OFFICIAL

This export is subject to the handling instructions at the end of this document.

Application for Departure from Standards

- **Departure ID:** 102131 **Revision:** 0
- **Road:** A21
- **Scheme:** Rother Valley Railway
- **PIN:** Third Party Works
- **Form of contract:** Section 278 Agreement
- **Departure summary:** Installation of a level crossing for the Rother Valley Railway on the A21(T) Robertsbridge Bypass
- **Title:** Rother Valley Railway A21 Level Crossing
- **Design organisation:** Arup
- **Departure Criticality:** 5 - Departure is fundamental to viability of the scheme
- **Project safety risk category:** B
- **Departure safety risk category:** B
- **Standard:**
  - **Description:** GG 101 Rev 0 - Introduction to the Design Manual for Roads and Bridges (DMRB)
  - **Subject:** Assessment & Preparation of Road Schemes
  - **Category:** Design
  - **Volume:** Legacy decimal reference no longer used
- **Year:** 2018
- **Clause:** 2.7

Benefits & Justification of Departure to Highways England

- **Innovative?** false
- **Added value:** 16830000

State: Specialist review

Locations

OSGB36 Grid Reference: 574116, 124113

Description: Proposed crossing location to the south of the existing junction (Robertsbridge Roundabout) between the A21, Northbridge Street and Church Lane. The location of the RVR A21 Level Crossing is approximately 120m south of the Robertsbridge Roundabout.

Attachments

File: RIG-2014-06 New Level Crossings.pdf

Description: ORR Level Crossing Policy Guidance Note

File: REP_239025_R002 GG104 Risk Assessment Rev F.pdf

Description: A21(T) GG104 Safety Risk Assessment

File: 239025-ARP-XX-XX-DR-CH-0004.pdf

Description: Construction Details

File: 239025-ARP-XX-XX-DR-CH-0001.pdf

Description: General Arrangement

File: 239025-ARP-XX-XX-DR-CH-0002.pdf

Description: Road Markings

File: 239025-ARP-XX-XX-DR-CH-0003.pdf

Description: Traffic Signs

File: ORR Level Crossings Guidance.pdf

Description: Level Crossings: A guide for managers, designers and operators

---

File: 239025-ARP-XX-XX-DR-CH-0020.pdf

Description: Preliminary Cross Sections - Sheet 1 of 7

File: 239025-ARP-XX-XX-DR-CH-0021.pdf

Description: Preliminary Cross Sections - Sheet 2 of 7

File: 239025-ARP-XX-XX-DR-CH-0026.pdf

Description: Preliminary Cross Sections - Sheet 7 of 7

File: 239025-ARP-XX-XX-DR-CH-0023.pdf

Description: Preliminary Cross Sections - Sheet 4 of 7

File: 239025-ARP-XX-XX-DR-CH-0025.pdf

Description: Preliminary Cross Sections - Sheet 6 of 7

File: 239025-ARP-XX-XX-DR-CH-0024.pdf

Description: Preliminary Cross Sections - Sheet 5 of 7

File: 239025-ARP-XX-XX-DR-CH-0022.pdf

Description: Preliminary Cross Sections - Sheet 3 of 7

File: 239025-ARP-XX-XX-DR-CH-0010.pdf

Description: Preliminary Longitudinal Section

File: Draft TWAO.pdf

Description:

File: ORR Statement of Case (SoC) 2020-01-31.pdf

Description:

File: 22707603 Steer Economic Impacts Report 2018-09.pdf

Description:

File: Temple ES Crossing Option Assessment 2021-04.pdf

Description:

File: RVR A21 Crossing Options Feasibility Report [Issue 4].pdf

Description:

File: RVR HE Protective Provisions 2021-02-12.pdf

Description:

File: ITL14477-019 TN Cost Benefit Analysis.pdf

Description:

File: RVR A21 Level Crossing Maintenance 2021-02-05.pdf

Description:

File: ITL14477-015 TN - Summary of NMU Data.pdf

Description: Summary of NMU Data

File: ITL14477-008 TN - Accident Analysis Note.pdf

Description: Accident Analysis Note

File: ITL14477-016 TN - Traffic Assessment Update.pdf

Description: Traffic Assessment Update

File: ITL14477-007c TN - Traffic Assessment Note.pdf

Description: Traffic Assessment Note

Submission

This Departure from Standard is for an “aspect not covered by requirements” and concerns the application of design guidance contained within “Level Crossings: A guide for managers, designers and operators (Railway Safety Publication 7, December 2011)” published by the Office of Rail & Road (ORR) to undertake the design of the RVR A21 Level Crossing.
The RVR A21 Level Crossing is the proposed installation and operation of a new level crossing on the A21 to the east of Robertsbridge. The use of the ORR guidance for design of RVR A21 Level Crossing is in the absence of specific design guidance and requirements within DMRB relating to level crossings.

There are no other departures from DMRB associated with the RVR A21 Level Crossing proposal.

