An Bord Pleanála

Inspector's Report ABP-310286-21

Development	Railway works and all works necessary to eliminate and, where necessary, upgrade seven numbered level crossings and carry out all associated and ancillary works along a 24km section of the Dublin to Cork Railway Line.
Location	Fantstown, Thomastown, Ballyhay, Newtown, Ballycoskery (Ballyhea Village), Shinanagh and Buttevant, Co. Cork and Co. Limerick
Planning Authority	Limerick County Council & Cork County Council
Applicant	Coras Iompair Éireann
Type of Application	Railway Order Application
Observers	See Appendix 1
Date of Site Inspection	9th & 10th September 2021
Oral Hearing	27th & 28th September 2022
Inspector	Niall Haverty

1.0 Introduction

1.1. Coras Iompair Éireann (CIÉ; 'the applicant') has made a Railway Order application under section 37 of the Transport (Railway Infrastructure) Act 2001, as amended, for railway works and all works necessary to eliminate and, where necessary, upgrade 7 No. level crossings and carry out all associated and ancillary works along a 24km section of the Dublin to Cork Railway Line.

1.2. The level crossings in question are located in Fantstown and Thomastown in Co. Limerick and in Ballyhay, Newtown, Ballycoskery (Ballyhea Village), Shinanagh and Buttevant, in County Cork. It is proposed to compulsorily acquire certain lands on a permanent or temporary basis in order to implement the proposed development. It is also proposed to extinguish certain public rights of way.

1.3. The Draft Railway Order is entitled 'Dublin to Cork Railway Line (Elimination & Upgrade of Level Crossings between Limerick Junction and Mallow) Order 2021'.

2.0 Project Background

2.1. The applicant made a request to enter into pre-application consultation under section 47B of the Transport (Railway Infrastructure) Act 2001, as amended, on 13th August 2019 (Ref. ABP-305149-19). The Board directed the applicant to serve certain prescribed bodies with a copy of the Draft Railway Order and accompanying documents in a Direction dated 26th February 2021.

2.2. The applicant subsequently lodged a section 37 Railway Order application on the 20th of May 2021, which was accompanied by an EIAR, NIS, Draft Railway Order, related drawings and various technical appendices and associated documents including Schedules, Book of Reference, statutory notices and a letter of consent from the National Transport Authority to the submission of the Railway Order application.

3.0 Site Location and Description

3.1. Overview

3.1.1. As noted above, the proposed development relates to 7 No. existing level crossings located along a 24km section of the Dublin-Cork Railway line, between Limerick Junction and Mallow, including lands in both County Limerick and County Cork.

3.1.2. Level crossings XC187 Fantstown and XC201 Thomastown are in County Limerick, lying directly south of Limerick City close to the Cork/Limerick border, while the remaining level crossings are located in County Cork, north of Mallow.

3.2. XC187 Fantstown

3.2.1. This level crossing, with a stated site area of c. 0.01 ha, is located in a rural area on local road LS 8514, c. 3km to the east of Kilmallock in the townland of Fantstown, Co. Limerick.

3.3. XC201 Thomastown

3.3.1. This level crossing, with a stated site area of c. 2.07 ha, is located in a rural area on a local road, c. 5km to the east of Charleville in the townland of Thomastown, Co. Limerick.

3.4. XC209 Ballyhay

3.4.1. This level crossing, with a stated site area of c. 0.098 ha, is located in a rural area on a local road in the townland of Ballyhay, Co. Cork.

3.5. XC211 Newtown and XC212 Ballycoskery

3.5.1. These level crossings, with stated site areas of c. 2.101 ha and c. 2.462 ha, respectively, run along the eastern side of Ballyhea Village in Co. Cork. XC211 is located on a local road, c. 0.5km north of Ballyhea Village in the townland of Newtown, while XC212 is located in Ballyhea Village on local road L1533 in the townland of Ballycoskery, directly adjacent to the Ballyhea National School (east side) and the Beechwood Housing Estate (west side).

3.6. XC215 Shinanagh

3.6.1. This level crossing, with a stated site area of c. 5.716 ha, is located in a rural area in the townland of Imphrick, Co. Cork, c. 3.5km north east of the village of Churchtown, County Cork.

3.7. XC219 Buttevant

3.7.1. This level crossing, with a stated site area of c. 2.572 ha, is directly adjacent to the former Buttevant Station, Co. Cork.

3.8. Current Mode of Operation

3.8.1. The current mode of operation of each of the level crossings is as follows:

Level Crossing	Level Crossing Type	County
XC187 Fantstown	C-Type (Gates normally **closed** to road traffic)	Limerick
XC201 Thomastown	C-Type (Gates normally **closed** to road traffic)	Limerick
XC209 Ballyhay	CD-Type (Gates normally **open** to road traffic by day and closed at other times)	Cork
XC211 Newtown	CD-Type (Gates normally **open** to road traffic by day and closed at other times)	Cork
XC212 Ballycoskery	CD-Type***** (Gates normally **open** to road traffic by day and closed at other times)	Cork
XC215 Shinanagh	CD-Type***** (Gates normally **open** to road traffic by day and closed at other times)	Cork
XC219 Buttevant	CX-Type (Gates normally **open** to road traffic)	Cork

***** Although designated as CD-Type crossings, these are operated as CX-Type crossings on a 24-hour basis.

4.0 Proposed Development

4.1. Overview

4.1.1. The proposed development comprises the elimination of 6 No. existing level crossings and the upgrade of 1 No. existing level crossing, together with all associated and ancillary works along a 24km section of the Dublin to Cork Railway Line.

4.1.2. The proposed development at each of the 7 No. existing level crossings can be summarised as follows:

- **XC187 Fantstown:** Closure of existing level crossing, extinguishment of public right of way across the level crossing and diversion of traffic along existing roads to existing overbridge approximately 3 km to the north east. The proposed development includes removal of level crossing infrastructure, construction of 2.4m high block walls on both sides of the level crossing, signage and ancillary works.
- **XC 201 Thomastown:** Closure of existing level crossing, extinguishment of public right of way across the level crossing and construction of a realigned route. More particularly the proposed development includes: removal of level crossing infrastructure; construction of 2.4m high palisade gate to the Up (north) side of railway line for retained track access and 2.4m high block wall to the Down (south) side to stop up access across the railway line; construction of a new road-over-rail bridge to the south west of the existing level crossing; realignment of the local road L8572; construction of a new c. 0.57km long, c. 4m wide carriageway; new junction onto the R515, to the west of the existing junction; new junction onto local road L8572; earthworks; private access provision to four fields immediately adjacent to the road-over rail bridge and provision of two passing bays; removal of existing local road pavement where no longer required; undergrounding of overhead electricity line; and associated landscaping, fencing, drainage, surfacing, signage, temporary construction compound areas, bird boxes and all ancillary works.
- **XC209 Ballyhay:** Upgrade of existing level crossing to a CCTV controlled level crossing. The proposed development includes: removal of existing level

crossing gates and installation of a 4-barrier CCTV controlled level crossing; construction of single storey Relocatable Electrical Building (REB) building 2.4m wide x 9m long; 2 No. 6.1m wide barriers to replace the existing level crossing gates; 4 No. Traffic lights and 1 No. advanced warning traffic light; 2 No. 10m high lighting towers; 2 No. 8m high CCTV towers and bases; relocation of existing gate keepers hut; fencing; road resurfacing; undergrounding of overhead electricity line; 2 No. recycled plastic cattle grids; and all associated fencing, drainage surfacing, signage and ancillary works.

- **XC211 Newtown:** Closure of existing level crossing, extinguishment of public right of way across the level crossing and construction of a new access road immediately east of the existing road-over-rail bridge to the north of XC211 (Newtown), tie in to existing local road to the east of XC211 (Newtown). More particularly the proposed development includes: removal of level crossing infrastructure; construction of 2.4m high block wall to Up (west) side and 2.4m high palisade gate to Down (east) side for retained track access; construction of a new c. 0.477km long, c. 4m wide link road, to the east of the closed level crossing; earthworks; provision of private access to 1 No. field immediately adjacent to the link road and provision of 2 No. passing bays; removal of existing local road pavement where no longer required; associated landscaping, fencing, new pond area, bird boxes, drainage, surfacing, signage and ancillary works.
- **XC212 Ballycoskery (Ballyhea Village):** Closure of existing level crossing, extinguishment of public right of way across the level crossing and construction of a new road-over-rail bridge to tie into existing local road L1533 to east and west of level crossing. More particularly, the proposed development includes: removal of level crossing infrastructure; construction of 2.4m high block wall on both sides of the existing level crossing to stop up access across the railway line; realignment of the L1533 local road to the south of the closed level crossing including construction of a new c. 0.46km, c. 7m wide road with 1m verge and a road-over-rail bridge tying into the L1533 before the N20 national road junction to the west and after the existing school and crossroads to the east; reconfiguration of the existing crossroads junction to the east of the level crossing to a right-left stagger junction;

provision of a new 5m – 10.8m maximum height by 85m long retaining wall; provision of new pedestrian walkway to the south of Beechwood Drive across the road-over-rail bridge ending outside Ballyhea National School; construction of a car park and turning area to the immediate south of Ballyhea National School; provision of private access to existing dwellings; earthworks; demolition of former level crossing gate keepers building and ancillary single storage building; removal of existing local road pavement where no longer required; and associated landscaping, fencing, lighting, drainage, surfacing, signage, temporary construction compound areas, ecological translocation area, bird boxes and all ancillary works.

- **XC215 Shinanagh:** Closure of existing level crossing, extinguishment of public right of way across the level crossing and new access road to tie into existing road-over-rail bridge approximately 1km to the north. More particularly, the proposed development includes: removal of level crossing infrastructure; construction of 2.4m high block wall on both sides of the existing level crossing to stop up access across the railway line; construction of a new c. 1.14km long section of local road, up to 5.5m wide with 3m verges on the west side of the railway, connecting local road L1320 to an existing road-over-rail bridge to the north; upgrade of the existing tie-in to the existing bridge including upgraded junction to the local road L5507; resurfacing of the local road; upgrade of the existing junction of the L5507 onto N20 national road; earthworks; removal of existing local road pavement where no longer required; diversion of overhead electricity line; relocation of field accesses; and associated landscaping, fencing, drainage, surfacing, signage temporary construction compound areas, bird boxes and all ancillary works.
- **XC219 Buttevant:** Closure of existing level crossing, extinguishment of public right of way across the level crossing and construction of a new road-over-rail bridge tying into the existing R522 regional road to east and west. More particularly, the proposed development includes: removal of level crossing infrastructure; construction of 2.4m high block wall on both sides of the existing level crossing to stop up access across the railway line; realignment of the R522 regional road south of the closed crossing via a new c. 0.53km road-over-rail bridge and approach roads tying back into the existing regional

road; construction of a c. 3m high by 6m wide by 14.5m long river bridge structure and a 2.5m high by 3m wide by 14.5m long box culvert across a tributary of the Awbeg River to the west of the crossing on the realigned R522; earthworks; removal of existing road pavement where no longer required; diversion of overhead electricity line; and associated landscaping, fencing, lighting, drainage, surfacing, signage temporary construction compound areas, ecological translocation area, bird boxes and all ancillary works.

4.2. Rationale for the Proposed Development

4.2.1. It is stated that it is the policy of CIÉ and IÉ to eliminate where practicable and possible all level crossings on the rail network across Ireland. Rail speeds on this section of the railway line can reach up to 160km/hr and the proposed Project seeks to address the safety risks associated with the road/rail interface at the 7 No. level crossings. The need for the project is stated to be two-fold. In addition to increasing safety and reducing risks associated with any road/rail interface, it is stated that it will also improve operational reliability.

4.3. Proposed Land Acquisition

4.3.1. The applicant is stated to generally own the lands that contain the Dublin – Cork Railway Line and the level crossings on same as denoted by the blue line boundary in the site location plans accompanying the application. The lands outside the applicant's ownership that are included within the red line of the application sites are subject to the proposed Railway Order and compulsory acquisition. The applicant notes in the application form, in respect of their legal interest, that the Transport (Railway Infrastructure) Act, 2001 (as amended and substituted) states at section 45(1) that "*upon the commencement of a railway order, the Agency of CIE shall thereupon be authorised to acquire compulsorily any land or rights in, under or over land or any substratum of land specified in the order and, for that purpose, the railway order shall have effect as if it were a compulsory purchase order referred to in section 10(1) of the Local Government (No.2) Act, 1960 (inserted by section 86 of the Housing Act, 1966*".

4.3.2. The draft Railway Order includes a series of schedules identifying the affected lands, including the following:

- Second Schedule: Land which may be acquired.
- Third Schedule: Land of which temporary possession may be taken.
- Fourth Schedule: Public rights of way which may be extinguished.
- Fifth Schedule: New roads including public roads and bridges which may be constructed and roads including public roads which may be altered, realigned or closed.

