footpath EX/149/29 is not currently present on site and there is no route across the A12 south of the level crossing.

Proposal Category: 4

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of footpath EX/128/1 heading north towards Church 2 level crossing will be diverted east on a new 2m wide unsurfaced footpath (approximately 400m in length) within a wooded area to connect to Turkey Cock Lane. Users will continue north over the railway using the existing underbridge via both carriageway and verge way walking. Users can the continue north on Turkey Cock Lane to connect to existing footpath EX/132/23.

Footpath EX/132/11 north of Church 2 crossing will be extinguished up to footpath EX132/23 (approximately 650m) and footpath EX/149/29 south of the level crossing will also be extinguished (approximately 130m).

Level crossing infrastructure at the level crossing will be removed, 1.25m high strained wire fencing will be installed on the south side of the railway and 1.8m high close boarded timber fencing will be installed on the north side of the railway to prevent trespass. New wayfinding signage would be provided.

E26 Barbara Close

Hawkwell Parish Grid Reference:

586949, 190956

Proposal Category: 2

Existing Context

The level crossing lies on footpath EX/285/18 and is situated on the west side of the town of Rochford. The surrounding area to the west of the railway line is predominantly agricultural. Residential properties border the railway and level crossing to the east and farm buildings lie immediately to the west of the level crossing.

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/285/21 heading east towards Barbara Close level crossing will be diverted south, continuing along existing footpath EX/285/21 to connect to existing BOAT EX/285/11. Users will be continue east along existing BOAT EX/285/11 to an existing underpass where users can cross the railway using a new 1.5m wide asphalt footway which will be installed inside the underpass. Users will then continue east along Ironwell Lane on BOAT EX/285/11 before heading north using the existing footways on Ashingdon Road, Roche Avenue and Barbara Close.

The existing footpath EX/285/18 will be extinguished in its entirety. However, adjacent landowners will retain rights along the former PROW to access their property. A pedestrian gate with 1.8m high close boarded timber fencing will be installed across the extinguished PRoW in Barbara Close. Chain link fence 1.8m high and a NR pedestrian access gate will be installed on the west side of the railway to prevent trespass. New wayfinding signage would be provided.

E28 Whipps Farmers

Non Civil Parished Area Grid Reference:

559830, 187699

Existing Context

The level crossing lies on the border of the county of Essex and the London Borough of Havering. It lies on footpath EX/272/178 which joins Church Lane to the north and St Marys Lane in the south via Havering FP179. The surrounding area to the west of the railway line is predominantly agricultural. There is an industrial estate 150m north of the level crossing.

Proposed Work

Proposal Category: 4

Existing public rights of way and private accommodation rights over the level crossing will be extinguished.

Users of existing footpath EX/272/178 heading south towards Whipps Farmers level crossing will be diverted west via a new 2m wide unsurfaced footpath along field boundary (approximately 270m in length) within field margin, along the boundary of Upminster Trading Park to the B186. At this point users will cross the B186 via a new pedestrian crossing point where they will be diverted south via new 2m wide unsurfaced footpath along field boundary (approximately 195m in length) towards the railway. Users will then continue west, parallel to the railway along new 2m wide unsurfaced footpath along field boundary (approximately 245m in length) to existing bridleway EX/272/183. Users can continue to use Puddle Dock level crossing to cross the railway which is located approximately 250m west of Whipps Farmers level crossing. Users approaching the crossing from the south will utilise the existing facilities, which include the highway verge and existing footway, on St Mary's Lane and Warley Street to access footpath FP177 and Puddle Dock level crossing to the west. North of the railway, footpath EX/272/178 approaching the level crossing will be extinguished and footpath EX/272/178 to the south of the railway will be extinguished.

To enable the extinguishment of the accommodation rights, a 3.5m wide crushed concrete access track is proposed from St Marys Lane, south of the railway to provide private land access. Level crossing infrastructure will be removed and 1.35m high strained wire fence with stock proof fence fencing will be installed to prevent trespass on the railway. New wayfinding signage would be provided.

E29 Brown & Tawse

West Horndon Parish Grid Reference: 561918, 187984

Existing Context

The level crossing lies on footpath EX/313/39 and is situated on the west side of the village of West Horndon of Rochford. The surrounding area to the south of the railway line is predominantly agricultural and an industrial estate lies immediately north of the level crossing.

Proposed Work

Proposal Category: 4

Existing public rights of way over the level crossing will be extinguished.

Users of existing Footpath 4 heading north towards Brown & Tawse level crossing will be diverted via a new 2m wide unsurfaced footpath in Network Rail land (approximately 280m in length) before connecting to Childerditch Lane via a set of wooden steps. Chain link fencing 1.8m high will be installed along the length of this footpath to prevent trespass onto the railway. A NR pedestrian access gate will be provided.

Users will then use the existing over bridge on Childerditch Lane heading north. Users will be diverted north onto a new 2m wide unsurfaced footpath along field boundary (approximately 200m in length) via a set of wooden steps down the embankment. Users will then cross Childerditch Lane and head east via a new 2m wide unsurfaced footpath within the Industrial Estate land for 40m and then along field boundary (approximately 250m in length) adjacent to the boundary of Horndon Industrial Park. Palisade fencing 2.0m high will be installed along the first 40m of the new footpath inside the industrial estate. Existing footpath EX/313/39 approaching the level crossing on the north side of the railway will be extinguished and approximately 15m of Footpath 4 on the south side of the level crossing will be extinguished.

Level crossing infrastructure will be removed and palisade fencing 2.0m high fence will be installed to prevent trespass on the railway on the north side of the railway at the level crossing. New wayfinding signage would be provided.

E30 Ferry

Non Civil Parished Area Grid Reference: 577996, 185734

Proposal Category: 4

Existing Context

The level crossing lies on footpath EX/BENF/22#1 and is situated on the south side of the conurbation of Benfleet. The area directly to the west of the crossing is urban residential and commercial land. The surrounding area is predominantly protected marsh land to the south, north east and north west.

E31 Brickyard Farm level crossing is approximately 80m southeast of the level crossing and Benfleet train station is approximately 310m northwest of the level crossing. The train station car park terminates 30m from the level crossing.

Proposed Work.