Technical Justification

Overview

Rother Valley Railway Limited (RVR) are progressing a Transport and Works Act Order (TWAO) to construct, operate and maintain a new railway between Bodiam and Robertsbridge, East Sussex. It is intended that the existing heritage railway operation between Tenterden and Bodiam, the Kent and East Sussex Railway (KESR), would operate over the extension to allow services between Robertsbridge and Tenterden.

The extension of the railway requires the introduction of three level crossings, one of which (RVR A21 Level Crossing) would be located on the A21 Trunk Road, part of the Strategic Road Network. Highways England (HE), are responsible for the Strategic Road Network.

Policy & Planning

The proposal to reintroduce the railway between Bodiam and Robertsbridge, including the RVR A21 Level Crossing, has planning consent (Planning Ref: RR/2014/1608/P).

Planning policy support for the RVR scheme can be found at the national level in NPPF (2019) which at paragraph 83 encourages a prosperous rural economy particularly "sustainable rural tourism and leisure developments" such as the RVR scheme.

At a local level the 2014 Adopted Rother Local Plan Core Strategy supports rural employment and tourism facilities in Policy RA2: General Strategy for the Countryside with more general support for tourism activities in Policy EC6. Further, it should be noted that the former Rother District Local Plan (2006) included a dedicated policy (EM8) in support of the RVR scheme. The Salehurst & Robertsbridge Neighbourhood Plan (2018) similarly includes economic policies in support of the RVR scheme, with tourism specifically covered by Policy EC5.

Overall, at both a national and local level there is planning policy support for the RVR scheme which is recognised through the planning consent granted by Rother District Council.

Transport & Works Act Order

The Transport and Works Act (TWA) process is separate to the planning permission and an Order (TWAO) must be made to allow the operational use of the railway line.

In progressing the assessments necessary to support the TWAO, the RVR project team have consulted with stakeholders, most notably the ORR. Following a period of discussion and provision of information on the benefits and impacts of level crossings (summarised later in this Departure) the ORR set out their position of the RVR scheme in their letter dated 31 January 2020 which includes their Statement of Case (document attached). In summary, in respect of the consented A21 Level Crossing, the ORR are

satisfied that their test of exceptional circumstances has been met and that a tolerably safe level crossing could be created. In reaching this conclusion the ORR has considered the practicable alternatives to a level crossing. The ORR's opinion is that there is a degree of gross disproportion between the costs of a level crossing and the cheapest form of grade separation. The draft TWAO has been submitted and has been the subject of considerable discussion between RVR and Highways England. A copy of the draft TWAO is appended. Following discussion, a set of protective provisions have been drafted and agreed between Highways England and RVR and will be incorporated within the final TWAO should it be made. A copy of the draft protective provisions is appended. The protective provisions require RVR to seek Highways England approval for the detailed design and to not implement the works until details of the construction and maintenance of the level crossing works have been agreed. Furthermore, RVR has agreed to indemnify Highways England for the construction, maintenance and use of the level crossing works to the A21.

Departure from Standards

Circular 02/2013, The Strategic Road Network and the Delivery of Sustainable Development, explains how Highways England will engage with the planning system. It also gives details on how Highways England will fulfil its remit to be a delivery partner for sustainable economic growth whilst maintaining, managing and operating a safe and efficient strategic road network. At paragraph 11 it notes:

"Local authorities and developers will be required to ensure that their proposals comply in all respects with design standards. Where there would be physical changes to the network, schemes must be submitted to road safety, environmental, and non-motorised user audit procedures, as well as any other assessment appropriate to the proposed development. The Design Manual for Roads and Bridges sets out details of the Secretary of State's requirements for access, design, and audit, with which proposals must conform."

Accordingly, works proposed on the A21 must be in accordance with the Design Manual for Roads and Bridges (DMRB). GG 101 (Introduction to the Design Manual for Roads and Bridges) notes:

"DMRB documents are not statutory or regulatory documents or training manuals; neither do they cover every point in exhaustive detail."

Notably, in respect of the proposed level crossing of the A21 at Robertsbridge, DMRB does not provide advice or guidance with respect to the introduction or design of level crossings on the SRN. Document GG 101 (Introduction to the Design Manual for Roads and Bridges) provides the following guidance at paragraph 2.7;

"Where an aspect of the works is not covered by existing requirements, a departure application for an aspect not covered by requirements shall be submitted."

Accordingly, the RVR scheme requires the submission of a departure from standards application to cover its provision and design requirements. GG 101 (Introduction to the Design Manual for Roads and Bridges) goes on to state at paragraph 2.7.1:
"Where an aspect of the works is not covered by existing requirements, the principles of current and relevant guidance should be followed."
In other words, where DMRB does not cover the design requirements, the departure from standards application should identify appropriate other 'current and relevant' guidance to which the design should conform.
Accordingly, this document sets out a Departure application for the proposed level crossing design and its provision on the A21, which is not covered by DMRB. The relevant design guidance has been determined to be the 'Level Crossings: A guide for managers, designers and operators (Railway Safety Publication 7, December 2011) published by the ORR. This document is referred to within the Traffic Signs Manual as providing detailed information for the signage of level crossings (Chapter 4, Section 20, Level Crossings).
The provision of a level crossing will deliver substantial wider economic benefits which have been assessed in the Steer Economics Impact Report (2018) which is appended. The Steer report states that the delivery of the Rother Valley Railway is forecast to generate local economic benefits of £17.29 million over the two-year construction period and the first ten years of operation, and £1.08 million of local economic benefits per year subsequently.