5.0 Observations and Objections

5.1. Planning Authorities

5.1.1. Cork County Council:

- Proposed project accords with the objectives of National, Regional and Local Planning and Transport policy and will facilitate improved travel times on the Dublin - Cork line and as such will encourage a shift to public transport.
- Design of the proposed project is proportionate, having regard to its local context, level of use of existing crossings and rail services, and having regard to the resulting benefits ‘to the common good’ in terms of improvement to safety and efficiency of rail services.
- No objection, subject to conditions.

5.1.2. Limerick County Council:

- Planning authority is supportive in principle, subject to conditions.

5.2. Prescribed Bodies

5.2.1. None.

5.3. Third Party Submissions

5.3.1. A total of 48 No. submissions were made, as outlined in Appendix 1. A number of the submissions included signed petitions, while 5 No. submissions were made by the Trustees of the Diocese of Cloyne in respect of individual land folios.

5.3.2. The breakdown of the submissions as they relate to each level crossing is as follows:

Level Crossing Ref.	Location	No. of submissions specific to crossing
XC187/XC201	Fantstown and Thomastown, Limerick	**14**
XC209	Ballyhay, Cork	**0**
XC211/XC212	Newtown and Ballycoskery, Cork	**31**
XC215	Shinanagh, Cork	**1**[1]
XC219	Buttevant, Cork	**2**
All	All locations	**1**

5.3.3. Issues raised include, inter alia:

- Impact on schools.
- Alternatives such as underpasses or controlled crossings available rather than road-over-rail proposal.
- Community severance/fragmentation.
- Landscape and visual impacts.
- Inadequate consultation.
- Design issues (inadequate width of proposed roads and bridges), road safety issues, retaining wall design).
- Environmental impacts.
- Residential amenity issues (noise, dust, loss of privacy, overshadowing,
- Impact on walking routes.
- Built heritage impacts.

[1] A new observer, Mr David Hickey, appeared at the oral hearing and made a submission relating to XC215 Shinanagh.

- Provision of a car park adjacent to Ballyhea National School without agreement of school. Issues with design, child safety, query inclusion of car park within Railway Order Application.
- Proposed development is outside the scope of a Railway Order Application.
- Comparison with previous Part 8 proposal by Cork Co. Co. for similar development.
- Access and drainage issues.
- Impact on farming activities.
- Antisocial behaviour and dumping on roads to be turned into cul-de-sacs.
- Biodiversity and Appropriate Assessment issues.

5.4. Further Submissions

5.4.1. The submission made by Mr Colm Moore identified a number of discrepancies with regard to the application documentation and the project website. The applicant was subsequently requested to address this and to publish addendum public notices, with a further period for submissions to be made.

5.4.2. A further 2 No. submissions were received following the publication of said notices from the Trustees of the Diocese of Cloyne and the Board of Management of Ballyhea National School. The issues raised in these further submissions can be summarised as follows:

- Automated level crossings are present on all railway lines in Ireland, including in urban settings. There is no obstacle to providing an automated gates system at XC212 Ballycoskery.
- The 'Railway Safety Performance in Ireland 2020' report published by the Commission for Railway Regulation found that Ireland's safety performance is good in comparison to other EU Member States and there has been no fatal or near fatal injury occurring at XC212.
- Safety statistics do not demonstrate that an overbridge solution at XC212 Ballycoskery would be any safer than an automated gate solution.

- Proposed late amendment to the Cork County Development Plan specifically proposing a road overbridge solution at XC212 was abandoned as it was unacceptability restrictive and failed to take into account local concerns and the possibility of alternative solutions.
- Preferred route for the M20 will require a new overbridge to carry the proposed M20 over the railway line and onto the flood plain of the Awbeg River to the south and south west of XC212. The western section of the village lies within the M20 route corridor. The proximity of the two overbridges would impact on the village, its connectivity and on its environment.
- Use of a single EIAR to assess all seven projects has precluded a proper consideration of the alternatives, cumulative effects and mitigation measures which apply to each site.
- No adequate assessment of the cumulative impact of the proposed development with the proposed M20 Cork to Limerick Motorway.
- There may not be a need for the proposed overbridge at XC212 if the M20 design makes provision for an alternative rail crossing further to the south.
- The EIAR seeks to mitigate rather than avoid significant effects on the environment. The analysis of design options at XC212 did not give appropriate weight to visual character, built heritage and biodiversity.
- Proposed development would be premature pending the All Island Strategic Rail Review, the final design and approval of the M20 project and the preparation of a new EIAR that would seek to avoid rather than mitigate significant effects.

6.0 Planning History

6.1. XC211 Newtown & XC212 Ballycoskery: Part 8 Application

6.1.1. In March 2011, Cork County Council initiated a Part 8 Application under Section 179 of the Planning and Development Act, 2000 and Part 8 of the Planning and Development Regulations, 2001 (as amended) for proposed development at XC211 Newtown and XC212 Ballycoskery which was very similar to that proposed in this

application. A number of submissions were made in respect of the application, opposing the development proposal. The application was subsequently withdrawn in May 2011. Details of the timeline of the Part 8 application and the submissions and reports made thereon are set out in Appendix H of the applicant's Planning Compliance Report.

6.2. XC187 Fantstown: Proposal to Extinguish Right of Way

6.2.1. In 2006 CIÉ advised Limerick County Council (LCC) that Iarnród Éireann sought to close XC187 for operational and safety reasons. It was put forward that alternative access could be achieved via two nearby overbridges and that the Council could extinguish the Right of Way by engaging Section 73 of the Roads Act, 1993.

6.2.2. A number of submissions were made to LCC and an oral hearing was subsequently held by an engineer appointed by LCC on 10th November 2009. Details of the submissions are set out in Appendix I of the Planning Compliance Report, while a copy of the engineer's report is contained in Appendix D of Appendix 1K 'Feasibility Study' of the EIAR.

6.2.3. The engineer concluded that:

> *"Having given detailed consideration to the points made and issues arising, both in the written objections and submissions, and at the Oral Hearing, and from my own inspections of the location, and given the current restrictions on and the very low level of usage of Fantstown Level Crossing, I believe the substantial public safety arguments in favour of the proposed Extinguishment outweigh those made against. Accordingly, I recommend that Limerick County Council proceed with the proposed Extinguishment of the Right of Way over part (16m) of Local Road LS 8514, at Level Crossing XC187, at Fantstown, Killmallock, Co. Limerick, in accordance with the provisions of Section 73 of the Roads Act, 1993.*
>
> *As closure of the Level Crossing will have an adverse impact on persons, particularly young people accessing the sports and community complex at Martinstown, improvements need to be carried out, by Limerick County Council on the alternative route, via Ballinascula, in the interests of road*

safety. I further recommend that the cost of the necessary improvements be substantially borne by Iarnród Eireann."

6.2.4. Notwithstanding the engineer's recommendation, the Section 73 motion was never put before the Council, having failed to gain the necessary support of the elected members, and XC187 has remained operational.

7.0 Policy Context

7.1. National Policy

7.1.1. National Planning Framework (Project Ireland 2040)

7.1.2. The National Planning Framework (NPF) is the overarching national spatial policy and planning framework for social, economic and cultural development. The following National Strategic Outcomes (NSOs) are noted:

- **NSO 2 (Enhanced Regional Accessibility):** Building on a more compact approach to urban development requirements, enhancing connectivity between centres of population of scale will support the objectives of National Planning Framework. This will focus initially between Cork and Limerick. Better accessibility between the four cities and to the Northern and Western region will enable unrealised potential to be activated as well as better preparing for potential impacts from Brexit.
- **NSO 5 (Sustainable Mobility):** The provision of a well-functioning, integrated public transport system, enhancing competitiveness, sustaining economic progress and enabling sustainable mobility choices for citizens, supports the overall Framework objectives.

  Dublin and other cities and major urban areas are too heavily dependent on road and private, mainly car-based, transport with the result that our roads are becoming more and more congested. The National Development Plan makes provision for investment in public transport and sustainable mobility solutions to progressively put in place a more sustainable alternative….

  Our main intercity rail network also plays a key role in offering sustainable travel alternatives, offering the option of travel while working and broadening

labour catchments, benefitting the international competitiveness of our major cities. There is further potential to develop the existing good quality rail links between Dublin and Belfast and Cork into an island rail spine through line speed and service enhancements.

7.1.3. Among the 'key future growth enablers' for Cork are "*Improved rail journey times to Dublin and consideration of improved onward direct network connections*". With regard to Limerick, the 'key future growth enablers' include enhanced regional connectivity and development of public transport and infrastructure.

7.1.4. **National Development Plan 2021 - 2030**

7.1.5. The NDP sets out the framework of expenditure commitments to secure the Strategic Investment Priorities to the year 2030 and support the delivery of the 10 National Strategic Outcomes (NSO's) identified in the NPF.

7.1.6. In Chapter 7, 'Enhanced Regional Accessibility', the NDP states that "*In rail, funding is being provided to conduct an all-island Strategic Rail Review which will specifically consider the potential for enhanced inter-urban and inter-regional rail connectivity over the period to 2040, including the opportunities for higher speeds on the network. In the interim funding will be provided to support a range of interventions across the network to improve journey times and service reliability, as well as maintaining the optimal levels of maintenance and renewal of the existing network*."

7.1.7. In relation to 'Public Transport: Protection & Renewal', the NDP states that "*funding for the protection and renewal of the railway network is provided for under the NDP… Allocations under this NDP mean that the railway network will be appropriately funded over the entire period and that funding will benefit passengers across the rail network through increased service reliability and punctuality, improved journey times and ensuring continued safety of rail services*."

7.1.8. In relation to 'Public Transport: New Infrastructure', the NDP states that "*a new train protection system will also be funded which will maintain and enhance safety on the network, while the indicative allocations also support the implementation of a number of initiatives to support the development of rail freight*."

7.1.9. The NDP also refers to the Strategic Rail Review that is currently underway, "*which will examine all aspects of the inter-urban and inter-regional rail network including decarbonising the railway, the feasibility of higher speeds, increased capacity… and*

the creation of a strategic plan for freight". The Strategic Rail Review had not been published at the time of completion of this report.

7.1.10. **National Investment Framework for Transport in Ireland**

7.1.11. The National Investment Framework for Transport in Ireland (NIFTI), published by the Department of Transport in 2021 is a high-level strategic framework to support the consideration and prioritisation of future investment in land transport (roads, public transport, walking and cycling) over the next two decades. The purpose of NIFTI is to enable the delivery of Project Ireland 2040 and the ten National Strategic Objectives (NSOs) by guiding the appropriate investment in Ireland's roads, active travel and public transport infrastructure.

7.1.12. The foreword to NIFTI states that "*We recognise the significant value embedded in the existing transport system. To fully realise the benefits of historical investment, we will protect and renew transport infrastructure across the network to ensure accessibility, connectivity and safety*."

7.1.13. Among the four investment priorities set out in NIFTI are 'enhanced regional and rural connectivity' and 'protection and renewal' of the existing land transport network. Section 4.2.2 of the document states that "*safety and accessibility are regarded as fundamental performance standards that must be present for the relevant asset to be deemed fit for purpose. Accordingly, necessary improvements to ensure safety or increase accessibility are considered a form of asset protection and renewal*."

7.1.14. A series of priority areas for further analysis and policy development are set out in Table 4 of NIFTI. This includes Policy Action 7 "*Developing our rail policy and identifying where rail services and infrastructure can be deployed most efficiently and effectively, including for freight, and the potential role of higher-/high-speed rail*".

7.1.15. **National Sustainable Mobility Policy**

7.1.16. The National Sustainable Mobility Policy (NSMP) published by the Department of Transport in 2022 seeks to set out a strategic framework to 2030 for active travel and public transport to support Ireland's overall requirement to achieve a 51% reduction in carbon emissions.

7.1.17. Goal 1 aims to improve the safety of all mobility options including active travel, road and rail and to prioritise the safety and security of those working on / travelling by sustainable mobility.

7.1.18. The NSMP notes that "*increased investment in the inter-urban and regional [rail] network will improve journey times, enhance reliability and maintain safety across the system.*"

7.1.19. **Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009 – 2020 (National Transport Authority)**

7.1.20. The Smarter Travel policy document is the blueprint for sustainable travel and transport in Ireland for the period 2009 – 2020, however it does not appear to have yet been replaced. The goals of the Policy include:

- Improve economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks.
- Minimise the negative impacts of transport on the local and global environment through reducing localised air pollutants and greenhouse gas emissions.
- Reduce overall travel demand and commuting distances travelled by the private car.