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/BENF/31 heading west towards Ferry level crossing will be diverted west along the footway on the B1014, Ferry Road, to an existing underpass where they can cross the railway approximately 280m west of the level crossing. On the north side of the railway users will then be diverted east via a new asphalt footway 1.5m wide with palisade fencing 2.0m high fence on the south side to prevent trespass to the railway and 1.3m high wooden post and rail fence to separate the footpath from the car park on the north side. Readjustment of car parking spaces required within Network Rail Land at the south end of the car park.

Once the footpath is past the car it expands to 2m width and becomes unsurfaced (within Network Rail land) for a further 30m before connecting to existing footpath EX/BENF/22#1.

Existing footpath EX/BENF/22#1 on the south side of the railway will be extinguished to the B1014 (approx 25m). Level crossing infrastructure will be removed and 1.8m high chain link fencing will be installed to prevent trespass on the railway. New wayfinding signage would be provided.

E31 Brickyard Farm

Existing Context

Non Civil Parished Area Grid Reference: 578069, 185700 The level crossing lies on footpath EX/BENF/12 and is situated on the south side of the conurbation of Benfleet. The area to the north of the crossing is urban residential and commercial land. The surrounding area is predominantly protected marsh land to the south, north east and north west. E31 Brickyard Farm level crossing is approximately 80m northwest of the level crossing.

Proposal Category: 4

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/BENF/31 heading north via footpath EX/BENF/12 towards Brickyard Farm level crossing will be diverted west along footpath EX/BENF/31 and the footway on the B1014, Ferry Road to an existing underpass where they can cross the railway approximately 360m west of the level crossing. On the north side of the railway users will then be diverted east via a new asphalt footway 1.5m wide with palisade fencing 2.0m high fence on the south side to prevent trespass to the railway and 1.3m high wooden post and rail fence to separate the footpath from the car park on the

north side. Readjustment of car parking spaces required within Network Rail Land at the south end of the car park.

Once the footpath is past the car it expands to 2m width and becomes unsurfaced (within Network Rail land) for a further 110 m before connecting to existing footpath EX/BENF/12.

Existing footpath EX/BENF/12 on the south side of the railway will be extinguished (approx 25m). Level crossing infrastructure will be removed and 1.8m high chain link fencing will be installed to prevent trespass on the railway. New wayfinding signage would be provided.

E32 Woodgrange Close

Non Civil Parished Area Grid Reference: 590392, 185818

Existing Context

The crossing is in Southend-on-Sea and lies on footpath FP189. It is situated in the suburb of Southchurch. The surrounding area is urban residential and commercial land with two schools immediately to the north of the level crossing.

Proposal Category: 2

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Existing footpath 189 will be extinguished. Users heading south will be diverted west along the existing footway on the A13 to Lifstan Way heading south towards an existing underbridge where users can cross under the railway. Users can then continue south along the existing footway on Liftsan Way and can either join existing footpath 192 to Butterys or continue south before heading north east on Woodrange Grove which is a step free diversion route.

Level crossing infrastructure will be removed and palisade fencing 2.0m high fence will be installed to prevent trespass on the railway. NR vehicular access gate to be provided on the North side. New wayfinding signage would be provided.

E33 Motorbike

Non Civil Parished Area Grid Reference: 573354, 187509

Proposal Category: 4

Existing Context

The level crossing lies on footpath EX/279/136 and is situated on the south side of the conurbation of Pitsea in Basildon. The area immediately to the north of the crossing is commercial land (scrap yard) and the A13, which is elevated, separates this from residential housing. The area to the south of the crossing is made up predominantly of marshland and the south part of footpath EX/279/136 links to an RSPB nature reserve.

Proposed Work

Existing public rights of way over the level crossing will be extinguished. South of the railway, users will be diverted east via a newly created 2m wide unsurfaced footpath outside of Network Rail land before heading southeast making use of an existing footbridge to cross over a ditch and onto a new 2m wide wooden boardwalk footpath. This will lead on to a newly created 2m wide unsurfaced footpath, outside of Network Rail land, before connecting to a new footway crossing point of the existing highway Pitsea Hall Road. Users will continue north on the existing footway to Pitsea Hall road level crossing where they will cross the railway. Users will then head west along existing footpath EX/279/136 on the north of the railway via a new pedestrian crossing point of Pitsea Hall Road.

A 50m length of the existing footpath approaching the level crossing will be extinguished to prevent the creation of a dead end. As part of third party requirements, the new footpath on the south side of the railway will have 1.3m high wooden post and three rail fencing on the north side of the footpath, and 1.275m high strained wire fence fencing on the south side of the footpath. 1.8m high chain link fencing will be installed at the end of the new footpath where it connects onto the highway.

Level crossing infrastructure will be removed and 1.8m high chain link fencing will be installed on both sides of the railway to prevent trespass onto the railway. New wayfinding signage will be provided.

E35 Cranes No.1

Cressing Parish Grid Reference: 577868, 219907

Existing Context

Footpath EX/74/14#2 runs in a north easterly direction crossing the railway at Cranes No. 1 level crossing, from which point it continues as footpath EX/74/14#1. The surrounding area is predominantly agricultural land with some isolated areas of development. The River Brain runs parallel to and on the west side of the railway.

Proposal Category: 3

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. Users of existing footpath EX/74/14#2 heading east towards the level crossing will be diverted east along a newly created 2m wide unsurfaced footpath, before crossing the railway via an existing 10m long underpass (min width 1.1m, min height 1.75m). On the eastern side of the underpass, users will continue east via a proposed 2m wide unsurfaced footpath and join existing footpath EX/74/14#1. Approximately 30m of

footpath EX/74/14#2, on approach to the level crossing on both sides of the railway will be extinguished to prevent the creation of a dead end.

Level crossing infrastructure would be removed and 1.35m stained wire fence with stock proof fencing would be installed to prevent trespass onto the railway.

E36 Cranes No.2

White Notley Parish Grid Reference: 578372, 219341

Existing Context

Footpath EX/120/8 runs in a north easterly direction crossing the railway at Cranes No. 2 level crossing, from which point it continues as footpath EX/74/11#1. The surrounding area is predominantly agricultural land with some isolated areas of development. The River Brain runs parallel to and on the west side of the railway.