Design

It is noted that the design of the level crossing and associated changes to the A21 have not been completed to the detailed design stage. Although, associated changes to the A21 approaches have been completed to preliminary design stage (including the vertical alignment) and accepted by HE (although there remains an outstanding approval in principle for a culvert design, which the HE Project Sponsor has advised cannot be accepted until this departure has been approved).
Subject to confirmation of the TWAO, it will be necessary to progress the design to a detailed stage insofar as it affects the A21. This would require the approval of HE and the proposed Protective Provisions for the benefit of HE in the draft TWAO safeguard such approval. As noted in GG 101 paragraph 2.4, a full Departure application shall be submitted and approved before the design is finalised.

Technical Information

The following technical justification data and information required for geometric departures and outlined in Appendix C of the Departures Manual has been requested by Highways England.

Design Speed

Existing: The posted speed limit of the A21(T) is 40mph (assumed 70A design speed) from the roundabout with Northbridge Street and Church Lane south to Ch4.596 (refer to drawing 239025-ARP-XX-XX-DR-CH-0010 for relevant chainages). South from Ch4.596, the posted speed is national speed limit, 60mph (assumed single carriageway 100A design speed).
Proposed: The proposed level crossing location requires that the speed gateway be moved approximately 52m south to Ch0-47.187m. The entirety of the amendments to the carriageway occur within the posted 40mph zone and therefore have been designed to a 70A design speed. However, vertical elements have been designed to an 85A design speed to provide an improved highway alignment over the level crossing - sag and crest K values of 20 and 55 respectively have been used.

Measured Speed

Automated Traffic Counts (ATCs) were undertaken in March and April 2019 and the data from these counts is presented in "Traffic Assessment Note" (Document Ref: ITL14477-007c). A summary of the speed data recorded during these counts is summarised by month (count) in the tables below.

Speed Summary Data - March 2019

Parameter	A21 Northbound	A21 Southbound
Mean Speed (mph)	38.91	37.68
85%ile Speed (mph)	44.13	42.09

Speed Summary Data - April 2019

Parameter	A21 Northbound	A21 Southbound
Mean Speed (mph)	38.67	39.75
85%ile Speed (mph)	44.04	44.31

The data above demonstrates that users frequently travel above the posted speed limit in the vicinity of the proposed level crossing location. This is likely to be due to the relatively straight and flat existing geometry of the road and the fact that the step is from 60mph down to a posted 40mph speed limit on the approach to the roundabout. The works associated with the proposed level crossing (extension of the 40mph zone, pre-warning signage, road markings etc.) are likely to contribute to an environment whereby users are more likely to adjust their speed to better adhere to the posted speed limit of the road due to their perception of possible hazards within the highway corridor ahead.

There are no additional speed data sets available through WebTris for either TAME Site 30360432 (A21 northbound) or TAME Site 30360431 (A21 southbound).

Non-Motorised User (NMU) Considerations

Existing: There is currently no out-of-carriageway NMU provision along either verge of the A21 in the vicinity of the proposed crossing location. Surveys carried out in 2012 and 2013 both showed that no pedestrians, cyclists or equestrians were recorded as passing the site. Automated Traffic Counts (ATCs) from March and April 2019 noted that there were cycle flows on the A21 on a number of days. However, as traditional ATCs are unreliable at recording cycle flows, video surveys were also reviewed and these showed that the ATCs were incorrectly identifying cycle movements. A full summary of the NMU data can be found in the technical note "Summary of NMU Data" (Document Ref: ITL14477-015)
Proposed: The proposed level crossing arrangement affords at-grade pedestrian crossing provision beside each traffic lane to prevent the need for any pedestrian user to enter live carriageway lanes in order to cross the railway.The use of a fully barriered crossing with skirts attached on all barriers prevents pedestrians from crossing the A21 on a train's approach. Anti-trespass panels are to be installed across the railway corridor in both directions at the level crossing location to provide delineation and warning to any pedestrians and discourage walking on the railway. This will be supplemented with appropriate signage.

Street Lighting

Existing: Street lighting provision is currently installed on the approach to the roundabout with with Northbridge Street and Church Lane. The furthest lighting column from the roundabout is located approximately 100m from the roundabout ICD.
Proposed: The street lighting provision on both the northbound and southbound approaches to the level crossing location will be assessed and designed in accordance with DMRB and with BS:5489-1. Associated electrical design will be in accordance with BS:7671.

Accident Summary

Please refer to Collision Analysis section below and to the attached "Accident Analysis Note" (Document Ref: ITL14477-008).