7.2. Regional Policy

7.2.1. **Regional Spatial & Economic Strategy for the Southern Region (RSES)**

7.2.2. Section 6.3.3.1 of the RSES sets out the role of transport for the Region. Among the principles for integrating land use and transport planning are "*strengthening inter-regional connectivity through the improvement of inter-urban road and rail connectivity, particularly between the largest urban centres and access to ports and airports for the movement of both people and goods*".

7.2.3. The RSES states, with regard to transport assets, that "*the management, maintenance and improvement of the Region's transport infrastructure is a key consideration to ensure that the safety, capacity and efficiency of the networks are maintained and factored into the capital funding process*" (p.171).

7.2.4. Regional Planning Objective RPO 170 relates to rail, and states that "*it is an objective to seek to strengthen investment in the maintenance, improvement and strengthening of the rail network in the Region subject to appropriate environmental assessment and the outcome of the planning process*". RPO 170 goes on to state that this will provide for, inter alia:

- Future proofed infrastructures for rail in our transition to smart transport networks and low carbon society.
- Improved journey times, services and passenger facilities to encourage greater use of rail travel between cities, towns and villages on the rail network across the Region.
- Optimisation of the existing rail network assets and the protection of these assets for our region's transition to greater levels of sustainable mobility, use of rail and achievement of lower carbon emissions.
- Investment in upgrading and modernisation of fleet, rail infrastructure and passenger facilities.
- Achieve improved and consistent journey times and frequencies.
- As identified in the National Development Plan, the Dublin – Limerick Junction/Cork rail lines are subject to an examination to move to higher speeds leading to improved connectivity to regional cities through improved rail journey times.
- Support feasibility assessments and investment in infrastructure to achieve high-speed intercity rail services.

7.3. Local Policy

7.3.1. New County Development Plans have been adopted for both Counties Limerick and Cork since the lodgement of the application.

7.3.2. **Limerick City and County Development Plan 2022 - 2028**

7.3.3. Two of the existing level crossings are located within the functional area of Limerick City and County Council (XC187 Fantstown and XC201 Thomastown). The following Objective and Policies are noted:

- **Objective TR O16** (Rail Network):

  "It Is an objective of the Council to:

  a) Explore a pathway to rail-based development in the review of the RSES and MASP, in conjunction with the National Transport Authority and Southern and Western Regional Assemblies

  b) Support and facilitate new and upgrading of existing rail networks, railway stations and services across Limerick as identified in LSMATS and protect, as required, lands necessary for the upgrading of existing railway lines or stations which would improve journey times and enable an increase in the frequency of services and connections."

- **Policy CS P5** (Road Network):

  "It is a policy of the Council to maintain the strategic function of the national roads network, including planning for future capacity enhancements and ensure that the existing extensive transport networks, which have been greatly enhanced over the last two decades, are maintained to a high level to ensure quality levels of service, safety accessibility and connectivity to transport users."

- **Policy TR P1** (National Investment Framework for Transport Investment):

  "It is a policy of the Council to support the implementation of the Department of Transport's National Investment Framework for Transport Investment."

- **Policy TR P5** (Sustainable Mobility and Regional Accessibility):

  "It is a policy of the Council to support sustainable mobility, enhanced regional accessibility and connectivity within Limerick, in accordance with the National Strategic Outcomes of the National Planning Framework and the Regional Spatial and Economic Strategy for the Southern Region."

- **Policy TR P6** (Delivery of Transport Infrastructure in line with National Policy):

  "It is a policy of the Council to support the delivery of transport infrastructure identified within the National Planning Framework, National Development Plan 2021-2030 (and any update) and the Regional Spatial and Economic Strategy

for the Southern Region and to support enhanced connectivity within Limerick and inter-urban connectivity within the regions."

7.3.4. Map 2.3 of the Development Plan is the Core Strategy Map, with the lands at XC187 Fantstown and XC201 Thomastown located within Level 7 'Open Countryside'. The Plan states, in respect of such areas, that:

"*Outside of the City, the policy intention is to focus on supporting sustainable and vibrant rural communities by supporting and regenerating towns and villages. This will be facilitated through a number of measures including active land management measures, effective use of funding streams for town/village and public realm improvement (including the Rural Regeneration Development Fund (RRDF), LEADER etc). working with community groups and utilising available statutory powers such as derelict site and compulsory purchase powers. The promotion of an alternative to one off rural housing in the open countryside through initiatives like serviced sites and redevelopment of vacant units in town, villages and rural areas, will be encouraged. This will support the regeneration of these settlements.*

Within the open countryside, the Plan identifies two types of areas for rural housing:

1) Areas under urban influence; and

2) Rural areas elsewhere:

and recommends a policy approach to each area, which supports those who have a need to live within the rural area."

7.3.5. With regard to the Landscape Character Assessment, both level crossing sites are at the northern periphery of the Ballyhoura/Slieve Reagh LCA, adjacent to the Agricultural Lowlands LCA.

7.3.6. The Ballyhoura/Slieve Reagh LCA is described as follows:

"*This is a locally dominant range of hills running along the Cork boundary. The lowland component of this landscape character area is generally a farmed landscape, but the range of hills provides an upland backdrop. The lower reaches of Ballyhoura are pastoral in character, but this changes as altitude increases and the vegetation cover changes to commercial forestry,*

interspersed with upland grassland and the remnants of peat bogs. Much of the Ballyhoura's are within a Special Area of Conservation."

7.3.7. The Agricultural Lowlands LCA is described as follows:

"*This is the largest of the Landscape Character Areas in Limerick and comprises almost the entire central plain. This landscape is a farming landscape and is defined by a series of regular field boundaries, often allowed to grow to maturity. This well-developed hedgerow system is one of its main characteristics. In terms of topography, the landscape is generally rather flat with some locally prominent hills and ridges. The pastoral nature of the landscape is reinforced by the presence of farmyards*."

7.3.8. There are no designated views or prospects in the vicinity of the two sites.

7.3.9. **Limerick Shannon Metropolitan Area Transport Strategy 2040**

7.3.10. The stated function of the Limerick Shannon Metropolitan Area Transport Strategy 2040 (LSMATS) is to provide a long-term strategic framework for the planning and development of transport infrastructure and services for the Limerick Shannon Metropolitan Area (LSMA). It is stated to be a cross-county Metropolitan scale document which sets out the policies and objectives of the NTA, Limerick City and County Council, Clare County Council and Transport Infrastructure Ireland at a level appropriate to that scale.

7.3.11. Chapter 11 of the LSMATS states that "*as identified in the NDP, RSES and Iarnród Éireann's 2016 Rail Review Report, the Dublin-Limerick Junction/Cork rail lines are subject to an examination to move to higher speeds leading to improved connectivity to regional cities through improved rail journey times*". The following measure is noted:

- **MEASURE RL1** (InterCity Services): It is the intention of the NTA and the local authorities to work in collaboration with Iarnród Éireann and other relevant stakeholders in the LSMA to:
    - Facilitate the improvement in InterCity services and journey times between Dublin, Limerick Junction, Waterford and Cork in accordance with the All-Island Strategic Rail Review and rail proposals which emerge from strategic infrastructure projects.

7.3.12. **Cork County Development Plan 2022 - 2028**

7.3.13. Five of the existing level crossings are located within the functional area of Cork County Council (XC209 Ballyhay, XC211 Newtown, XC212 Ballycoskery, XC215 Shinanagh and XC219 Buttevant).

7.3.14. As well as replacing the previous County Development Plan, the Cork County Development Plan 2022 – 2028 replaces 8 No. Municipal District Local Area Plans adopted in 2017 and 9 No. Town Development Plans of former Town Council Towns.

7.3.15. XC209 Ballyhay is located within the Charleville Greenbelt CV-GB1-1, while XC219 Buttevant is located within the Buttevant Greenbelt BV-GB1-1, which are defined with respect to rural housing controls. The remaining level crossing sites in County Cork (i.e. XC211 Newtown, XC212 Ballycoskery and XC215 Shinanagh) are located on unzoned lands, which are within designated 'Stronger Rural Areas'.

7.3.16. With regard to Landscape Character Assessment, all five Cork level crossings are within a large LCA described as 'Fertile Plain with Moorland Ridge', which has 'Very High' value and sensitivity and 'County' importance. There are no designated scenic views or routes in the vicinity of the sites.

7.3.17. Chapter 12 relates to Transport and Mobility and states that "*Transport is a key enabler of all economic and social activities and it is closely linked to quality of life, health and wellbeing. Our transport policy needs to facilitate efficient development of the economy, enhance quality of life and social inclusion, reduce both demand for travel and dependence on the private car for transport, and support high frequency public transport services. The Council's transport policy relates to active travel, road transport (including public transport) and rail transport as well as freight, ports and airport*."

7.3.18. Section 12.8.7 states that "*the Council will advocate for the examination of the feasibility of reopening former stations along the Charleville to Cork City railway line in conjunction with other stakeholders*."

7.3.19. The following Objectives are noted:

- **Objective TM12-3** (Rail Transport):

  "Support and prioritise the following key Rail Transport initiatives:

a) Encourage the enhancement of service provision in tandem with planned population and employment growth.

[…]

d) Support the provision of rail infrastructure, including depot facilities, to deliver CMATS objectives for rail service provision.

e) Support other agencies in delivering an appropriate integrated land-use and transformation framework to maximise rail use and facilitate connectivity with other transport modes."

- **Objective TM 12-4** (Protecting Existing Disused Rail Infrastructure):

  "Where there is a strong case supporting the potential reopening of an existing or disused railway station (or railway infrastructure) for service, it is an objective to safeguard the station (or infrastructure), its access and the surrounding lands, against encroachment by inappropriate uses, which could compromise the future development as a rail facility. The use of disused railways for the provision of active travel infrastructure may be considered as such a use retains the option to reinstate to rail use at a future point."

- **Objective TM 12-8** (Traffic/Mobility Management and Road Safety):

  […]

  e) "Improve the standards and safety of public roads and to protect the investment of public resources in the provision, improvement and maintenance of the public road network.

  f) Promote road safety measures throughout the County, including traffic calming, road signage and parking."

- **Objective TM 12-13** (National, Regional and Local Road Network):

  a) "Support the sustainable development of infrastructure that strengthens the quality of inter-regional connectivity from Cork to Limerick (proposed N/M20 and Rail), and from Cork to Waterford (N25) as identified in the NDP.

b) Support the maintenance of the efficiency and safety of the existing national primary and secondary roads network by targeted transport demand management and infrastructure improvements.

[…]

h) Support and provide for improvements to the national road network including reserving corridors for proposed routes to prevent inappropriate development which might compromise future road schemes."

7.3.20. Volume 3 of the Development Plan relates to North Cork (Fermoy and Kanturk-Mallow Municipal Districts), including the town of Buttevant and the village of Ballyhea.

7.3.21. With regard to Buttevant, the proposed works at XC219, and the adjacent former Buttevant railway station, are located outside the development boundary for the town in a greenbelt zoned area. Section 2.7.9 states that "*outside the development boundary of the town the land forms part of the Buttevant Greenbelt. Here the objectives of this plan seek to prevent sprawl and ensure a clear distinction between built up areas and the open countryside by reserving land in the immediate surroundings of the town generally for use as agriculture, open space and recreation uses*."

7.3.22. Section 2.7.32 states that "*the Cork – Dublin rail line passes to the west of the town but Buttevant station has been closed since the 1970's. It would be a considerable advantage to the town were it to reopen at some stage in the future. Rail services are available at Mallow and Charleville*".

7.3.23. With regard to Ballyhea Village, the vision set out in the Development Plan is to "*cater for a modest level of development, proportionate to its existing size and sensitive to the high landscape value of the area. The village is most suited to the development of individual dwellings, subject to the provision of adequate services*."

7.3.24. The following Development Boundary Objectives are noted:

- **DB-01**: Within the development boundary of Ballyhea it is an objective to encourage the development of up to 10 houses in the plan period.
- **DB-02:** Appropriate and sustainable water and waste water infrastructure, that secures the objectives of the Water Framework Directive and the protection of

the Blackwater River Special Area of Conservation, must be available to accommodate development.

- **DB-03**: Part of the settlement is at risk of flooding. See Chapter 11 Water Management.

7.3.25. In addition to these Objectives, two Specific Development Objectives are identified for Ballyhea:

- **C-01:** Use for School Expansion.
- **U-01:** Road realignment.

7.3.26. The village and surrounding area are primarily unzoned in the zoning map for Ballyhea village, with the exception of the Ballyhea National School site which is zoned 'Community'. The map also indicates the U-01 road realignment route to the south of the existing road and XC212. The proposed development would be primarily within the development boundary for the village. Lands to the west and south of the village are indicated as being within Flood Zones A and/or B.