Proposal Category: 2

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished. Users of footpath EX/120/8 will be diverted south east via existing footpath EX/120/21 to an existing underbridge Users will then continue north east along existing footpaths EX/120/10, EX/74/12 and EX/74/28 and connect existing footpaths EX/74/11#1.

On the east side of the railway, footpath EX/74/11#1 will be extinguished (approximately 230m in length)

on approach to the level crossing to prevent the creation of a dead end. West of the railway, Footpath EX/120/8 will be extinguished (approximately 400m in length) on approach to the level crossing to prevent the creation of a dead end.

Level crossing infrastructure would be removed and 1.35m stained wire fence with stock proof fencing would be installed to prevent trespass onto the railway.

E37 Essex Way

White Notley Parish Grid Reference: 579560, 218328

Existing Context

Footpath EX/120/13 runs in a north easterly direction crossing the railway at Essex Way level crossing, from which point it continues as footpath EX/74/37. The crossing is in an agricultural area. The River Brain runs parallel to the railway, to the south west.

Proposal Category: 3

Proposed Work

Existing Public Rights of Way over the level crossing will be extinguished.

On the west side of the railway, users of footpath EX/120/13 will be diverted east along a proposed 2m wide unsurfaced footpath through a small area of woodland and across a field before crossing the railway via an existing underpass to the southwest of Essex Way level crossing. Users continue north via a proposed footpath within field margins to connect to existing footpath EX/74/37.

West of the railway footpath EX/120/13 will be extinguished (approximately 150m in length) on approach to the level crossing to prevent creation of a dead end. Similarly, east of the railway footpath EX/74/37 would be extinguished (approximately 375m in length) on approach to the level crossing to prevent the creation of a dead end.

Level crossing infrastructure would be removed and 1.35m stained wire fence with stock proof fencing would be installed to prevent trespass onto the railway.

E38 Battlebridge

Rettendon Parish Grid Reference: 577333, 194637

Existing Context

The level crossing lies on footpath EX/229/23 which links to industrial units approximately 300m east of the level crossing. The A1245 is immediately to the west of the level crossing and is elevated to cross over the railway. The surrounding area is mainly agricultural land, with the village of Battlesbridge located east of the crossing.

Proposal Category: 4

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

North of the railway, users of footpath EX/229/23 will be diverted north via a new 2m wide unsurfaced footpath outside of Network Rail land where users will walk in the wide grass verge on the A1245 using the hardened verge over the road bridge to cross the railway. On each side of the railway, a set of 2m wide wooden steps will be provided up the road embankment and a gaps with appropriate overlaps will be created in the existing vehicle crash barriers on the A1245. Users will connect to footpath EX/229/23 via a new 2m wide unsurfaced footpath outside of Network Rail land on the south side of the railway. Immediately south of the level crossing a 40m section of footpath EX/229/23 will be extinguished.

Level crossing infrastructure would be removed and 1.8m high chain link fencing installed to prevent trespass onto the railway on both sides and a NR pedestrian access gate will be provided on the south side of the railway. New wayfinding signage will be provided.

E41 Paget

Wivenhoe Parish Grid Reference: 604058, 221615 Proposal Category: 4

Existing Context

Paget level crossing is traversed by a permissive footpath for pedestrian use. The crossing is located in a urban location, in the southern part of the Wivenhoe conurbation. There are residential properties immediately north and south of the level crossing.

Proposed Work

Existing route over the level crossing will be extinguished.

On the south side of the railway, users of the level crossing will be diverted along Paget Road mainly using the carriageway, and then along Anglesea Road (a privately maintained public road) using the carriageway heading north, before crossing the railway via an existing road bridge. Users will continue north along Anglesea Road to connect to Queens Road. Footways are available on Queens Road although a handrail will be provided due to the steepness of the gradient and a paved area will be reprofiled to a provide a flatter rest area with a bench.

The current level crossing access on the south side of the railway will be removed. On the north side of the railway a new 1.5m wide stoned surface footpath link within Network Rail land will be created west from the level crossing to link to Phillip Road. This new footpath in Network Rail land would require a wooden footbridge less than 5m long to cross an existing watercourse and the footpath will be fenced off with 2.0m high steel palisade fencing. Users can the continue west along to High Street to use the existing road bridge to cross the railway. Widening of some of the existing footway on High Street over road bridge is proposed.

Level crossing infrastructure would be removed and 2.0m high steel palisade fencing installed to the north, and 1.8m high chain link fencing installed to the south of the level crossing, to prevent trespass onto the railway. New wayfinding signage would be provided.

E42 Sand Pit

Elmstead Parish Grid Reference: 605528, 221535 Proposal Category: 3

Existing Context

The level crossing lies on footpath EX/162/16 and EX/157/7 which link from Wivenhoe Road south of the level crossing to footpath EX/162/19 approximately 450m north of the level crossing The land surrounding the level crossing is predominantly agricultural with the village of Wivenhoe to the West. Alresford lies to the East. North of the crossing are a number of waterbodies relating to a sand and gravel pit. Areas of woodland are located immediately north of the crossing, including Cockaynes Wood, an area of ancient woodland.

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of FP EX/157/17 will be diverted west along Wivenhoe Road using existing footways, verges and carriageway and then north via a new 2m wide unsurfaced footpath outside of Network Rail land within field margin where they can connect to FP EX/162/15 east or continue north onto Alresford Road and cross the railway via the use of an existing bridge. Users will continue east along a new 2m wide unsurfaced footpath along an existing track outside of Network Rail land to connect to existing FP EX/162/16. North of the level crossing, approximately 150m of FP EX/162/16 will be extinguished. South of the level crossing, FP EX/157/7 up to Wivenhoe Road will be extinguished.

A proposed speed limit reduction to 40mph will be implemented along Wivenhoe Road between Wivenhoe and Alresford. Level crossing infrastructure would be removed and 1.8m high chain link fencing installed on both sides of the crossing to prevent trespass onto the railway. New wayfinding signage would be provided.

E43 High Elm

Alresford Parish Grid Reference: 607359, 221494 Proposal Category: 4

Existing Context

The level crossing lies on footpath EX/157/4 which links from the B1027 south of the level crossing to footpath EX/157/5 approximately 250m north of the level crossing The land surrounding the level crossing is predominantly private fields to the south and woodland to the north.