Traffic Data

Automated Traffic Counts (ATCs) were undertaken in March and April 2019 and the data from these counts is presented in "Traffic Assessment Note" (Document Ref: ITL14477-007c). The data and traffic modelling of the queue scenarios associates with the level crossing operation is further discussed in the subsequent technical note "Traffic Assessment Update" (Document Ref: ITL14477-016). The note concluded that the implementation of a level crossing on the A21 and th 72 second barrier closures would result in queues of 500m for northbound traffic and 420m for southbound traffic on the busiest day of the year. At all other times, queues for northbound and southbound traffic are much less, typically between 70m and 150m in length. It should be noted that RVR are required

to monitor queue lengths on the A21 for 3 years from opening as a formal planning condition (Planning Condition 18) from Rother District Council.
The count data shows the %HGV to be around 8.3% - the count for April 2019 had a lower average %HGV of 7.7% however this period included the Easter Bank Holiday which is likely to account for the slight decrease in HGV movements relative to the March 2019 data.
A full summary of the NMU data can be found in the technical note "Summary of NMU Data" (Document Ref: ITL14477-015).
There are no traffic data sets available through WebTris for either TAME Site 30360432 (A21 northbound) or TAME Site 30360431 (A21 southbound)

Collision Analysis

Personal Injury Accident (PIA) data has been obtained from 'Sussex Safer Roads Partnership' which operates on behalf of Sussex Police for the highway network in the vicinity of the site. For the most recently available five-year period (01/02/2015 – 31/01/2020), a total of four accidents were recorded on the section of the A21 in the vicinity of the proposed crossing; three resulted in slight and one resulted in serious injuries. It is noted that no PIA were recorded since 2018.
The table below details the number of collisions per year in the vicinity of the proposed crossing, along with the severity of each collision.

Number of Accidents 2015-2020 by Severity

Severity	2015	2016	2017	2018	2019	2020	Total
Slight	0	0	2	1	0	0	3
Serious	1	0	0	0	0	0	1
Fatal	0	0	0	0	0	0	0
Total	1	0	2	1	0	0	4

The serious injury accident involved a single car travelling south on the A21. It occurred when the driver crossed over into the northbound carriageway and collided with a lamppost. It was noted that the driver was under the influence of alcohol and fatigued. The road surface was dry, and the weather was recorded as fine. It happened at 19:38 during daylight on the 02 June 2015 and streetlights were present.
Two of the slight injury accidents occurred at the A21 Robertsbridge Roundabout. One was a rear end shunt as a car slowed on the approach to the roundabout whilst a 3.5t goods vehicle behind failed to stop in time. The road surface was dry, and the weather was recorded as fine. It happened at 17:45 during daylight on the 28 March 2017; street lighting was present.
The second involved a single car travelling northbound on the A21 upon exiting the roundabout. It occurred when the driver lost control of their vehicle and collided with the safety barriers protecting the footpath. The road surface was wet, and the weather was recorded as raining without

high winds. It happened at 05:00 during darkness on Friday 22 December 2017 with street lighting present.
The third slight injury accident occurred on the A21 south of the Robertsbridge Roundabout and involved three vehicles. It occurred when a car travelling southbound went over a bump causing the caravan that it was towing, to detach and cross over the northbound carriageway into an oncoming 7.5t goods vehicle and a 3.5t goods vehicles. The road surface was dry, and the weather was recorded as fine. It happened at 12:07 during daylight on the 06 September 2018 and street lighting was present.
The collisions can be defined as 'rare, random and multi-factorial' events, therefore, placing a definite value on the potential reduction in number or severity of collisions is impossible. It is highly likely that designing the level crossing to the most appropriate standards and applying suitable mitigation measures to any identifiable areas of risk will ansure all residual risks are as low as reasonably practicable.
The full PIA data and plan is included within "Accident Analysis Note" (Document Ref: ITL14477-008) in Appendix C. It should be noted that PIA data for entries Police Ref: 1606185 (2016) and 1700531 (2017) have not been included within the statistics reported within the table above as they did not take place on the A21. Both entries correspond to slight injury accidents.

Other

Vehicle Restraint Systems: VRS on the northbound and southbound approaches to the level crossing location will be assessed and designed in accordance with DMRB and a RRRAP will be undertaken to inform this process as part of the detailed scheme design.
Overtaking Opportunities: Road marking provision and arrangement on the approaches to and across the level crossing has been designed in accordance with ORR guidance and is shown on drawing 239025-ARP-XX-XX-DR-CH-0002 .

Supporting Documentation

Document Ref	Title	Rev/Date
REP-239025-R002	A21(T) GG104 Safety Risk Assessment	F
239025-ARP-XX-XX-DR-CH-0001	General Arrangement	P1
239025-ARP-XX-XX-DR-CH-0002	Road Markings	P1
239025-ARP-XX-XX-DR-CH-0003	Traffic Signs	P1
239025-ARP-XX-XX-DR-CH-0004	Construction Details	P1
239025-ARP-XX-XX-DR-CH-0010	Preliminary Longitudinal Section	P1
239025-ARP-XX-XX-DR-CH-0020	Preliminary Cross Sections - Sheet 1 of 7	P1
239025-ARP-XX-XX-DR-CH-0021	Preliminary Cross Sections - Sheet 2 of 7	P1
239025-ARP-XX-XX-DR-CH-0022	Preliminary Cross Sections - Sheet 3 of 7	P1