7.3.27. **Cork Metropolitan Area Transport Strategy 2040**

7.3.28. The Cork Metropolitan Area Transport Strategy 2040 (CMATS) has been developed by the NTA in collaboration with TII, Cork City Council and Cork County Council. The Strategy is stated to represent a coordinated land use and transport strategy for the Cork Metropolitan Area, setting out a framework for the planning and delivery of transport infrastructure and services to support the metropolitan area's development in the period up to 2040.

7.3.29. While CMATS primarily relates to the metropolitan area of Cork, I note Section 9 of CMATS which states:

> "*The Cork-Dublin rail corridor is the top performing InterCity service in the State in terms of patronage. Anecdotal evidence suggests that the seating areas are over capacity, particularly at the morning peak between Limerick Junction and Heuston.*
>
> *The National Development Plan and 2016 Rail Review Report proposes number of relevant improvements to this line including the following:*

- *Examination of opportunities for improvements in journey times and investment in high-speed rail between Belfast, Dublin, Limerick-Junction and Cork;*
- *Examine opportunities to increase the frequency of InterCity services at peak times between Cork and Dublin;*
- *Electrification of the rail line once the current InterCity carriages outlive their useful life - estimated by the mid2020s; and*
- *Improving InterCity journey time between Dublin and Cork to least at 2 hours.*

The Strategy notes that the Cork 2050 document suggests that a rail journey time of under 1.5 hours is desirable. In terms of CMATS however, the over-riding priority is to ensure that the provision of additional suburban rail stations and services will not preclude the ability of Irish Rail to increase the speed or frequency on the existing InterCity line."

8.0 Oral Hearing

8.1. Overview

8.1.1. The oral hearing was held in the Longcourt House Hotel, Newcastlewest, Co. Limerick on the 27th and 28th September 2022.

8.1.2. Prior to the oral hearing, all parties were asked if they wished to participate in the hearing and if so, how much time they were seeking. A detailed agenda was drafted and everyone who sought to engage in the hearing was accommodated as far as reasonably possible, having regard to the legislation requiring the Inspector to hold the hearing in as expeditious a manner as possible.

8.1.3. In the agenda, the applicant was requested to: provide a brief overview of the proposed development; to address planning policy changes since lodgement (e.g. newly adopted Development Plans for Cork and Limerick); and to respond to the issues raised in the submissions.

8.1.4. Having regard to the linear nature of the project, the hearing was split into two modules, the first related to the two Limerick level crossings (XC187 and XC201)

and the second related to the five Cork level crossings (XC209, XC211, XC212. XC215, XC219), addressing each level crossing site in turn.

8.1.5. The hearing was recorded by the Board's appointed service provider and there is a full recording of the hearing attached to this file.

8.1.6. A list of all documents received at the oral hearing is included in Appendix 3. Each document is assigned a reference number and they are referenced as appropriate throughout the report.

8.1.7. All key issues raised in the course of the oral hearing as well as responses provided by the applicant are addressed throughout the assessment section of this report, where appropriate.

8.1.8. **Day 1: 27th September 2022:**

8.1.9. The hearing opened on the morning of Tuesday 27th September 2022. Following my opening comments, the following submissions were made on behalf of the applicant:

1. Conleth Bradley SC: Introduction.
2. David Vaughan (Iarnród Éireann): Opening statement and background.
3. Gerry Healy (Jacobs Engineering): Overview of the Railway Order and railway works.
4. David Dineen (CIÉ): Referencing.
5. Rory McDonnell (Jacobs Engineering): EIA Coordination; Planning including planning policy changes since lodgement of Railway Order.
6. Heidi Sewnath (Jacobs Engineering): Overview of EIAR; Surface Water; Population and Human Health.
7. Susie Coyle (Jacobs Engineering): Biodiversity; NIS.
8. Colin Wyllie (Jacobs Engineering): Traffic and Transport.
9. David Dineen (CIÉ): Corrigenda; Books of Reference.
10. Chris Conroy (Jacobs Engineering): Noise and Vibration.
11. Bryn Coldrick (Archaeological Management Solutions): Cultural Heritage.
12. Richard Barker (Macro Works): Landscape and Visual.

8.1.10. No submissions were made to the oral hearing by prescribed bodies or the two local authorities within whose functional areas the project is located.

8.1.11. The following observers then made submissions and/or asked questions in relation to the Limerick level crossings (XC187 and XC201):

1. Sean Brosnahan on behalf of Minister Patrick O'Donovan TD.
2. Councillors Michael Donegan and Gerald Mitchell.
3. Gabriel Clery.
4. Councillor John O'Donoghue on behalf of Richard O'Donoghue TD and Gabriel Clery.
5. Joe O'Connor, Joe Clifford and Donal Kelly.

8.1.12. **Day 2: 28th September 2022**

8.1.13. The hearing resumed on the morning of Wednesday 28th September 2022, with the following parties making submissions and/or asking questions in relation to the Cork level crossings (XC209, XC211, XC212, XC215, XC219):

1. Deirdre O'Reilly.
2. Frank Ross on behalf of Dan Lucey.
3. Marie O'Hanlon-McInerney (Ballyhea National School Board of Management).
4. Monsignor James O'Brien (Ballyhea National School Board of Management).
5. Brian McCutcheon (McCutcheon Halley) on behalf of the Trustees of the Diocese of Cloyne.
6. David Hickey (new observer at oral hearing).
7. Michael O'Kelly.
8. Maurice O'Riordan.
9. Hilton Lowell.
10. Michael O'Kelly on behalf of Noel Hanley.
11. Bernadette Leahy.
12. Geraldine Egan (Ballyhea Community Hall Committee).

8.1.14. Following these submissions, I asked a number of questions of the applicant. All parties were then invited to make closing comments, if they wished. The following parties made closing comments:

1. Brian McCutcheon on behalf of the Trustees of the Diocese of Cloyne.
2. Gabriel Clery.
3. Applicant (Conleth Bradley SC).

8.2. I closed the hearing at c. 4:45pm.

8.3. Numerous changes/additions were made to the Schedule of Mitigation (Appendix 1L of the EIAR) over the course of the hearing, and the Board is referred to the final version submitted at the close of the hearing (Ref. 31A). The various changes are addressed, where appropriate, in my assessment. Copies of agreements reached by the applicant with Limerick City and County Council and Cork County Council were also submitted at the hearing (Refs. 9 and 23) and are addressed in this report where relevant.

9.0 Planning Assessment

9.1.1. I consider that the main issues in respect of the planning assessment are as follows:

- Principle of proposed development.
- Need for proposed development.
- Consenting process and planning history.
- Interface with N/M20 Cork to Limerick Project.
- Consultation.
- XC187 Fantstown Specific Issues:
  - Alternatives to closure.
  - Severance Impacts.
  - Diversion Route.
  - Illegal Dumping/Anti-Social Behaviour.
- XC201 Thomastown Specific Issues:

- Road Design Issues.
- Drainage Issues.
- Residential Amenity.
- Illegal Dumping/Anti-Social Behaviour.

- XC209 Ballyhea Specific Issues.
- XC211 Newtown and XC212 Ballycoskery Specific Issues:
  - Alternatives to an Overbridge.
  - Impact on Ballyhea National School.
  - Design of Proposed Overbridge.
  - Noise.
  - Road Design Issues.
  - Biodiversity Issues.
- XC215 Shinanagh Specific Issues:
  - Anti-Social Behaviour, Littering and Screening.
  - Impact on Shinanagh Bridge.
  - Road Safety.
- XC219 Buttevant Specific Issues:
  - Visual and Residential Amenity.
  - Cultural Heritage – Buttevant Train Station.
  - Water Quality and Biodiversity.
- Other issues.

9.1.2. The issues of compulsory land acquisition, Environmental Impact Assessment and Appropriate Assessment are considered separately below in Sections 10, 11 and 12, respectively.

9.2. Principle of Proposed Development

9.2.1. As noted above, new County Development Plans (CDPs) for both County Limerick and County Cork were adopted post-lodgement of the Railway Order application. The applicant was requested to address this matter and any other policy changes in their submissions to the oral hearing. The submission made by Rory McDonnell (Jacobs) on behalf of the applicant on day 1 of the oral hearing (Ref. 4) provided the applicant's position with regard to their project's compliance with the new Development Plans, while the Planning Compliance Report submitted with the application addresses planning and transport policy in more detail.

9.2.2. I note that both Cork County Council and Limerick City and County Council considered the proposed development to be acceptable with regard to their County Development Plans, albeit that their submissions were made prior to the adoption of the new Plans. Neither planning authority made a submission to the oral hearing.

9.2.3. As outlined in Section 7 above, there is general policy support at national, regional and county level for improvements to railway infrastructure, including measures relating to safety, speed, reliability and more generally to delivering improved interconnectivity and accessibility between cities and regions. Measures which support sustainable transport modes and alternatives to car use are also supported, as are improvements to road safety.

9.2.4. While the Strategic Rail Review for the country has not yet been published, I am satisfied that the proposed development, which relates to safety related improvements to an existing railway line, rather than the provision of new railway infrastructure, would not give rise to any issues of prematurity.

9.2.5. With regard to XC212 Ballycoskery, the Cork CDP contains a Specific Development Objective (U-01) for a road realignment to the south of Ballyhea village. However, as noted by observers, the CDP is not prescriptive with regard to the nature of the road realignment, in that it does not specify whether it should cross the railway line via an overbridge, an underbridge or another level crossing. Furthermore, the current CDP, unlike the previous Fermoy Municipal District Local Area Plan 2017 which it replaced, does not refer to the road realignment possibly resulting in the creation of a new parking area at the school. These matters are addressed in Section 9.10 below. However, since Objective (U-01) is agnostic with regard to the manner in which the

railway line is to be crossed by the realigned road, I consider that the proposed development at XC212 complies with the Objective and I do not consider that it would materially contravene any provisions of the Cork CDP, as contended by Marie O'Hanlon-McInerney in her submission to the oral hearing on behalf of the Board of Management of Ballyhea National School (Ref. 18).

9.2.6. With regard to XC219 Buttevant, which is adjacent to the former Buttevant Railway Station, I note Objective TM 12-4 of the Cork CDP which seeks to protect existing disused rail infrastructure and avoid compromising their future re-use. Cork County Council, in their submission, recommended that the Board assess the design of the proposed works at the former Buttevant station, in so far that it would protect it for potential future use as a commuter rail station/ or heritage centre or other such use. They noted that Buttevant station may be a cost-effective opportunity to service the town and hinterland on a regional route between the two cities and offer a green and sustainable mode alternative to commuters.

9.2.7. Having reviewed the drawings and documentation submitted, I am satisfied that the design of the proposed development at XC219 would not prevent any potential reopening of the former Buttevant station at a later date. I also refer the Board to the agreement between the applicant and Cork County Council, which was submitted in the course of the oral hearing (Ref. 23), and which states at item 4 that "*Irish Rail confirms that the scheme does not have any significant residual impacts on the cultural, historical and heritage value of Buttevant Station. The scheme does not preclude the future use of Buttevant Station as a commuter rail station*".

9.2.8. In conclusion, I consider the proposed development to be acceptable in principle and generally consistent with policy as expressed in the two CDPs, the RSES and national policy.

9.3. Need for Proposed Development

9.3.1. The need for the proposed development was addressed in Chapter 2 of the EIAR and in the submissions made at the oral hearing on behalf of the applicant by David Vaughan (Ref. 1). The applicant contends that the need for the proposed development is driven by health and safety considerations and the desire to increase operational reliability.

9.3.2. The existing interface between public roads and the intercity railway line clearly presents inherent health and safety risks that are currently managed through the operation of the manned level crossings with their associated barriers, lights etc. As noted by Mr Vaughan in his submission to the oral hearing, rail speeds on this intercity railway line can reach up to 160kph, with 30-35 trains of up to 440 tonnes in weight and with up to 420 passengers passing over the level crossing each day. The 7 No. manned public road level crossings on this c. 24km section of the railway line are stated to be the last remaining manned crossings on the Dublin – Cork line.

9.3.3. In my opinion the principle of removing the interface between vehicular/pedestrian traffic and high speed train movements and physically separating these transport modes comprises a significant planning gain in terms of improving public safety, reducing risks to human health and safety and facilitating public transport efficiency and reliability. I note in this regard, Mr Vaughan's statement at the oral hearing that Iarnród Éireann has committed to achieving a 30 minute service at peak times between Dublin and Cork.

9.3.4. Section 2.2 of the EIAR outlines the safety performance of level crossings in recent years, including the statistics for accidents and incidents on the overall network and at the level crossings affected by the proposed development. In the period 2015 to 2020, there were five incidents of level crossing gates being struck by road vehicles at the level crossings which are the subject of the proposed development. Other forms of incidents at the level crossings included signalling faults, trespass on the railway line, equipment failure and the gatekeeper not being in attendance. On the wider rail network, the statistics show multiple fatalities each year involving a train in motion where trespass or suspicious death was indicated.