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

South of the railway, users of existing footpath EX/157/4 will be diverted west along an existing footway along the B1027 heading north. Users will then follow this footway where a new pedestrian crossing point is to be installed to enable users to utilise the existing footway on the west side of the B1027. Users will continue north to cross the railway via the existing road bridge and footway. Another new crossing point will be provided to enable users to access EX/157/5 to continue east via existing footpath EX/157/5. South of the level crossing footpath EX/157/4 will be extinguished to prevent the creation of a dead end. North of the level crossing footpath approximately 65m of footpath EX/157/4 will be extinguished adjacent to the railway. However, access to the woodland will remain from the north.

Level crossing infrastructure will be removed and 1.8m high chain link fencing installed to prevent trespass onto the railway. New wayfinding signage would be provided.

E45 Great Bentley Station

Great Bentley Ward Grid Reference: 611370, 221517 Proposal Category: 4

Existing Context

The level crossing lies on footpath EX/165/8 and is located at the southern edge of the village of Great Bentley. The land surrounding the level crossing to the southeast is predominantly agricultural fields. There is a scrap yard immediately north of the level crossing and industrial units immediately to the west. Great Bentley railway station is approximately 150m to the west and the platform terminates approximately20m from the level crossing. E46 Lords No 1 level crossing is approximately 300m to the east of the level crossing.

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of footpath EX/165/8 will be diverted west via a new 2m wide unsurfaced footpath in the field edge around allotments, south of Plough Road Business Centre. Public access rights will be required to allow the footpath to be taken through the Business Park. New 1.8m high chain link fence will be installed between the footpath and the west side of the allotment to prevent trespass.

This will connect users to an existing footway along Plough Road where users will be directed north over Great Bentley (CCTV) level crossing or the adjacent footbridge. Once in Great Bentley users can follow and existing footway or verges along Plough Road and Station Road.

North of the level crossing FP EX/165/8 will be extinguished up to Birch Avenue to prevent the creation of a dead end. South of the crossing approximately 135m of footpath EX/165/8 will be extinguished.

Level crossing infrastructure would be removed and 1.8m high chain link fencing installed to prevent trespass onto the railway. New wayfinding signage would be provided.

E46 Lords No 1

Great Bentley Ward Grid Reference: 611644, 221613 Proposal Category: 4

Existing Context

The level crossing lies on footpath EX/165/12 and is located at the southern edge of the village of Great Bentley. The land surrounding the level crossing to the south is predominantly agricultural fields. There residential properties immediately north of the level crossing. E45 Great Bentley level crossing is approximately 300m to the west of the level crossing.

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of footpath EX/165/8 will be diverted west via a new 2m wide unsurfaced footpath in the field edge around allotments, south of Plough Road Business Centre. Public access rights will be required to allow the footpath to be taken through the Business Park. New 1.8m high chain link fence will be installed between the footpath and the west side of the allotment to prevent trespass.

This will connect users to an existing footway along Plough Road where users will be directed north over Great Bentley (CCTV) level crossing or the adjacent footbridge. Once in Great Bentley users can follow and existing footway or verges along Plough Road, Station Road, Birch Avenue and Pine Close.

North of the level crossing footpath EX/165/12 will be extinguished to prevent the creation of a dead end. South of the crossing approximately footpath EX/165/12 will also be extinguished.

Level crossing infrastructure would be removed and 1.8m high chain link fencing installed to prevent trespass onto the railway on the north side of the railway. On the south side 1.35m high post and wire fence will be installed to prevent trespass. New wayfinding signage would be provided.

E47 Bluehouse

Holland and Kirby Ward Grid Reference: 620467, 220833Proposal Category: 3

Existing Context

The level crossing lies on footpath EX/164/16 and is surrounded by agricultural fields.

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

South of the railway, users heading north along Pork Lane, intending to use existing footpath EX/164/16 will be diverted north along the existing verge alongside Pork Lane where they will cross the railway via the existing Pork Lane crossing. North of the railway, users will then be diverted east along a new 2m wide unsurfaced footpath outside of Network Rail land within field margin parallel to the railway, connecting users to existing footpath EX/164/16 connecting to Thorpe Road. South of the level crossing footpath EX/164/16 will be extinguished to prevent the creation of a dead end.

Level crossing infrastructure would be removed and 1.8m high chain link fencing installed to prevent trespass onto the railway on the north side of the railway. On the south side 1.35m high post and wire stock proof fencing will be installed to prevent trespass. In addition ,1.35m high strained wire

fence with stock proof mesh and concrete posts will be provided between the proposed new footpath and adjacent field as a third party requirement. New wayfinding signage would be provided.

E48 Wheatsheaf

Wrabness Parish Grid Reference: 617334, 231403

Existing Context

The level crossing lies on footpath EX/184/19 is situated in an area of woodland north and south of the railways. Agricultural fields lie outside of the woodland.

Proposed Work

Proposal Category: 3

Existing public rights of way over the level crossing will be extinguished. North of the Wheatsheaf level crossing, approximately 70m of footpath EX/184/19 will be extinguished to prevent a dead end. Users will be diverted east of EX/184/19 on the north side of the railway along a new 2m wide unsurfaced footpath outside of Network Rail land in field margins before connecting to an existing footway along Church Road. This will allow users to cross the railway at the existing Church Road bridge. Users will continue south of the bridge using the verge to continue along the Station Road, south of the railway, connecting to the point of where existing EX/184/19 connects to Station Road. FP EX/184/19 south of Wheatsheaf level crossing will be extinguished.

Level crossing infrastructure will be removed and 1.35m high post and wire stock proof fencing will be installed the north of the crossing and 1.35m high post and wire fence fencing on the south side to prevent trespass onto the railway. New wayfinding signage will be provided.

E49 Maria Street

Harwich Parish Grid Reference: 625942, 232233

Existing Context

The crossing is located at the eastern end of Maria Street and the western end of Ferndale Road, both residential streets in the centre of Harwich town. The nearest properties are within 10m of the crossing.