239025-ARP-XX-XX-DR-CH-0023	Preliminary Cross Sections - Sheet 4 of 7	P1
239025-ARP-XX-XX-DR-CH-0024	Preliminary Cross Sections - Sheet 5 of 7	P1
239025-ARP-XX-XX-DR-CH-0025	Preliminary Cross Sections - Sheet 6 of 7	P1
239025-ARP-XX-XX-DR-CH-0026	Preliminary Cross Sections - Sheet 7 of 7	P1

Specialist Information

Publisher	Title	Rev/Date
ORR	Level Crossings: A guide for managers, designers and operators	December 2011
ORR	New Level Crossings (RIG-2014-06)	August 2018
ORR	ORR Statement of Case (SoC) RVR	January 2020
RVR	Draft TWAO	March 2018
RVR	Draft Protective Provisions	February 2021
RVR	A21 Level Crossing Maintenance	February 2021
Steer	Economic Impacts Report	September 2018
Arup	A21 Crossing Options Feasibility Report	July 2019
Temple	A21 Crossing Options Assessment	April 2021
i-Transport	Cost Benefit Analysis of A21 Level Crossing (ITL14477-019)	April 2021
i-Transport	Summary of NMU Data (ITL14477-015)	October 2020
i-Transport	Traffic Assessment Note (ITL14477-007c)	May 2020
i-Transport	Traffic Assessment Update (ITL14477-016)	September 2020
i-Transport	Accident Analysis Note (ITL14477-008)	March 2020

Secondary Standard

Not applicable.

Associated Departures

There are no associated departures and no pre-existing departures in proximity to the proposed scheme that the project team have been made aware of.

Repeat / Similar Departures

Not applicable.

Proposer

[redacted] **- Engineer (Designer)**
Address: Arup, Central Square, Forth Street, Newcastle-upon-Tyne, NE1 3PL, United Kingdom
Telephone: [redacted]

Email: [redacted]@arup.com

Benefits, Impacts & Risks

Benefits

The provision of a level crossing will deliver substantial wider economic benefits and these have been assessed in the Steer Economics Impact Report (2018) which is appended. The Steer report states that the delivery of the Rother Valley Railway is forecast to generate local economic benefits of £17.29 million over the two-year construction period and the first ten years of operation, and £1.08 million of local economic benefits per year subsequently.

Safety (road users)

The ORR design guidance provides guidance that is intended for use by:

1. Railway infrastructure managers
2. Highway authorities
3. Road authorities
4. Planning authorities
5. Train and station operators
6. Landowners
7. Level crossing users, including groups representing motorists, cyclists, ramblers and persons with reduced mobility.

The design guidance notes the document is for use by Highway Authorities. It provides guidance on the following:

1. Level crossing types
2. Provision for pedestrians at level crossings
3. Traffic signals
4. Traffic signs;
5. Road markings;
6. Visibility requirements
7. Railway line speed relative to vehicle flow; and
8. Legislative process and Level Crossing Orders

Use of the ORR design guidance would provide a design for the RVR A21 Level Crossing that is familiar to road users providing for safe and effective operation.

A GG104 Safety Risk Assessment for the proposed level crossing has been undertaken and is included within the attachments to this submission (Doc Ref: REP-239025-R002).

Safety (construction and maintenance)

Please refer to the GG104 Safety Risk Assessment (Doc Ref: REP-239025-R002) for maintenance specific risks. Construction risks are to be duly considered prior to construction as part of ongoing SCRG discussions and further developed by the project team once a suitable contractor has been appointed.

Technical

Use of guidance which is familiar to designers and auditors will ensure clear understanding of design requirements.

Programme

There are no benefits to the programme from progressing the Departure. The scheme will be considered at a TWA Inquiry in July 2021 and the Departure should be determined in advance of that date to inform the Inquiry.

Budget

The level crossing scheme is considerably cheaper than the alternatives as shown in the A21(T) Crossing Options Feasibility report (appended). The cheapest form of grade separation is expected to cost £11.3m (2019 prices) compared to the level crossing option which is expected to be delivered by RVR for £1.5m (2019 prices).

There are considerable benefits to the Budget arising from the Departure

Environmental

There are no specific environmental benefits of the Departure. However, the alternatives to an at-grade level crossing solution would have substantial environmental impacts on the High Weald AONB, the setting of listed buildings in Northbridge Street and the effective operation of the River Rother flood plain. The level crossing performs better in environmental terms than all practicable alternatives. A comparative appraisal of the environmental performance of the alternatives is provided in A21 Crossing Options - Environmental Review prepared by Temple (appended).

Overall, the Departure would have a beneficial environmental effect when compared to the alternatives crossing options.

Innovation

The introduction of a new level crossing provides the opportunity for new technology to be tried and tested. The proposal incorporates an advance signalling technology and barrier equipment which has not been used on Highways England's network to-date. The technology is proven elsewhere to have safety benefits and this scheme provides the opportunity to introduce the latest update to Highways England's network and evaluate its performance. Successful introduction would enable the technology to be proposed and implemented where appropriate elsewhere on Highways England's network to the benefit of other locations and the wider SRN.