9.3.5. Maria O'Hanlon-McInerney, in her submission to the oral hearing (Ref. 18) on behalf of the Ballyhea National School Board of Management (BoM), referred to the Railway Safety Performance in Ireland 2020 report, prepared by the Commission for Railway Regulation, a copy of which was included with the BoM's earlier written submission. She contended that the safety performance of XC212 Ballycoskery would not justify the proposed development and that the overbridge proposal would not be any safer than an automated level crossing.

9.3.6. I have addressed the issue of alternatives to an overbridge at XC212 elsewhere in this report, but I am satisfied that the safety statistics demonstrate the inherent public safety risk associated with any interface between the railway and public roads.

9.3.7. Notwithstanding this, it is clear that the works to achieve this physical separation of transport modes have the potential, in some instances, to result in negative impacts for local communities, individuals and the environment. This can arise with regard to the nature of the works proposed (e.g. road overbridges, land acquisition, impacts on traffic movements) and the potential for increased severance of communities and increased inconvenience/disruption. These matters will be addressed throughout the report, however I am satisfied that the need – in principle – for the proposed development has been adequately demonstrated.

9.4. Consenting Process and Planning History

9.4.1. It was contended by a number of observers in both the written submissions and at the oral hearing that various aspects of the proposed development are more akin to a road development than railway works and that the lodgement of a Railway Order application is inappropriate and is the incorrect consenting mechanism for such works. The basis for inclusion of the proposed car park at XC212 Ballycoskery, adjacent to Ballyhea National School, in the railway works was also disputed since the car park will not be associated with the operation of the railway. The Trustees of the Diocese of Cloyne, in their written submissions, contend that the granting of a Railway Order for the proposed development would be *ultra vires*, invalid and unlawful.

9.4.2. I note that this matter arose during the pre-application consultation process and that the applicant submitted a copy of a legal opinion prepared by Conleth Bradley SC in support of their position. The Board, having considered the matter, including a Memorandum from a Senior Planning Inspector, dated 20th May 2020, issued a Direction dated 8th June 2020. The Direction states that:

> *"The Board considered and accepted the points put forward by the applicant and the Inspector, namely that the proposed works can be considered to be "railway works" as defined in the Transport (Railway Infrastructure) Act 2001, as amended, and can be appropriately dealt with under a single Railway*

Order, on the basis that the works at the 7 locations identified pertain to the operation of the Dublin to Cork railway line."

9.4.3. Since the Board, having considered the proposed development and the relevant legislation, has determined that the proposed development can be considered to be 'railway works', I do not consider it necessary or appropriate to revisit this matter.

9.4.4. A number of the written and oral submissions also contend that the use of the Railway Order process is an attempt to circumvent the Local Authorities and the views of the elected representatives, with reference to the previous Part 8 application at XC212 Ballycoskery in 2010 for a very similar development proposal and the previous proposal to extinguish the right of way at XC187 Fantstown, as outlined in Section 6 above.

9.4.5. As noted by Rory McDonnell in his submission to the oral hearing (Ref. 4), CIÉ is entitled to apply for a Railway Order under the provisions of the Transport (Railway Infrastructure) Act 2001, as amended, and the two local authorities are statutory consultees in this process and have made written submissions in respect of the proposed development. A considerable number of submissions have been received from elected representatives, local residents and members of the wider community and these will be fully considered in the course of my assessment.

9.4.6. Finally, I would agree with the point made by numerous parties, notably the Board of Management of Ballyhea National School, that the current proposal at XC212 Ballycoskery is almost identical to the previous Part 8 proposal. However, I note that the Part 8 application was withdrawn, not refused. There is no prohibition on CIÉ seeking approval for a similar form of development under railway infrastructure legislation rather than under the Part 8 process via the Local Authority and the purpose of this report is to undertake a planning and environmental assessment of the proposal and the associated land acquisition and the submissions made thereon.

9.5. Interface with N/M20 Cork to Limerick Project

9.5.1. As noted in a number of submissions, such as those on behalf of the Trustees of the Diocese of Cloyne and Ballyhea National School, a preferred route was identified for the M20 project post-lodgement of this Railway Order application. They contend that the proposed development would be premature pending the finalisation of the design

for the M20 project and that the potential cumulative impacts have not been adequately addressed. These matters were also raised at the oral hearing, for example in the submission made by Geraldine Egan on behalf of Ballyhea Community Hall Committee (Ref. 29). Ms Egan queried if the two projects could be integrated, eliminating the need for an overbridge in Ballyhea Village.

9.5.2. I am satisfied that the potential for cumulative effects to arise as a result of the proposed development and the N/M20 project was considered in each of the relevant EIAR chapters.

9.5.3. The submission made by Limerick City and County Council included a letter to the local authority from the N/M20 Project Co-ordinator. The letter states that Irish Rail has held significant consultation with the N/M20 Cork to Limerick project team over a number of years. They note that a number of the level crossing sites are within the study area for the N/M20 project but state that they are supportive of the proposed development and the potential safety benefits it will provide. They conclude that they have no objection to the proposed development. A letter from the N/M20 Project Office was also included in Appendix 1G of the EIAR and again confirms that they have no objections to the proposals.

9.5.4. While the future M20 project may include an overbridge over the railway line to the south of Ballyhea village, I note that the existing road/rail interface at XC212 Ballycoskery would remain and therefore the project need, which the applicant has identified as being primarily driven by health and safety concerns, would not be addressed by the future M20 project.

9.5.5. Having regard to the likely timeframes for the construction of the two projects, the support of the N/M20 Project Team for the subject development, and the identification of a wide project study area corridor for that project, there is no substantive reason for the Board to conclude that the proposed development at XC212 Ballycoskery (or any of the other level crossing sites) would interfere with or prejudice the future delivery of the N/M20 project, or to conclude that significant cumulative effects at a strategic level would arise.

9.6. Consultation

9.6.1. It was contended in a number of submissions that the consultation process undertaken by the applicant was inadequate, with a lack of meaningful engagement on the issues raised.

9.6.2. Details of the stakeholder engagement and public consultation process undertaken by the applicant are set out in the Appendices to Chapter 1 of the EIAR, including the Consultation Report at Appendix 1H. The submission made at the oral hearing by Rory McDonnell (Jacobs) on behalf of the applicant (Ref. 5) also outlined the consultation process undertaken. I note that the consultation process included both local residents and communities as well as the two Local Authorities, NPWS, IFI, National Monuments Service and the N/M20 Project Team.

9.6.3. In addition to the consultation undertaken by the applicant, the planning process provides further opportunity for public participation, and I note there were two opportunities to make written submissions to the Board regarding the proposed development as well as an opportunity to participate in the oral hearing.

9.6.4. The proposed development has had a long gestation, with previous attempts to implement aspects of the proposal at XC187 and XC211/XC212 under other consenting processes, and it is clear from both the applicant's documentation and the submissions made by observers that there have been many years of engagement and consultation with the local communities and elected representatives regarding the various level crossings.

9.6.5. While many of the observers are not satisfied with the development as proposed, I am satisfied that the consultation process was comprehensive, meaningful and appropriate to the scale and nature of the proposed development, which involves the acquisition of lands and the extinguishment of public rights of way.

9.7. XC187 Fantstown (Co. Limerick) Specific Issues

9.7.1. The proposed development at XC187 Fantstown entails the closure of the level crossing, the extinguishment of the public right of way across the railway line and the construction of block walls on both sides of the level crossing. Traffic would be

diverted along existing roads to an existing overbridge located c. 3 km to the north east.

9.7.2. **Alternatives to Closure**

9.7.3. A number of the written submissions and submissions at the oral hearing contend that there was a failure to adequately consider alternative options to the closure of the level crossing. The previous 2009 proposal to extinguish this public right of way (see Section 6.2 above) was also raised, with various Elected Members of the Cappamore Kilmallock Municipal District noting that they had rejected that proposal and contending that the current proposal is an attempt to bypass local democracy. Reference was also made to a 2011 report by Roughan & O'Donovan Consulting Engineers (ROD) that was commissioned by the applicant which, it is stated, recommended a bridge solution. A number of the other submissions also express a preference for a road overbridge solution to this level crossing.

9.7.4. With regard to the 2009 proposal to close the level crossing and extinguish the right of way, I note that was initiated under the provisions of the Roads Act, rather than under railway infrastructure legislation. While that proposal was ultimately not proceeded with, following objections by elected members and members of the local community, I do not consider that it presents any impediment to the applicant now seeking to achieve the same goal via a different consenting process.

9.7.5. Gerry Healy (Jacobs), in his submission to the oral hearing on behalf of the applicant (Ref. 2), stated that the 2011 ROD report developed concept designs and did not consider all options to close/upgrade the level crossings. He noted that it pre-dated the 2019 Feasibility Study (see Appendix 1K of EIAR) which considered four options for XC187 Fantstown, including 'do-nothing', straight closure, alternative access/overbridge and upgrade to 4 barrier CCTV. The ROD concept design is included in Appendix A to Appendix 1K of the EIAR.

9.7.6. Gabriel Clery noted that one of the appraisal criteria 'accessibility and social inclusion' was not utilised in the Feasibility Study, with the report stating that "*this criterion is not considered relevant for differentiating between options for this project because all options would be expected to have a broadly similar impact*". I agree with Mr Clery that the maintenance of access via an overbridge should rank higher on this criteria than the straight closure of the level crossing.

9.7.7. Notwithstanding this, I note that such a road overbridge and the required road realignment, embankments etc. would require substantial additional land acquisition and sizable construction and civil engineering works. Given the very low level of traffic on this local road (addressed further below), the sparsely populated nature of the area and the availability of alternative routes, I do not consider that an overbridge could be justified at this location. This is not to diminish or disregard the negative impacts that the closure and extinguishment of the right of way will have on local residents, the local community and certain farmers, as I have addressed below. However, on balance, I consider that the public safety and public transport reliability benefits of the proposed level crossing closure outweigh the negative impacts on the local community and I do not consider that an overbridge could be justified at this location.

9.7.8. Finally, I note that LCCC did not raise any issues or concerns with respect to the proposed closure of XC187 Fantstown in their submission. They state that the proposed development will improve the efficiency and safety of the railway line and that they are supportive of the project, in principle.

9.7.9. **Severance Impacts**

9.7.10. A number of the submissions made by various public representatives (TDs and Councillors) state that concerns highlighted to them by local residents include:

- Division of the parish and rural isolation.
- Long delays and waiting times at the rail crossing.
- Creation of cul de sacs.
- Access for emergency services.

9.7.11. The public representatives note that the previous proposal to extinguish this public right of way were rejected by the elected members of the Kilmallock Area.

9.7.12. The submission made by the retired former gatekeeper Betty Houlihan, which included a number of letters of support from other local residents, also sets out concerns with regard to the proposed closure, as well as the current difficulties experienced by local residents and farmers due to the locking of the level crossing gates and the delays in obtaining access across the railway line. The issues raised are in line with those raised in the elected members submissions and include

concerns regarding anti-social behaviour and illegal dumping in the cul de sac roads that would result from the closure. This submission, and others, note the use of the existing road as a safe walking and cycling route and to access the Staker Wallace GAA Grounds. Gabriel Clery, a local farmer, rents or owns land on both sides of the railway line and stated that he has walked cattle across the level crossing for 25 years and that the closure of XC187 would have a significant impact on his business. Mr Clery contends that the current restrictions on access across the railway line have artificially suppressed traffic volumes, as people take alternative routes rather than waiting for the barrier to be lifted. A number of other farmers and agricultural contractors have raised similar concerns to Mr Clery in the letters accompanying Ms Houlihan's submission. Mr Clery made a detailed submission at the oral hearing in respect of these matters and the impact that the closure would have on his farming business (Ref. 17). His written submission also includes supporting letters from other local residents and agricultural contractors raising the same issues.

9.7.13. The XC187 level crossing is currently manned 07:30 – 23:30 and is normally closed to road traffic, with the gate keeper opening the gates when required. Outside of these hours the crossing is closed to road traffic. The applicant noted in their submission to the oral hearing that road users may have to wait to cross, depending on whether a train has left Limerick Junction or Charleville. A number of submissions state that the barriers are left unmanned on occasion, creating delays and difficulties in obtaining access across the railway line, with the pedestrian gates only being locked in recent years, whereas previously pedestrians had been free to cross the line.

9.7.14. At the oral hearing, Mr Clery asked the applicant if they had figures regarding the number of people that jump the gates since the railway gates are locked and queried why pedestrian gates in other areas aren't locked. Mr Vaughan, on behalf of the applicant, stated he didn't have this information to hand. Mr Clery also queried how many days the level crossing had been left unmanned since April 2022. Mr Vaughan wasn't able to confirm the number of days, but noted that the applicant had experienced staffing issues due to Covid etc. He accepted that XC187 would be left unmanned ahead of other crossings where there are staffing difficulties, due to the existence of an alternative route. Mr Bradley SC, on behalf of the applicant, confirmed to Mr Clery that the intention was to close both the vehicular and

pedestrian crossing and he noted that this was fully addressed in the railway order documentation.