Proposal Category: 2

Proposed Work

Existing public rights of way over the level crossing will be extinguished. On the western side of the railway users will be diverted south along an existing footway along Albert Street to Alexandra Road (CCTV) level crossing West Maria Street level crossing, users will be diverted south along an existing footway along Fernlea Road to Alexandra Road level crossing.

Level crossing infrastructure would be removed and 2.0m high steel palisade fencing installed to prevent trespass onto the railway. NR vehicular access gates to be provided on the west side.

E51 Thornfield Wood

Wakes Colne Parish Grid Reference: 589948, 229566

Existing Context

The level crossing lies on footpaths EX/152/11 and EX/152/12, and is situated in an area of woodland. Agricultural fields lie outside of the woodland with a small number of residential properties and farm buildings in the area.

Proposal Category: 4

Proposed Work

Existing public rights of way over the level crossing will be extinguished. Approximately 30m of footpath EX/152/11 will be extinguished west of the crossing and users will be diverted north along a new 2m wide unsurfaced footpath in field margin, outside of Network Rail land, connecting to an existing road bridge to cross the railway. Users will then continue south along a newly created 2m wide unsurfaced footpath also in field margin outside of Network Rail land, for approximately 440m where it connects to existing footpaths EX152/12 and EX/152/13.

Level crossing infrastructure would be removed and 1.35m high post and wire stock proof fencing installed to prevent trespass onto the railway. New Wayfinding signs will be provided. The existing footbridge over a ditch on the west side of the level crossing is to be removed.

E52 Golden Square

Existing Context

Mount Bures Parish Grid Reference: 590351, 230506 The level crossing lies on footpath EX/146/21. The surrounding area is predominantly agricultural with a small number of residential properties and farm buildings in the area.

Proposed Work

Proposal Category: 3

Existing public rights of way over the level crossing will be extinguished. Footpath EX/152/7 will be extinguished west of the crossing and replaced with a field edge footpath, connecting users to Chappel Road. East of the crossing footpath EX/146/21 will be extinguished to prevent a dead end. Users of existing footpath EX/152/8 on the west of the railway will connect to a new 2m wide unsurfaced footpath outside of Network Rail land in field margins which will run both north and south.

Users will be able to cross the railway south of the crossing via an existing road bridge. Alternatively, if following the new footpath heading north on the west side of the railway, this will connect to existing footpath EX/146/12 and users will be able to cross using an existing road bridge connecting into existing footpath EX/146/15 on the east. Should users continue south they will be directed along an

existing carriageway alongside Fordham Road before connecting users to either footpath EX/146/35 east or continue along Fordham Road.

Level crossing infrastructure would be removed and 1.35m high post and wire stock proof fencing installed to prevent trespass onto the railway. New wayfinding signage will be provided.

E54 Bures

Bures Hamlet Parish Grid Reference: 590367, 233751

Existing Context

The level crossing lies on footpath EX/70/30 is situated on the south-eastern edge of the village of Bures. Residential properties are located within 10m of the crossing on the east and northwest of the level crossing. The surrounding area to the southwest is predominantly agricultural.

Proposed Work

Proposal Category: 2

Existing public rights of way over the level crossing will be extinguished. Footpath EX/70/30 will be extinguished on the west side of the crossing to prevent the creation of a dead end. West of the crossing users will be diverted north along an existing carriageway and footways along Colne Road before being diverted east to cross the railway using the existing underbridge on Station Hill. A new section of asphalt footway will be provided east of the bridge and a crossing point added to allow users to cross Station Hill. Here users would follow an existing footway south along The Paddocks road before connecting to the existing footpath EX/70/30. This would allow users to also connect to existing footpath EX/70/32 east of the crossing, heading further east into Bures village.

Level crossing infrastructure would be removed and fencing installed to prevent trespass onto the railway. West of the crossing the existing fencing will be removed, and replaced with 1.8m high chain link fencing. On the east side of the crossing 1.8m high chain link fencing will be installed to prevent trespass onto the railway.

E56 Abbotts

Existing Context

Ward

Grid Reference: 605592, 229174

Ardleigh and Little Bromley Footpaths 28 and 42 to the south of the railway and footpath 27 to the north meet at Abbotts level

The majority of the surrounding area is agricultural. Ardleigh village lies approximately 250m to the north west. Much of Ardleigh village is within a conservation area, the boundary of which extends to the railway and is immediately adjacent to the crossing.

Proposal Category: 3

Proposed Work

Existing public rights of way over the level crossing will be extinguished.

Users of Footpath 42 will be diverted along footpath 49 then north along the existing footway on Station Road to cross the railway over the existing Ardleigh road level crossing, after which users will then use existing footway on Station Road and Church View north into Ardleigh.

Users of footpath 27 (north of the level crossing), would be diverted on a newly created 2m wide unsurfaced footpath in field margins outside of Network Rail land south. The existing route of footpath 27 will be extinguished. Users heading east from the level crossing will then be diverted northeast along a newly created 2m wide unsurfaced footpath in field margins outside of Network Rail land before joining Little Bromley Road to cross the railway at the associated road bridge. Users will continue east along Little Bromley Lane and will then connect via a newly created 2.0m wide unsurfaced footpath in field margins outside of Network Rail land south before joining existing footpaths 28 and 42. The sections of footpaths 28 and 42 between the level crossing and the new footpath to the south of the railway will be extinguished.

Level crossing infrastructure at Abbots crossing would be removed and 1.35m high post and wire stock proof fencing installed to prevent trespass onto the railway. The new footpaths would be constructed to an appropriate standard including new wayfinding signs. Due to the designation of the area as an Ancient Monument the wayfinding signs will be erected on existing features to remove the need for ground disturbance.

E57 Wivenhoe

602538, 223352

Wivenhoe Parish Grid Reference:

Proposal Category: 6

Existing Context

The level crossing lies on footpath EX/127/236 an there are both public footpath rights and private vehicle rights to use the level crossing. The land immediately surrounding the crossing is predominantly agricultural, however the wider area is well developed. The University of Essex has significant buildings to the east and north of the level crossing, the nearest area being approximately 300m to the northeast. Footpath EX/127/130 runs parallel to the railway, approximately 60m to the west along the top of an existing flood bund and is a permissive cycle route.