Durability / Maintenance

None envisaged.

Network Availability
None envisaged.

Impacts

Safety (road users)
Safety impacts on road users are considered in the GG104 Safety Risk Assessment attached. In summary, all hazards are shown to have low risk value following mitigation.

Safety (construction and maintenance)
Please refer to the GG104 Safety Risk Assessment (Doc Ref: REP-239025-R002) for maintenance specific risks. Construction risks are to be duly considered prior to construction as part of ongoing SCRG discussions and further developed by the project team once a suitable contractor has been appointed.
Alternatives to a level crossing would have safety risks during construction and maintenance and would be managed to an acceptable level and in a similar manner to that envisaged under the proposed RVR level crossing scheme. As noted, the maintenance regime will also be subject to agreement with Highways England and the ORR before the crossing becomes operational.

Technical
None envisaged.

Programme
None envisaged.

Budget
None envisaged.

Environmental
The environmental impacts of the entire scheme have been considered in an EIA which can be found here (https://gateleyhamer-pi.com/en-gb/rother-valley-railway/inquiry-documents/) along with updated information which was published in March 2021. This assessed the environmental impact arising from the proposed RVR A21 Level Crossing. The residual environmental impacts were assessed to be of negligible significance.
The alternatives to an at-grade level crossing solution would have substantial environmental impacts on the High Weald AONB, the setting of listed buildings in Northbridge Street and the effective operation of the River Rother flood plain. The level crossing performs better in environmental terms than all practicable alternatives. A comparative appraisal of the environmental performance of the alternatives is provided in A21 Crossing Options - Environmental Review prepared by Temple (appended)

Innovation
None.

Durability / Maintenance

The maintenance liability of highway-specific level crossing signage and infrastructure would need to be determined and accepted by Highways England as part of the design approvals process and are specifically required to be approved by Highways England as part of the protective provisions which would be included as part of the TWAO should it be made. RVR have set out their suggested approach to maintenance in their note dated 5 February 2021 (appended) .

Network Availability

The presence of the level crossing will affect both the method and nature of work that will need to be undertaken within the highway boundary at the interface with the railway (at the level crossing).

A recommendation of the GG104 Safety Risk Assessment is that, alongside ongoing review by the SCRG, a working group should be set up between relevant parties within Highways England and RVR to establish a process for railway/level crossing maintenance activities with an interface with the highway environment and vice versa.

Risks

Safety (road users)

Safety impacts on road users are considered in the GG104 Safety Risk Assessment (Document Ref: REP-239025-R002) attached. In summary, all hazards are shown to have low risk value following mitigation.

Many of the risks associated with a level crossing would not be present in the alternatives as there would be no at-grade interface between the highway and rail corridors. However, there would be other risks associated with these alternatives. On balance, it is expected the alternatives would have lower overall safety risk to road users.

An assessment of the risk of accidents comparing the existing situation is set out in the "Cost Benefit Analysis Technical Note" (Document Ref: ITL1477-019 Dated: April 2021). It is estimated that the risk of accidents in this location will increase following the introduction of a level crossing, with the annual risk of a fatality increasing from 0.041 to 0.055. This represents an increased probability of 0.014 or one fatality every 71 years.

Safety (construction and maintenance)

Please refer to the GG104 Risk Assessment (Doc Ref: REP-239025-R002) for maintenance specific risks. Construction risks are not considered as part of this departure and are to be duly considered prior to construction as part of ongoing SCRG discussions and further developed by the project team once a suitable contractor has been appointed.

Maintenance risks are considered in the GG104 Safety Risk Assessment and all hazards identified are shown to have a low risk following mitigation.

Technical

None envisaged.

Programme

None envisaged.

Budget
None envisaged.
Environmental
None envisaged.
Innovation
None envisaged.
Durability / Maintenance
None envisaged.
Network Availability
See above within Impacts section.

Mitigation

Mitigation measures to the safety relevant risks are set out in the GG104 Safety Risk Assessment (Doc Ref: REP-239025-R002) attached. Following mitigation all hazards are expected to have a low risk value.

Overall Justification

Reasons why the Benefits outweigh the Impacts
The impacts of the Departure when compared against the alternatives can be summarised as follows:

1. Safety - Negative
2. Technical - Positive
3. Programme - Neutral
4. Budget - Neutral
5. Environmental - Positive
6. Innovative - Positive
7. Maintenance - Neutral
8. Network - Neutral