9.7.15. Colin Wyllie (Jacobs), in his submission to the oral hearing on behalf of the applicant (Ref. 10), noted the very low level of traffic currently and acknowledged that the locking of the pedestrian gates may have affected demand but contended that ensuring the safety of all users is the applicant's priority.

9.7.16. Mr Healy (Jacobs), in his submission to the hearing, noted that a pedestrian survey in January 2020 found no pedestrians, cyclists or livestock crossed the railway between 07:00 and 21:00 over a period of a week. The Board will note that, given the time of year that the survey was undertaken, it is unlikely that any farmer would be walking livestock across the level crossing in any event.

9.7.17. I would agree, to an extent, with Mr Clery's assertions regarding the reliability of the applicant's traffic figures for XC187. The current restrictions and delays on obtaining access across the level crossing are likely, in my opinion, to be resulting in some traffic choosing to divert or people choosing alternative walking routes.

9.7.18. However, while the current restrictions are likely to have somewhat suppressed motorised and non-motorised traffic through XC187, having regard to its location, the characteristics of the area and the surrounding land uses, there is no reason to believe that a significantly increased level of traffic would utilise the road if no level crossing was present.

9.7.19. With regard to the potential impacts for emergency services, who it is contended have been directed to the crossing by their SatNavs and are then unable to cross at night-time, I would agree with the applicant that the formal closure of the level crossing and the extinguishment of the right of way would address this matter, with SatNav maps, once updated, providing alternative routes.

9.7.20. Mr Clery, in his closing comments at the oral hearing, noted that the applicant had not produced an agricultural science expert at the oral hearing to address his concerns with regard to the impact of the closure and diversion on his farming enterprise. He also contended that the applicant had failed to engage in meaningful consultation with the public as requested by the Board in the pre-application consultation.

9.7.21. While I would agree with the observers that the severance of the local road at XC187 Fantstown will result in a degree of community severance and considerable inconvenience for certain local residents and farmers, the numbers likely to be affected are relatively low when set against the wider public safety improvements that will result from the removal of this road/rail interface. It is also worth noting the existing restrictions on pedestrian, vehicle and livestock access across the railway line, with the barriers closed at night-time and generally kept in the closed position during the daytime also, unless requested, and even then there can be delays if a train is already en route. This current arrangement also results in a severing impact, in my opinion, albeit of a lesser significance than full closure.

9.7.22. In conclusion on this matter, while I accept that the proposed development will result in a regrettable level of inconvenience for certain local residents and farmers/contractors utilising the level crossing, the numbers affected are low and when balanced against the public safety benefits of removing a potential conflict point between high-speed rail and road traffic, and noting that an alternative route is available, I consider that the applicant has provided adequate justification for the closure.

9.7.23. **Diversion Route**

9.7.24. With regard to the proposed diversion route via the existing Ballinscaula Bridge, the applicant's response at the oral hearing (see Gerry Healy submission (Ref. 2)) was that the diverted traffic flow to Ballinscaula Bridge is not considered sufficient to warrant improvement works to the bridge. Notwithstanding the low level of diverted traffic, I note that the applicant previously offered to pay €250,000 to upgrade the bridge as part of the earlier proposal to close the level crossing. At the oral hearing I queried what upgrade works those monies were intended to fund? Mr Healy stated that the person involved on the Irish Rail side at that time had since retired and that none of the applicant's team were party to those discussions. In response to my query regarding any upgrade works that may be required, Mr Healy stated that the applicant did not believe that any works were required, given the small number of vehicles being diverted.

9.7.25. I note that the preferred solution for XC187, as identified in the applicant's Feasibility Study (Appendix 1K of EIAR), was "*the elimination/de-manning of the level crossing*

XC187, Fantstown […] *through the extinguishment of the public right of way across the level crossing and the possible upgrade of the existing alternative access route*". The upgrade of the alternative access route does not, however, form part of the development proposal before the Board.

9.7.26. In his closing comments at the oral hearing, Mr Clery outlined his personal experience of the 2009 proposal to close the level crossing, the survey works undertaken and the agreement by Irish Rail to fund upgrade works. He noted that LCCC have not been engaged in the current process to the same extent as the 2009 proposal, as that was made under the Roads Act.

9.7.27. On my site inspection there were no immediately obvious structural issues with the bridge such as significant cracking, however I noted that the approach to the bridge on the southern side and the manner in which it connects to the R515 Regional Road is somewhat unorthodox. Given that local residents, farmers and people accessing facilities such as the GAA club will be forced to divert via this route as a result of the level crossing closure, and noting that the applicant's feasibility study had identified that an upgrade may be required, I consider it appropriate that a pre-construction condition survey and road safety audit of Ballinscaula Bridge and its approaches be undertaken by the applicant and that the applicant be required to make a financial contribution towards the costs of any remedial works identified.

9.7.28. While Ballinscaula Bridge is not within the railway order application boundary, I note section 44(2)(g) of the Transport (Railway Infrastructure) Act 2001, as amended, which states that a railway order "*…may contain provisions requiring:*

(i) the construction or the financing, in whole or in part, of the construction of a facility, or

(ii) the provision or the financing, in whole or in part, of the provision of a service,

in the area in which the railway works are to be constructed, being a facility or service that, in the opinion of the Board, would constitute a gain to the community."

This is subject to subsection 44(3), which states that "*a provision of a railway order referred to in subsection (2)(g) shall not require such an amount of financial resources to be committed for the purposes of the provision being complied with as*

would substantially deprive the person in whose favour the order operates of the benefits likely to accrue from the making of the order".

9.7.29. I recommend that a condition be attached in accordance with section 44(2)(g) of the 2001 Act, as outlined above, on the basis that it would constitute a gain to the community and in the interests of road safety.

9.7.30. **Illegal Dumping/Anti-Social Behaviour**

9.7.31. With regard to potential antisocial behaviour or illegal dumping on the remaining cul de sac roads, there is no substantive evidence before the Board to conclude that this is likely to occur at a significant level, with the presence of a number of houses on the northern side of the railway line likely to discourage such activities. Given that the remaining roadway will still be a public road in the charge of the local authority, the management and maintenance of the roadway will remain a function of the local authority and any illegal dumping would be a matter for enforcement by the authority under the appropriate legislation.

9.8. XC201 Thomastown (Co. Limerick) Specific Issues

9.8.1. At XC201 Thomastown it is proposed to close the existing level crossing, extinguishing the public right of way, and to divert the local road L8572 to the south west, connecting to a new junction on the R515 Regional Road via a new road overbridge over the railway line. The proposed new section of roadway would have a carriageway width of 4m, with 1m grass verges on both sides. The carriageway would increase in width in the vicinity of the proposed overbridge to provide passing opportunities.

9.8.2. **Road Design Issues**

9.8.3. A number of the written submissions and the submissions to the oral hearing relate to the width of the proposed road, which is contended to be inadequate for the volume and type of traffic utilising the road, which includes agricultural machinery, animal feed deliveries etc. and which is not wide enough for two vehicles to pass. While the submissions are generally in favour of the removal of the level crossing, on the basis that it will improve connectivity within the Effin community and improve access to Effin GAA Club, they generally seek that that a two lane road be provided. A number of the submissions also raise road safety concerns with regard to the

proposed junction with the R515, particularly for traffic seeking to turn off the R515 onto the new road but being unable to do so, due to the presence of opposing traffic on the new local road waiting to turn onto the R515. It is contended that stacking of cars will consequently occur on the R515, resulting in a traffic hazard.

9.8.4. The submission made by Joe and Nuala O'Connor reiterate these points, and they stated that there have been 28 road traffic accidents on the R515 in the last 10 years, including two fatalities. Minister Patrick O'Donovan TD noted that the R515 links the strategic towns of Kilmallock and Charleville and that it serves as the main artery for the community of Effin, which has been split in two by the railway line. While reiterating the points regarding the width of the proposed road and the need for a right-turning lane on the R515, he noted that the removal of the level crossing is an opportunity to provide uninterrupted access between both sides of the Effin community. This position is restated in Scoil Náisiúnta Mhuire's submission. The school notes the difficulty in accommodating children from the northern side of the railway line due to the barrier effect. While they welcome the removal of the level crossing, they seek the same changes to the road proposal.

9.8.5. Limerick City and County Council, in their submission, also raised the issue of unnecessary queuing on the R515 at the proposed junction. They sought that a condition be included to require the realigned road to be widened locally to an agreed length to allow traffic from the R515 to enter onto the proposed road and safely pass traffic queueing in the opposite direction.

9.8.6. Subsequently, a copy of an agreement between the applicant and LCCC was submitted at the oral hearing on 27th September 2022 (Ref. 9). It states that the following will be incorporated into the detailed design and construction:

1. The realigned carriageway will include widening of the road at the junction with the R515 for a distance of 30m for a minimum width of 5.5m.
2. A passing bay shall be provided on the Northern side of the carriageway in advance of chainage 100 for a minimum of 20m with a minimum width of 5.5m total.
3. The scheme will be constructed in accordance with the TII Publication and Specifications.

9.8.7. I note that the traffic counts for XC201 provided in Section 11.5.2 of the EIAR indicate a low level of traffic on the local road to be realigned and a corresponding low level of turning movements between the R515 and the local road.

9.8.8. The applicant's response to the issue of providing a right-turning lane on the R515 was addressed in the submissions of Colin Wyllie and Gerry Healy to the oral hearing (Refs. 10 and 2, respectively). Mr Healy noted that, under TII guidance[2], a requirement for a right-turning lane arises with an AADT of between 600 – 5,000 movements on the minor road. The EIAR traffic counts indicate a significantly lower number of turning movements than this minimum requirement. The Board should, however, note that the level crossing gates at XC201 are normally closed, and are lifted as requested during the manned hours of 07:30 – 23:30. Due to this restricted mode of operation, I consider it likely that a certain degree of local traffic familiar with the restrictions is likely to be currently choosing alternative routes where possible, with existing road-over-rail bridges located further to the north east and south west, accessed from the R515.

9.8.9. This point and the consequent likely increase in traffic once the severed community is reconnected in an unrestricted manner was raised in a number of submissions, including the submission and petition submitted by the Effin/Garrienderk Community (c/o Joseph Clifford).

9.8.10. While the removal of the level crossing and the improved road access and connectivity may attract additional traffic movements as a result of traffic redistribution, given the nature and characteristics of the receiving environment and the lack of new trip generators, there is no reason to believe that a significant level of additional turning movements would be generated as to justify a right-turning lane on the R515, with reference to TII standards for the provision of such lanes.

9.8.11. Notwithstanding this, I do share the concerns raised in the submissions and by the Local Authority regarding the potential for turning vehicles getting 'trapped' on the R515 due to the new junction being occupied by opposing traffic exiting the local road.

9.8.12. I consider that the proposed localised widening of the new road at the junction with the R515, as per the abovementioned agreement between the applicant and LCCC

[2] TII Publication DN-GEO-03060: 'Geometric Design of Junctions'.

would be sufficient to allow vehicles to turn onto the new road if opposing traffic is waiting on the new road to turn onto the R515. Having reviewed the relevant land acquisition maps, I am satisfied that the modifications, as outlined in the agreement, can be accommodated within the proposed permanent land acquisition envelope and without requiring that any additional lands be acquired.

9.8.13. While a number of submissions have noted previous accidents on the R515, the road is particularly straight in the vicinity of the proposed junction, is in good condition and has very good forward visibility in both directions. The submitted drawings indicate that sightlines of 160m onto the R515 from the new junction can be achieved in both directions.

9.8.14. Richard O'Donoghue TD, in his submission, contended that traffic surveys undertaken in October 2019 were not an accurate reflection of actual vehicles numbers and types, with the summer months experiencing significant volumes of large agricultural traffic as well as increased tourist and domestic traffic. Mr Wyllie's response was that October is considered a neutral month by TII for the undertaking of traffic surveys and that TII guidance was followed in converting traffic to AADT flows and uplifting to the forecast year of opening.

9.8.15. Mr O'Donoghue also sought that provision be made for pedestrians and cyclists. Given that there is no footpath/cyclepath at either end of the proposed realigned road section, on either the R515 or the existing local road, I do not consider that the provision of footpath/cycle paths would be warranted in this sparsely populated rural location, since there is no wider network to safely connect to. A grass verge is provided, which will offer a refuge for any pedestrians encountering vehicular traffic.