Proposed Work

Private vehicular rights of way will be extinguished and existing public rights will remain for users of footpath EX/127/236. The footpath level crossing will be retained with cycle friendly gates provided. Private vehicles, which are occasionally used in this location to maintain land on the south west of the railway as part of a land stewardship scheme, will be diverted north and west from the level crossing on existing public highways for approximately 1.75km before crossing the railway at the existing highway bridge on Eastern Approach. On the west of the railway, users would be diverted along an existing public road to the waterfront before joining footpath EX/127/130 for approximately 350m to the sluice where the private vehicle will use an existing ramp to come off the footway/flood bund into the local nature reserve.

Private Level crossing infrastructure at Wivenhoe Park level crossing will be removed.

H01 Trinity Lane

Non Civil Parished Area

Grid Reference:

536576, 201048

Existing Context

Trinity Lane is a public road that runs from High Street in the west across the Trinity Lane manned level crossing to give access to Lea Valley Park to the east of the crossing. Public footpath Cheshunt 054 commences at the end of Trinity Lane, immediately east of the railway and runs in an easterly direction through the Lea Valley Park. The land to the north of the footpath is part of the Lee Valley Ramsar and SPA and Turnford and Cheshunt Pits SSSI. The designated area is located approximately 80m from the crossing at its nearest point.

The land to the west of the railway is occupied by densely populated residential housing, with the nearest property within 20 of the crossing. The land immediately east of the railway comprises allotments both to the north east and south east, beyond which is the park.

Proposed Work

Proposal Category:6

The Trinity Lane level crossing will be downgraded to a public bridleway level crossing with private vehicular rights granted to authorised users. Pedestrians can make use of the existing stepped footbridge immediately adjacent to the crossing.

H02 Cadmore Lane

Non Civil Parished Area

Grid Reference:

536694, 202877

Existing Context

Public footpath Cheshunt 009 commences at the end of Cadmore Lane, immediately west of the railway and runs in an easterly direction through the Lea Valley Park. The land to the north of the footpath is part of the Lee Valley Ramsar and SPA and Turnford and Cheshunt Pits SSSI. The designated area is located approximately 80m from the crossing at its nearest point and encompasses numerous large water bodies, the nearest of which is approximately 100m to the east. The River Lea is located approximately 90m to the east. The land to the west of the railway is occupied by an industrial area/trading estate, beyond which is densely populated residential housing. The nearest residents are located approximately 180m west of the crossing, on Cadmore Lane.

Proposed work

Proposal Category:2

All existing public & private rights over the level crossing will be extinguished. On the west side of the railway line, users will be diverted to an existing accessible footbridge approximately 50m south of the existing crossing and continue onto footpath Cheshunt 009. Level crossing users coming from the east along footpath Cheshunt 009 will divert south onto the existing accessible footbridge and continue north onto Cadmore Lane.

Crossing infrastructure will be removed.

H03 Slipe Lane

Non Civil Parished Area Grid Reference: 536842, 205125

Existing Context

Public footpath Cheshunt 022 is located on Slipe Lane, a public road that passes through a dense residential area to the west of the railway and into Lee Valley Park on the east side of the railway. The Lee Valley Ramsar and SPA and Turnford and Cheshunt Pits SSSI is located approximately 350m south of the crossing.

Proposed works

Proposal Category:2

The existing private vehicular rights will be extinguished and existing public footpath rights will be retained. Motorised users will be diverted northwards along High Road to the existing Wharf Road level crossing, approximately 400m north of Slipe Lane crossing. The route currently used to access Kings Weir Cottage will be formalised with rights, providing private vehicular access from Wharf Road level crossing to the lakes east of Slipe Lane.

Existing level crossing infrastructure for vehicle access will be removed, and the existing gates on the east side of the railway will be removed and 1.8m high fencing provided to prevent trespass onto the railway. The existing gates on the west side will remain as an access point for Network Rail.

H04 Tednambury

Sawbridgeworth Parish Grid Reference: 548968, 216977

Existing Context

Public footpath Sawbridgeworth 003 is an unsurfaced footpath in a rural area surrounded by agricultural fields, which runs from the A1184 in the west, approximately 250m north west of the crossing and meeting the River Stort approximately 400m south east of the crossing.

A drain crossing the railway immediately adjacent to the crossing. The River Stort is located approximately 100m north east of the crossing, beyond which is Little Hallingbury Marsh SSSI.

Proposal Category:4

Proposed work

Existing public rights of way over the level crossing will be extinguished. To the west of the level crossing, users will be diverted south via the creation of a new 2m wide unsurfaced public footpath within Network Rail land, which crosses the railway via an existing private track, approximately 150m south of the existing crossing. The new footpath will require the construction of a timber footbridge (<5m in length), and where it connects to the existing private track to the south of the crossing via new timber board steps.

The new footpath will continue along a field margin for approximately 420m, before joining footpath EX/37/22. The section of footpath Sawbridgeworth 003 to the east of the level crossing will be extinguished up to footpath EX/37/22, approximately 400m in length. Users will then make use of the newly created footpath to the south.

Crossing infrastructure will be removed at Tednambury level crossing and 1.8m high chain link fencing will be provided on both sides of the level crossing to prevent trespass onto the railway. The fencing will extend between the crossing and the over bridge to the south on the west side of the railway.

H05 Pattens

Thorley Parish Grid Reference: 548850, 218252

Existing context

Public footpath Thorley 022 runs in a south easterly direction from the A1184, approximately 100m to the west of the crossing and through the Thorley Wash Nature Reserve on the eastern side of the railway. The nature reserve is designated as the Thorley Flood Pound SSSI, the western boundary of which is along the railway line.

There are several drains and small watercourses within the SSSI, one of which is located immediately east of the crossing. The River Stout is located approximately 180m to the east. The crossing is located in an area of flood zone 2, immediately adjacent to an area of flood zone 3.

There are a small number of residential properties along the A1184 near the crossing, the nearest of which are approximately 100m to the south west and 140m to the west.

Proposal Category:4

Proposed Work

Existing public rights of way over the level crossing will be extinguished. To the west of the level crossing, footpath Users of footpath Thorley 010 heading east towards Pattens level crossing will be diverted onto a newly created 2m wide unsurfaced public footpath running north and then east, approximately 300m in length , and users will then cross the railway via an existing underpass. New soffit boarding will be installed to create a suitable footpath route through the underpass beneath the railway. The new footpath will continue north, on the east side of the railway for approximately 150m before heading south through the local nature reserve, and connect to footpath Thorley 022 after approximately 410m.