The only negative impact likely to result from the installation of the level crossing is in relation to safety. The GG104 Safety Risk Assessment has considered all the safety risks associated with the construction and operation of the proposed level crossing and identified that with appropriate mitigation all risks are as low as reasonably practicable.
An assessment of the valuation of accident savings, construction costs and the wider economic benefits of the level crossing compared to the least cost alternative of a road bridge is set out in the "Cost Benefit Analysis Technical Note" (Document Ref: ITL1477-019 Dated: April 2021).
Comparing the wider economic Present Value Benefits (PVB) of the RVR with the Present Value Costs (PVC) of construction of the level crossing and Valuation of Accident Prevention associated with increased risk of accidents the net Cost Benefit is +£16.83m, with a Benefit to Cost Ratio (BCR) of 3.74.
The comparable figures for the least cost alternative road bridge are +£10.57m and 1.85. Thus, the scheme would deliver considerable wider

economic benefits which substantially outweigh the likely increased safety risk monetised as a valuation of accident prevention.
The BCR for the level crossing demonstrates that the wider benefits substantially outweigh the costs associated with the construction and operation of the scheme. It is noted that the BCR of the level crossing is broadly double that of the lowest cost alternative arrangement. With reference to the GG104 Requirements for Safety Risk Assessment (paragraphs 3.12 to 3.13) it is noted that safety risk mitigation measures with a BCR of greater than 2 can be promoted on safety grounds.
There are considerable environmental benefits from the proposed departure which would not require unacceptable flooding and landscape impacts unlike the alternatives.
The technical impacts are expected to be overall beneficial with the use of "Level Crossings: A guide for managers, designers and operators" (ORR Railway Safety Publication 7, December 2011) is considered the appropriate design guidance in the absence of any design standards or guidance set by the DMRB.
Its application to the RVR A21 Level Crossing would offer benefits given it provides guidance on numerous key design considerations, such as:

1. Level Crossing types
2. Provision for pedestrians at level crossings
3. Traffic signals
4. Traffic signs
5. Road markings
6. Visibility requirements
7. Line speed relative to vehicle flow
8. Legislative process and Level Crossing Orders

In this circumstance, its use would ensure consistency of level crossing signage, road markings etc. with other level crossings across the wider road network. There are no adverse impacts anticipated with the use of the ORR design guidance.
The innovation has positive opportunities which the alternatives do not with the ability to use new technology which could have wider benefits through application at other existing level crossings on Highways England's network.
On balance therefore comparing the proposed departure with the alternative the environmental, technical and innovation benefits coupled with the wider economic benefits demonstrably outweigh the estimated safety disbenefits.

Reasons why the Risks after Mitigation are ALARP

As noted the GG104 Safety Risk Assessment (Document Ref: REP-239025-R002) attached provides a comprehensive appraisal of the risks. It demonstrates that following mitigation the evaluation of the reasonably

foreseeable risks has shown that the operation of an at-grade level crossing on the A21(T) would meet the objective of being "acceptable in terms of safety risk for all populations". Specifically:

1. Road Users – would not be disproportionally adversely affected in terms of safety risk and that the rate of collisions associated with the proposed level crossing should be no more than the baseline.
2. Road Workers – risk during the operational and maintenance regimes would be managed so far as is reasonably possible.
3. Other Parties – risk during the operational and maintenance regimes would be managed so far as is reasonably possible.

Compatibility with Adjacent Roads

There would be vehicles queuing on the A21(T) on the occasions when the RVR A21 Level Crossing was in use (barriers down). Details of the expected operating patterns of the heritage railway and hence when the RVR A21 Level Crossing would be in use is set out in the note "KESR Railway Operations" (Document Ref: ITL14477-014a), a copy of which is included within the GG104 Safety Risk Assessment.

With respect to adjacent roads to the south the closest road is Redlands Lane some 400m from the proposed RVR A21 Level Crossing location. Redlands Lane is a no through local road serving a handful of agricultural properties.

Generally, queues from the RVR A21 Level Crossing would not extend as far as Redlands Lane. Assessments demonstrate that only in one 15 minute period during the year could queues extend as far as Redlands Lane (on a May Day Bank Holiday) and then queues would only be present for between 1 and 2 minutes. Traffic volumes to/from Redlands Lane will be low day to day and generally very low on a Bank Holiday. The RVR A21 Level Crossing would not be incompatible with Redland Lane.

Approximately 120m to the north of the proposed RVR A21 Level Crossing the Robertsbridge Roundabout connects the A21 with Northbridge Street and Church Lane. Queuing is expected to regularly extend through the roundabout when the barrier is lowered. The design includes the implementation of 'Keep Clear' road markings on the circulatory carriageway to maintain movements to and from Northbridge Street and Church Lane.

Northbridge Street runs parallel to the A21. In the event the RVR A21 Level Crossing is in use it provides an alternative route. However, whilst the length of the route via Northbridge Street is broadly comparable to the A21 speeds are necessarily lower as it is a road through a village with a 30mph speed limit and on street parking along much of its length. It should also be noted that a level crossing is proposed as part of the same railway on Northbridge Street and will be in operation shortly before or after the RVR A21 Level Crossing.

The RVR A21 Level Crossing would not be incompatible with Northbridge Street or Church Lanes

Specialist comments and conditions

SSP Review
Specialist Review
If there are multiple technical specialists reviewing this departure, create a new sub-heading for each.
Authorising Signatory Comments
Consultant Comments (HE Representatives)

Diary

13/11/2020 09:48

[redacted] created the departure.