9.8.16. At the oral hearing, John O'Donoghue made a submission on behalf of Mr O'Donoghue TD, and stated that the road should be designed for today and tomorrow and not yesterday. He noted the width of modern agricultural machinery and the increased size of family cars and asked that the bridge and road be future-proofed. Mr Healy, on behalf of the applicant, confirmed to Mr O'Donoghue that the 7m kerbed width of the bridge was designed to accommodate two lanes in the future, but would be marked for one lane. Mr Healy stated that no issues with regard to the R515 had been identified in the RSA and that a right-turning lane was not warranted

due to traffic levels and that LCCC Engineers had not identified any issues in this regard.

9.8.17. Joe O'Connor, Joseph Clifford and Donal Kelly also made submissions at the oral hearing, welcoming the road overbridge proposal, given the issues with accessing the GAA Club and school, but reiterating the concerns regarding the road width, the junction with the R515 and the absence of a right-turning lane. They raised personal experiences of road traffic accidents and the level of traffic experienced on the R515.

9.8.18. With regard to the proposed width of the realigned road, I note that the existing roadway leading to the level crossing is of a similar or lesser width, as is the roadway to the south, which the proposed realigned road will tie into. Given the relatively short c. 0.57km length of the realigned road, I do not consider that a wider two lane road would be warranted, given the low traffic volumes, the rural character of the area and the need to tie into the existing narrow road to the south. I agree with the argument put forward by Gerry Healy on behalf of the applicant at the oral hearing, that such a road would encourage higher vehicle speeds which would be unsuitable given the limited length of the road. The provision of passing bays is in accordance with TII standards and subject to the localised widening of the road at the junction with the R515 and the provision of an additional passing bay, I consider that the proposed road width is appropriate for the site context and the level of traffic experienced.

9.8.19. Should the Local Authority decide to widen the road in future, I note that the proposed bridge over the railway line has a 7m wide carriageway, which would be sufficient to cater for two traffic lanes. I consider this to be a reasonable approach to future-proofing the development and minimising the potential for future disruption to the operation of the railway line at this location.

9.8.20. In conclusion on this issue, I consider that the proposed design approach, as modified by the agreement reached with LCCC, represents a reasonable balance between improvements to railway and road safety, minimising land acquisition to the minimum required and facilitating traffic movements.

9.8.21. **Drainage Issues**

9.8.22. The submission made by David Fleming queried the potential impact of the proposed road on the drainage of his land, which he stated discharges onto neighbouring property that will be under the new road development. He also queried the

maintenance regime and responsibility for proposed drainage systems. Heidi Sewnath, in her submission to the oral hearing (Ref. 6), responded to Mr Fleming's submission. She advised that the drainage design will be in accordance with TII standards for such works, with over-the-edge drainage, new swales draining back to low points and discharge into local water bodies at greenfield run-off rates. Piped culverts will be provided where drainage passes under junctions/access points. I am satisfied that the drainage design has been adequately considered and that standard TII road drainage methods with a proven track record are proposed. There is no evidence before the Board that the proposal is likely to result in drainage issues for adjacent lands. Finally, with regard to maintenance of the drainage system, I note that it is proposed that the new roads will be taken in charge by LCCC. The Local Authority would therefore be responsible for future maintenance of road drainage.

9.8.23. **Residential Amenity**

9.8.24. The submission made by Joe and Anne Clifford on behalf of their family and Brother Donie Cotter states that the proposed bridge will provide a bird's eye view into their farmyard and Brother Cotter's house and they seek that screening be provided. Richard Barker (Macro Works) responded to this issue on behalf of the applicant in his submission to the oral hearing (Ref. 14). He noted that screening is proposed along all embankments at XC201 and will provide a dense band of screening as it matures. Having reviewed the landscaping proposals, I am satisfied that the proposed development will not result in an undue level of overlooking of the observers' properties or significantly impact on residential amenity through loss of privacy. While impacts will arise in the short-term, they will lessen as planting becomes established and provides effective screening.

9.8.25. **Illegal Dumping/Anti-Social Behaviour**

9.8.26. The submission made by Joe and Anne Clifford on behalf of their family and Brother Donie Cotter states that the areas marked as XC201.T.09, XC201.T.10, XC201.T.08 and an island of land adject to XC201.T.08 appear to be 'no man's land', with the potential to become areas for illegal dumping or anti-social behaviour if their ownership is not established.

9.8.27. Plots XC201.T.09, XC201.T.10 are proposed temporary acquisitions of the existing road on the southern side of the level crossing, which will be severed by a blockwork

wall, becoming a cul de sac. The owners of these lands are identified in the Schedule attached to the railway order. The residual road will be retained for access purposes. With regard to the island area referenced in the submission, it appears that this is a roughly triangular piece of land on the eastern side of the junction of the new road and the residual cul de sac. It is proposed to provide landscaping planting in this area. There is no reason to believe that the areas in question are likely to be at increased risk of illegal dumping or anti-social behaviour as a result of the proposed development and any such activities would be a matter for the Gardai or the Local Authority as appropriate.

9.9. XC209 Ballyhay (Co. Cork) Specific Issues

9.9.1. The proposed development at XC209 Ballyhay entails the upgrade of the existing level crossing to a CCTV controlled level crossing. This will include the removal of existing level crossing gates and installation of a 4-barrier CCTV controlled level crossing, construction of a single storey Relocatable Electrical Building (REB) building, barriers, traffic lights, warning lights; lighting and CCTV towers and associated development.

9.9.2. The level crossing arrangement at XC209 Ballyhay is somewhat unusual as there a fork on the L5531 local road, immediately adjacent to the level crossing on the eastern side of the railway line, with the Awbeg River also passing under the L5531 at this location, with both the railway line and the L5531 carried on separate short bridges over the river. A house, which is indicated as being within the applicant's ownership, is located immediately adjacent to the railway line on the western side of the level crossing, while Ballyhea Cemetery is located a short distance to the south west.

9.9.3. I note that the only submissions to raise issues in relation to XC209 Ballyhea were the written submissions by Colm Moore and Cork County Council. None of the submissions at the oral hearing related to this level crossing (other than the applicant's responses to the written submissions). Cork County Council's submission did not raise any objection to the proposed development at XC209, but noted the environmental sensitivities of the site.

9.9.4. Mr Moore's submission states that, while XC209 is more complicated than the other locations, adding a bridge would be desirable.

9.9.5. While I consider that the physical grade separation of vehicle/pedestrian traffic and railway traffic is preferable from a public safety and public transport reliability perspective, it is clear from my description above and the submitted information that there is currently a complex and constrained arrangement in the immediate vicinity of XC209 which renders the alternative options of road closure or a road overbridge difficult to achieve without impacting on the natural environment. Furthermore, having regard to the rural location of the level crossing and the low level of housing or other non-agricultural uses in the vicinity, there is no reason to believe that significant numbers of pedestrians or cyclists will utilise the level crossing. I note the submitted traffic survey results in this regard.

9.9.6. I note that these various options for the level crossing were considered at the Feasibility Study stage, with an overbridge initially identified as an emerging preferred option. Various options for the alignment of the overbridge and approach roads were considered as part of the multi-criteria analysis undertaken. However, the applicant states that due to the proximity of the site to the Awbeg River, which is hydrologically linked to Blackwater River SAC and the scale of the required bridge structure and associated impacts on the surrounding environment, the overbridge option was ultimately discounted with the current CCTV controlled option being progressed instead.

9.9.7. Currently, the level crossing is usually open to road traffic during the day, with the gatekeeper closing the gates as required to facilitate train movements. At night-time the level crossing is closed and unmanned between the hours of 23:30 and 07:30, during which period no road traffic can pass. The proposed CCTV controlled crossing will enable it to be opened on a 24-hour basis, with remote monitoring undertaken at the applicant's Level Crossing Control Centre in Mallow. I consider this to be a positive impact, which will benefit the local community through improved connectivity and access to the N20, with the L5531 meeting the N20 c. 1km to the west of the level crossing.

9.9.8. In my opinion the proposed CCTV controlled option is a reasonable compromise for this level crossing, given the complexities of the site and the minor nature, scale,

extent and duration of the construction works required to implement the development. I also note that the extent of permanent land acquisition required to facilitate the proposed development at XC209 is minimal (c. 14 sq m), with temporary acquisition of the roadways either side of the level crossing to facilitate construction works.

9.9.9. In conclusion, given the existing patterns of development in the area and the existing relatively low traffic levels on the road, I am satisfied that the CCTV monitored approach is acceptable at this location.

9.10. XC211 Newtown & XC212 Ballycoskery (Co. Cork) Specific Issues

9.10.1. The proposed development at XC211 Newtown entails the closure of the existing level crossing and the extinguishment of the public right of way and the construction of a new link road east of the railway line, connecting to the existing L5535 local road and an existing road-over-rail bridge to the north of XC211 and to tying into the existing L5534 to the south of XC211, which leads into Ballyhea village.

9.10.2. The proposed development at XC212 Ballycoskery entails the closure of the existing level crossing, extinguishment of the public right of way and the construction of a realigned L1533 to the south of the existing road and a new road-over-rail bridge, to tie into the existing L1533 to the east and west of XC212. The proposed development also includes reconfiguration of the existing crossroads junction to the east of the level crossing, retaining walls, pedestrian walkway, construction of a car park and turning area at Ballyhea National School, demolition of former level crossing gate keepers building and ancillary single storage building and associated works.

9.10.3. **Alternatives to an Overbridge**

9.10.4. Many of the written and oral submissions made in relation to XC212 Ballycoskery raise concerns with regard to the proposed overbridge and instead seek either an underpass solution, an automated level crossing or that the status quo be retained. Further to this, it is also contended by a number of observers that the applicant's examination of alternatives was inadequate.

9.10.5. The applicant's response, as provided in the submission by Gerry Healy (Jacobs) to the oral hearing (Ref. 2), was that alternative solutions to close/de-man the level

crossings were considered using Multi-Criteria Assessment (MCA) as part of the 2019 Feasibility Study and that the best performing solution was the Alternative Access/Overbridge. He stated that an Options Report was then undertaken to appraise the various Alternative Access/Overbridge options, including an underbridge, and that the proposed overbridge was the best performing option based on the Common Appraisal Framework criteria used.

9.10.6. At the oral hearing, Michael O'Kelly made a submission on behalf of Noel and Margaret Hanley, both residents of Ballyhea (Ref. 25). Mr O'Kelly also submitted a document prepared by Jozef Mountain, a civil engineer and director of Big Hill Associates Ltd. (Ref. 26). The document is stated to be a commentary on the proposals and sets out various queries with regard to the subject proposal and proposes a number of alternative solutions, including 'do-nothing', an automated crossing, underpasses or a redesign of the current proposal. Mr O'Kelly submitted that the applicant had failed to adequately assess the alternatives and that the proposed development at XC212 should therefore be refused.

9.10.7. Mr Healy provided a response to this report, on behalf of the applicant, stating that the questions raised in the Big Hill report were generally addressed in the application documentation, including the CEMP. With regard to the alternative options, he referred again to the MCA undertaken. With regard to the underpass option, he stated that it would be under the water table and that a pumped drainage solution would be required to prevent it flooding, which he stated was less than desirable.

9.10.8. Mr O'Kelly also made a submission on his own behalf at the hearing (Ref. 21), in which he again queried the need for the crossing and contended that cost was the main factor in proposing an overbridge rather than an underpass. He raised concerns regarding the impact of the proposal on the village and on residents of Beechwood Drive.

9.10.9. Similar issues with regard to alternatives were raised at the oral hearing by Brian McCutcheon on behalf of the Trustees of the Diocese of Cloyne.

9.10.10. Having regard to the location of the XC212 crossing on a relatively busy local road, separating a school and community hall from the majority of the village's residents, I consider the elimination of the level crossing and the physical separation of rail and vehicle/pedestrian movements to be desirable from a public safety perspective.

While the CCTV automated option would increase safety, when compared to a 'do nothing' scenario, there remains a degree of inherent risk with such an arrangement in my opinion, given the proximity of the school and the speed of intercity trains. I therefore do not accept the argument made by the Board of Management of Ballyhea National School that an overbridge is not demonstrably safer than an automated gates solution. In this regard I note the guidance contained in the Commission for Railway Regulation's 'Guidelines for the Design of Railway Infrastructure and Rolling Stock', which is discussed at Section 11.3 below.

9.10.11. I note that the Feasibility Report, which appraised the high level options for XC212, utilised the standardised criteria contained in the Common Appraisal Framework for Transport Projects and Programmes (Dept. of Transport). Having reviewed the Feasibility Report, I agree with its conclusion that an 'alternative access/overbridge' is preferable to the 'do nothing' and CCTV options.

9.10.12. With regard to the nature of the 'alternative access/overbridge' option, as noted in Section 9.2 above, the Cork County Development Plan contains a Specific Development Objective (U-01) for a road realignment to the south of Ballyhea village but it is not prescriptive with regard to whether an overbridge or underbridge should be provided.