Existing crossing infrastructure will be removed and 1.8m high chain link fencing will be installed to prevent trespass onto the railway. NR pedestrian access gate to be provided on the west side.

H06 Gilston

Thorley Parish Grid Reference: 548975, 218781

Existing Context

Public footpath Thorley 007 runs from Thorley Street, approximately 100m west of the crossing, through a small residential area and into Thorley Wash Nature Reserve located to the east of the railway. There is a large pond on the west side of the railway, approximately 50m south west of the crossing. Thorley Flood Pound SSSI is located approximately 150m south of the crossing and River Stort is approximately 220m to the east. The crossing is located within an area of flood zone 2. There are a small number of residential and commercial properties along Thorley Street, the nearest of which is approximately 50m west of the crossing. The wider surrounding area is largely

Proposal Category:4

Proposed Work

agricultural.

Existing public rights of way over the level crossing will be extinguished. A section of the existing PRoW Thorley 007 will be extinguished between Thorley Street and the level crossing. To the west of the railway, users will be diverted south onto Thorley Street for approximately 225m, and cross the railway using a newly created 2m wide unsurfaced footpath, which makes use of an existing underpass below the railway. New soffit boarding will be installed to create a suitable footpath route through the underpass beneath the railway. Users will then continue north along a 250m stretch of newly created footpath, which re-joins footpath Thorley 007.

Existing crossing infrastructure will be removed and 1.8m high chain link fencing will be installed to prevent trespass onto the railway.

H08 Johnsons

Bishop's Stortford Parish Grid Reference: 549154, 221917

Existing Context

Public footpath Bishop's Stortford 060 runs north, parallel with the railway on its west side before crossing the railway at Johnsons level crossing and heading east towards a residential area and joining Cannons Close, a residential street approximately 170m north east of the crossing. The land immediately surrounding the crossing is largely undeveloped, with undisturbed fields and sports ground around the crossing. Adjacent to the crossing to the west is a conservation area. The River Stort is located approximately 200m west of the crossing. Residential housing however dominates the wider area, the nearest of which are approximately 100m south east of the crossing.

Proposal Category:1

Proposed Work

Existing public rights of way over the level crossing will be extinguished. Users of the public footpath Bishops Stortford 060 to the west of the railway will make use of an existing accessible footbridge adjacent to the Johnsons level crossing. The diversion route formalises the PRoW that makes use of an existing track to the east of the level crossing, and extinguishes the PRoW shown on the definitive map.

H09 Fowlers

Existing Context

Thorley Parish Grid Reference: 548938, 218681

This private crossing is situated approximately 100m east of Thorley Street and is adjacent to the Thorley Flood Pound SSSI located immediately east of the railway. There are a small number of residential and commercial properties along Thorley Street, the nearest of which is approximately 20m south west of the crossing.

The wider surrounding area is largely agricultural. There is a large pond on the west side of the railway, approximately 20m north west of the crossing. Thorley Flood Pound SSSI is located approximately 80m south east of the crossing and River Stort is approximately 250m to the east.

Proposal Category:4

Proposed Work

Existing private rights over the level crossing will be extinguished. No vehicular diversion would be provided as part of this project. Private non-motorised users would cross the railway by heading southbound along the existing footway on Thorley Street. At a point approximately 100m north of the roundabout where St James Way meets the A1184, a new footpath would be created which runs in an easterly direction towards an existing underpass beneath the railway. This new footpath will be 2m wide and unsurfaced. New soffit boarding will be installed to create a suitable footpath route through the underpass beneath the railway.

Existing crossing infrastructure will be removed at Fowlers level crossing and 1.8m high chain link fencing will be installed to prevent trespass onto the railway.

HA01 Butts Lane

Existing Context

Non Civil Parished Area Grid Reference: 554298, 187651

The crossing is located in a densely populated residential area of Emerson Park within east Romford. The footpath on which the crossing is located connects Burnway to Maybush Road.

Proposed Work

Proposal Category: 2

Existing public rights of way over the level crossing will be extinguished. Footpath 170 will be diverted onto the existing footway on Burnway, heading east to connect to an existing footbridge. Public right of way FP 170 would be extinguished on the south side of the crossing and up to Maybush Road on the north side to prevent the creation of a dead end whilst maintaining access to private properties. Boundary fencing will be installed at the railway boundary where the footpath is to be extinguished and gates will be installed at the boundary of the adopted highway to allow private access. Users will then use existing footpath, heading north to cross the railway via the existing footbridge before continuing west along Woodhall Crescent. Users will then be diverted via existing FP170 footpath to Maybush Road north of the level crossing.

Level crossing infrastructure at Butts Lane level crossing will be removed and 2.0m high steel palisade fencing to be installed on both sides of the railway to prevent trespass.

HA02 Woodhall Crescent

Existing Context

Non Civil Parished Area Grid Reference:

The crossing is located in a densely populated residential area of Hornchurch, east Romford. The footpath on which the crossing is located connects Maywin Drive to Woodhall Crescent. The surrounding area is residential with the exception of St Andrews Park, a small park located west of the crossing.

554784, 187298

Proposed Work

Proposal Category: 2

Existing public rights of way over the level crossing will be extinguished. Footpath 172 will be diverted onto the existing footway on Maywin Drive, heading southeast to connect to an existing footbridge. Public right for FP 172 would be extinguished on the both side of the crossing to prevent the creation of a dead end whilst maintaining access to private properties. Boundary fencing will be installed at the railway boundary where the footpath is to be extinguished and gates will be installed at the boundary of the adopted highway to allow private access. Users will then use existing footway, heading north to cross the railway via the existing footbridge on Wingletye Lane before continuing northwest along the existing footway on Woodhall Crescent.

Level crossing infrastructure at Woodhall Crescent level will be removed and 2.0m high steel palisade fencing to be installed on both sides of the railway to prevent trespass.