[redacted] was assigned to the role of **Current assignee** by [redacted]

[redacted] was assigned to the role of **Designer** by [redacted]

13/11/2020 10:43

[redacted] transitioned the departure from **Need identified** to **Submission in preparation**

16/03/2021 22:00

[redacted] was assigned to the role of **HE project manager** by [redacted]

[redacted] was assigned to the role of **Proposer** by [redacted]

17/03/2021 11:13

[redacted] transitioned the departure from **Submission in preparation** to **PM appraisal**

[redacted] was assigned to the role of **Current assignee** by [redacted]

19/03/2021 09:22

[redacted] added a comment:

Surely the Departure is critical to the project (which is the extension of the railway not just the level crossing) If the level crossing couldn't happen could the project proceed using another option?

[redacted] transitioned the departure from **PM appraisal** to **Rework required from PM**

[redacted] was assigned to the role of **Current assignee** by [redacted]

19/03/2021 09:57

[redacted] added a comment:

Resubmitted for further comment

[redacted] transitioned the departure from **Rework required from PM** to **PM appraisal**

[redacted] was assigned to the role of **Current assignee** by [redacted]

19/03/2021 12:02

[redacted] added a comment:

Comments on Departure as Submitted Scheme Title – Rother Valley Railway Form of Contract – Transport & Works Act Order Cost Benefit – are there only non-monetary benefits, we understood that benefits to the local economy were being claimed? Departure Criticality – surely 5? Are there any other options that are affordable to RVR or could the proposed railway be built with a gap at the A21? Submission The Departure is for an "Aspect not covered by requirements". Technical Information/Justification

Could include reference to the Local Plan policy supporting the project and to any other relevant national or local planning or economic policies. ORR documents to be attached or hyperlinked Correspondence with ORR on their approval of the crossing to be attached and explained in text. Supporting documentation should include drawing showing proposed A21 surface profile at the crossing with explanation in text. Preliminary design is nearly complete and subject to ongoing discussion with HE Current draft TWAO to be attached or hyperlinked Current draft protective provisions to be attached Benefits Impacts and Risks Budget Are conforming solutions affordable to RVR? Environmental Attach or provide link to latest Environmental Statement including identification of any sections relevant to the proposed Departure. Durability/Maintenance Attach RVR proposals on maintenance, gritting and snow ploughing. Comments on Conformity with Departures Manual 5.8 The current assessment does not appear to demonstrate that the benefits of the proposed departure outweigh any adverse impacts. 5.24 – 5.27 Our understanding is that departure is being put forward on the basis of the cost savings compared with a bridge, so the information required in these paragraphs should be supplied. 5.36 – 5.37 The application should not assume any knowledge of the railway proposal or of other HE/RVR discussions. Any relevant evidence that RVR has put before or proposes to be put before the Local Inquiry should be included in the application. 7.8 Particularly for third party projects, a departure can be proposed based on its benefit to other infrastructure owners or the wider economy where there is little to no impact on Highways England's delivery of the Strategic Road Network. B6 No comparison has been provided with a design fully in accordance with requirements (ie a bridge) B6.1-B6.3 No comparisons have been provided against the baseline of a fully compliant design. C1.3 – not supplied or incomplete C1.3.1 - incomplete C1.5 Supporting documentation - 1), 2)(sections), 3), 4), 11) not supplied C1.5.1 – not supplied (should cover length of A21 subject to queuing +SSD to either side

[redacted] transitioned the departure from **PM appraisal** to **Rework required from PM**

[redacted] was assigned to the role of **Current assignee** by [redacted]

20/04/2021 22:31

[redacted] added a comment:

Rework complete

[redacted] transitioned the departure from **Rework required from PM** to **PM appraisal**

[redacted] was assigned to the role of **Current assignee** by [redacted]

21/04/2021 09:19

[redacted] added a comment:

I wish to see the departure again for all possible outcomes.

[redacted] transitioned the departure from **PM appraisal** to **With DAS Admin**

[redacted] decided not to pre-determine this departure, in the case of a specialist recommendation to approve this departure.

[redacted] decided not to pre-determine this departure, in the case of a specialist recommendation to approve this departure with conditions.

[redacted] decided not to pre-determine this departure, in the case of a specialist recommendation to reject this departure.

[redacted] appraised the departure.

21/04/2021 11:59

[redacted] transitioned the departure from **With DAS Admin** to **Specialist submission point**

[redacted] was assigned to the role of **Current assignee** by [redacted]

[redacted] was assigned to the role of **Specialist submission point** by [redacted]

21/04/2021 12:45

[redacted] transitioned the departure from **Specialist submission point** to **Specialist review**

[redacted] was assigned to the role of **Authorising signatory** by [redacted]

[redacted] was assigned to the role of **Current assignee** by [redacted]

[redacted] was assigned to the role of **Technical specialist** by [redacted]

11/05/2021 18:01

[redacted] added a comment:

Just to check in on the progress of the technical review. If you have any queries on the information provided to date or require any clarifications then please let me know. If you have any initial feedback or requests for additional information regarding the Departure, which you are able to provide at this stage, then that would be greatly appreciated.

[redacted]