HA03 Manor Farm

Existing Context

Non Civil Parished Area Grid Reference:

This crossing has been out of use since the construction of the M25 which severs the route to the

558173, 184870 Proposal Category: 1

Proposed Work

This crossing is not present on site and residual existing public rights of way over the level crossing will be legally extinguished. Footpath 251 will be legally extinguished from Pea Lane on the west to the M25 on the east, approximately 330m.

HA04 Eves

Existing Context

Non Civil Parished Area Grid Reference:

Public footpath 252 is an unsurfaced footpath that runs in a north easterly directly, parallel to the M25 to its east, before turning east after crossing the railway and running between agricultural fields. The M25 is approximately 30m west of the crossing.

558347,184454

The surrounding area is predominantly agricultural, with a small number of residential properties and farms in the area, the nearest of which is an agricultural business approximately 250m to the north east of the crossing.

Proposal Category: 3

Proposed Work

Existing public rights of way over the level crossing will be extinguished. Footpath 252 will be diverted west onto the existing footway and verge on Dennis Road. FP 252 would be extinguished on the west side of the crossing and on the east side of the level to prevent the creation of a dead end. Boundary fencing will be installed at the railway boundary where the footpath is to be extinguished. Users will be diverted from Dennis Road onto a new 2m wide unsurfaced footpath outside of Network Rail land. This new footpath will be within a field margin to the west of the woodland and then heading west and north before crossing over the existing highway, Pea Lane. Users will make use of the existing track over which a 2m wide unsurfaced footpath will be created, heading north to FP251 which will then be used to reach Pea Lane by heading east. Users will continue over Pea Lane onto a new 2m wide unsurfaced footpath. This new footpath will be within a field margin, outside of Network Rail land to the east of Pea Lane and then heading north and east before crossing the railway at the existing road bridge on Ockendon Lane. To the east of the railway, users will be diverted east onto a new 2m wide unsurfaced footpath outside of Network Rail land before using the existing footway on Ockendon Lane to re-join FP231 heading south to connect to existing footpath FP253.

Level crossing infrastructure at Eves level crossing will be removed and 1.35m high post and wire stock proof fencing will be installed to prevent trespass onto the railway. NR pedestrian access gate to be provided on the south west side.

New wayfinding signage will be provided.

T01 No 131

Existing Context

Non Civil Parished Area Grid Reference 555402, 179124 Footpath 145 runs from Tank Hill Road in an easterly and north easterly direction to the A1306, Arterial Road, crossing the railway at No 131 level crossing. Mar Dyke is located south of the level crossing and High Speed 1 runs north of the level crossing.

Proposal Category: 3

Proposed Work

Existing public rights of way over the level crossing and west of the A1306 will be extinguished. Users would use the existing footway on Tank Hill Road and be diverted to the bridge over the railway to the north of the level crossing. Users would then cross over the A1306 at the pedestrian crossing point and use the footway along eastern side of the A1306 to join the existing Footpath 145. Users would then be diverted onto a proposed footpath, on the west side of the railway. The diversion heads south parallel to the A1306 to an existing bund, travels eastbound and then northbound along the bund to re-join the existing Footpath 145. This new footpath will be a 2m wide and unsurfaced.

Level crossing infrastructure at No. 131 level crossing will be removed and 1.8m high chain link fencing would be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

T04 Jefferies

Existing Context

Non Civil Parished Area Grid Reference 568414, 183442 Footpath 145 runs from the A13 in a south easterly direction to the housing estate to the east of the railway, crossing the railway at Jefferies level crossing. Agricultural land occupies the land to the north and west and residential dwelling to the east. The A13 Stanford-le-Hope Bypass is to the southwest of the railway.

Proposal Category: 4

Proposed Work

Existing Public Rights of Way over the level crossing and between the east side of the A13 and the level crossing will be extinguished. Footpath 32 will be diverted onto a proposed 2m wide, unsurfaced footpath on the east side of the A13 heading southwest along the field boundary. Users would then be diverted onto new stepped access west of the railway and cross over the railway bridge on The A1014 Manorway Way along the existing footway. To return to the west side of Footpath 32 users would be diverted onto new stepped access east of the railway. The stepped access would be to the east of the existing bridge parapet and would require removal of the end panel of existing noise barrier. Users would then be diverted along a proposed 2m wide footpath within Network Rail land and then use the existing path to link into Footpath 32 east of the railway. It is also proposed to provide a new continuous footpath link between the stepped access on the west side of the railway by connecting to Footpath 36 which extends beneath the railway via an existing underpass to the south of the A1014 Manorway. The new footpath will be 2m wide and unsurfaced and would make use of the existing open span underneath the bridge supporting A1014 The Manorway. The surfacing beneath the bridge within the open span would have a gravel or stone finish.

To the west of the railway a 3m wide steel footbridge (>8m in length) is required along the new footpath to the west of the railway near Footpath 36 to allow users to cross a drainage ditch. Level crossing infrastructure at Jefferies level crossing will be removed and 1.8m high chain link fencing would be installed on both sides of the railway to prevent trespass. NR pedestrian access gate to be provided on the east side of the railway. New public wayfinding signage will be provided.

T05 Howells Farm

Non Civil Parished Area Grid Reference 570693, 185912

Existing Context

Footpath 23 runs from the B1420 in a south easterly direction to Inglefield Road crossing the railway at Howells level crossing. The crossing is surrounded by agricultural fields to the north, south and west and by woodland to the east. An industrial area is located east of the level crossing.

Proposal Category: 4

Proposed Work

Existing Public Rights of Way over and north of the level crossing will be extinguished. There are two diversion routes proposed. Footpath 23 will be extended onto a proposed 2m wide, unsurfaced footpath, on the south side of the railway heading in a south west direction along the edge of field boundary outside Network Rail land. To cross the railway users would use proposed stepped access on to Southend Road and bridge over the railway using the existing footway to connect into the existing Public Right of Way network north of the A13.

Alternatively, users would be diverted from Footpath 23 east along Inglefield Road and then north along High Road. To cross the railway users would use Fobbing (Automatic Half Barrier) level crossing.

Level crossing infrastructure at Howells Farm level crossing will be removed and and 1.8m high chain link fencing would be installed on both sides of the railway to prevent trespass. NR pedestrian access gate to be provided on the north side of the railway. New public wayfinding signage will be provided.

5 Design Freeze Drawings