9.10.13. With regard to the underbridge option, observers noted the provision of agricultural underpasses in cases where lands are severed. I do not consider this an accurate comparison, as a public road underbridge under the railway line would need to be a very substantial structure to accommodate two-way traffic, pedestrians, high vehicles etc. This would entail extensive excavations given the need for a level railway alignment and given the site topography would likely result in heavy engineering works and substantial retaining walls. The engineering and environmental complexity of this option is reflected in the Multi-Criteria Assessment undertaken by the applicant.

9.10.14. Having reviewed the analysis of alternatives undertaken by the applicant, I consider that due consideration has been given to the options for addressing the road/rail interface, and I concur with the applicant's assessment and identification of the preferred option. That is not to say that the proposed overbridge option will not result

in adverse planning and environmental impacts, however these will be addressed as appropriate throughout this report.

9.10.15. **Impact on Ballyhea National School**

9.10.16. Along with the proposed overbridge, the potential impact on Ballyhea National School and the proposed development of a new car park in front of the school was raised in a number of submissions. The Board will note, in particular, the written and oral submissions made by the Board of Management (BoM) of Ballyhea National School and by the Trustees of the Diocese of Cloyne. The BoM state that they never requested the car park, had no input into its design and were not consulted with regard to its operation. There was some dispute at the oral hearing between the applicant and the representatives of the school regarding what communication and consultation had occurred prior to the making of the application.

9.10.17. Marie O'Hanlon-McInerney, in her submission to the oral hearing (Ref. 18) on behalf of the BoM, outlined the difficulties the school experiences in attracting pupils, with a fall in numbers in recent years. She contended that ease of access was a particular issue, and expressed concern that the M20 project and the subject development would reduce ease of access.

9.10.18. Monsignor James O'Brien, in his submission to the oral hearing (Ref. 18A) on behalf of the BoM, responded to the applicant's submissions to the oral hearing and clarified that the BoM's concerns around anti-social behaviour at the car park were not limited to fly-tipping but also included criminal activity including drug dealing and 'voyageur visits'. The Monsignor identified the existing parking areas within the village, and expressed the view that no further car parking was required.

9.10.19. With regard to the accessibility of the school, I consider that the removal of the level crossing and the associated delays when the barrier is closed, and the provision of a good quality road link to the school from both the Beechwood Drive area and the wider locality and the provision of pedestrian facilities would improve the accessibility of the school, while the realignment of the road to the south will move the majority of road traffic further away from the school, with benefits in terms of both noise and safety. Similarly, a good level of access will be maintained for the Community Hall.

9.10.20. Given the unusual situation that the applicant is proposing a car park for the benefit of the school, but the school representatives state that they never requested a car

park and do not want it, I asked the applicant at the oral hearing what the genesis of the car park was? The applicant stated that it had arisen from the previous Local Area Plan for the area. The plan in question is the Fermoy Municipal District Local Area Plan 2017, which indicated a road realignment to the south of the existing road and stated that "*this may result in the creation of a new parking area in front of the school*". That LAP has been superseded by the new Cork County Development Plan 2022-2028, which retains the road realignment objective, but which does not refer to a new parking area.

9.10.21. The submission made by the Board of Management of Ballyhea National School following the addendum public notice raised the manner in which the current formulation of the objectives for Ballyhea village as set out in the recently adopted Development Plan were arrived at. However, I do not consider that these are matters of relevance to the Board's consideration of the case. Simply put, it is an objective of the adopted CDP to realign the road in Ballyhea village to the south and the CDP is silent with regard to how the interface between the realigned road and the railway line is to be addressed. The CDP is also silent with regard to any car park provision as a consequence of the realignment.

9.10.22. Currently there are hardstanding setdown/parking areas on either side of the local road in front of the school. As a result of the proposed development, and the diversion of the local road to the south over the proposed overbridge, the residual portion of road outside the school will become a cul de sac. Given the practical effect of the road severance on the school, I consider it reasonable and appropriate for the applicant to provide alternative parking and turning facilities in the vicinity of the school in the interests of proper planning and public safety.

9.10.23. If the car park were to be omitted, the alternative would likely be a landscaped earth embankment in place of the proposed retaining wall, as with the other parts of the road overbridge and its approaches. That is to say, the acquisition of the land on which the proposed car park is located would be required in any event to construct the overbridge. I consider the proposed arrangement to be a more suitable use of land within the village to provide an amenity that will be of benefit to the community.

9.10.24. The school representatives concerns regarding the practical implications of the proposed car park, such as lighting, safety issues, insurance, maintenance, anti-

social behaviour, child protection etc. are understandable, given that the car park is primarily for use in connection with the school but is located on third party lands that the applicant is intending to acquire.

9.10.25. The Board will note the agreement reached between the applicant and Cork County Council, a copy of which was submitted to the oral hearing on the 28th September 2022 (Ref. 23). Item 9 of this agreement states that:

> *"The roads, footpaths, **carpark**, walls, retaining walls and any other open space adjacent to the public road at Ballycoskery National School and Church grounds will be taken in charge by Cork County Council on receipt of the safety file after, the period of 1 year and subject to final inspection at the end of that period. To be clear the bridge will be maintained by Irish Rail and this shall include any retaining walls which are integral to the bridge structure."*
> [Emphasis added.]

9.10.26. Given that the proposed car park would ultimately be taken in charge by CCC, its management and issues relating to insurance and maintenance would be a matter for the Local Authority rather than the school, which I consider to be appropriate given the location of the car park outside of the school's premises.

9.10.27. Finally, with regard to the concerns regarding potential anti-social behaviour at the proposed car park, there is no compelling reason to believe that significant issues would arise, given the car park's location in a small rural village and the proposal to provide lighting both in the car park and on the roads leading to it. I note that there are already parking and setdown areas in front of the school and there is no reason to believe that additional anti-social behaviour would occur as a result of the proposed development.

9.10.28. **Design of Proposed Overbridge**

9.10.29. The design of the proposed road realignment and overbridge at XC212 Ballycoskery was the subject of a number of written and oral submissions.

9.10.30. A number of the submissions raised concerns regarding accessibility issues and the ability of older people or people with reduced mobility to traverse the overbridge. These matters were also raised at the oral hearing in the submissions made by Bernadette Leahy (Ref. 27) and Maurice O'Riordan (Ref. 22) who was recently a Board member of Cork County Council's Age Action Group.

9.10.31. Mr O'Riordan contended that there had been a lack of consultation with the Age Action Group. In response, Rory McDonnell, the applicant's planning consultant, outlined the various stages of consultation that had been undertaken. As outlined in Section 9.6 above, I am satisfied that the consultation undertaken was suitably extensive and meaningful. Gerry Healy, the applicant's engineering consultant, confirmed that the maximum gradient of the proposed footpaths would be compliant with the relevant TII standards, and would not exceed 8%.

9.10.32. Monsignor O'Brien noted that the new Development Plan included Age Action policies and queried if those principles had been applied to the proposal? Mr Healy noted the proposed footpaths which he reiterated would be in compliance with standards for gradients. He also noted the ramp on the western side of the overbridge, which he said would provide a gentler slope.

9.10.33. Given that gradients for pedestrians will be in compliance with the relevant TII standards, I consider that there is no reason to believe that the proposed incline would be unsuitable for persons with reduced mobility. While the distance between both sides of the village will increase due to the southward realignment of the road, the difference will be minimal and given the removal of the level crossing barriers, it may be faster than the current arrangement at times. Extensive landscaping is proposed together with lighting and I consider that the pedestrian experience would be positive.

9.10.34. With regard to the design of the bridge itself, the submission on behalf of the Trustees of the Diocese of Cloyne contends that the proposed overbridge is a generic design as used on motorway projects and that there has been no attempt to arrive at a design solution which respects the urban form and built heritage of Ballyhea and the tradition of Victorian railway engineering. Bryn Coldrick, in his submission to the oral hearing (Ref. 13) on behalf of the applicant, responded that the bridge design is not generic and that it has been designed in accordance with TII standards (DN-GEO-03031 Rural Road Link Design).

9.10.35. Bernadette Leahy, in her submission to the oral hearing (Ref. 27), did not accept the response given by Richard Barker, the applicant's landscape consultant, to her written submission. She noted that the proposed development would be twice the

height of the community hall and she considered that he had offered little surety that the mitigation measures would be effective.

9.10.36. In responding to the submission made on behalf of Ballyhea Community Hall Committee, Rory McDonnell, the applicant's planning consultant, contended that the scale and design of the proposed overbridge was proportionate to the traffic volumes, speeds and other requirements for such structures. Monsignor O'Brien contended that it was disproportionate to the scale of the village and was not appropriate for the location. Mr McDonnell responded that it was appropriate from a safety perspective, given the need to clear the railway line, and that the extensive planting proposed would soften its impact.

9.10.37. The proposed bridge is a substantial but functional structure, of a utilitarian design typical for rural road overbridges. However, this bridge will be located within a village setting, with a substantial precast concrete retaining wall facing Ballyhea National School as a result of the proposed car park.

9.10.38. As noted above, the likely physical result of omitting the car park would be a planted embankment, as with the other parts of the realigned road. It is the car park which necessitates the retaining wall at this location, and while the wall would have a greater adverse effect than a planted embankment, I consider that the benefit of the car park would outweigh this.

9.10.39. At the oral hearing I queried if alternative finishes or design treatments had been considered for the precast concrete retaining wall and bridge parapets given the village setting of the overbridge. Mr Healy stated that the intention was to plant climbers to reduce the visual impact, but that the design was standard for railway bridge proposals.

9.10.40. While I accept that the proposed planting of shrubs and ivy against the retaining wall would reduce the visual impact to a degree, given the context of the bridge, facing the national school, I consider that natural stone cladding would be a more appropriate design response for this village setting, with numerous such walls present within the village already. I recommend that this be required by way of condition.

9.10.41. Subject to this condition and the proposed landscaping works, I consider the design of the proposed overbridge to be acceptable.

9.10.42. **Noise**

9.10.43. A number of the submissions raised the issue of noise impacts on local residents, while the submission from the Board of Management of Ballyhea National School raised concerns regarding noise impacts on the school rooms racing the proposed development to the south.

9.10.44. The applicant responded to this at the oral hearing in the submission given by their noise consultant, Chris Conroy (Ref. 12). Mr Conroy noted that the road would be moved c. 30m from its current position, further away from the nearest receptors, and stated that the operational road traffic noise levels would therefore be the same or lower.

9.10.45. With regard to noise impacts on Ballyhea National School, Mr Conroy stated that there would be a decrease of 4dB in road traffic noise, due to the road moving further away from the school. With regard to construction phase noise impacts on the school, he outlined the proposed mitigation measures, including use of noise abatement hoardings and screens and use of sound reducing enclosures. With the mitigation measures in place, he stated that the noise level of 63dB at the school would be less than the 65dB threshold level.

9.10.46. Mr Conroy stated that the highest noise levels are expected to occur during the road surfacing phase, which is expected to last 8 weeks. He stated that this element should be programmed to take place during the school holidays, with other noisy works undertaken outside school hours where feasible.

9.10.47. The proposed construction phase noise mitigation measures are relatively standard measures for road construction projects and having regard to the scale, extent and design of the proposed development, I consider that the construction noise levels will be capable of being mitigated to an acceptable level for all receptors at XC212. While the applicant has stated that the road surfacing works ‘should’ be undertaken during the school holiday, this is not a clear commitment and therefore in the interests of clarity I recommend, should the Board be minded to grant the Railway Order, that a condition be included requiring that said works take place during school holidays.

9.10.48. **Road Design Issues**

9.10.49. The proposed development at XC212 is stated as having been designed in accordance with TII standards for rural roads. At the oral hearing I queried why the Design Manual for Urban Roads and Streets had not been used instead, given the village setting and the 50km/hr speed limit on the local road. This issue was also raised by Brian McCutcheon on behalf of the Trustees of the Diocese of Cloyne.

9.10.50. Mr Healy stated that DMURS was aimed at urban areas and streetscapes, while the applicant considered Ballyhea to be a rural, non-urban, classification.

9.10.51. Section 1.3 of DMURS states that:

> *"The principles, approaches and standards set out in this Manual apply to the design of all urban roads and streets (that is streets and roads with a speed limit of 60 km/h or less), except:*
>
> *(a) Motorways.*
>
> *(b) In exceptional circumstances, certain urban roads and streets with the written consent of Sanctioning Authorities."*

9.10.52. The Minister's preface to the manual states that it "*offers a holistic approach to the design of urban streets in cities, towns, suburbs and villages in Ireland*."

9.10.53. While Ballyhea is a very small village it is, nonetheless, a village where the speed limit is less than 60km/hr and therefore I believe that the applicant is incorrect in their assertion that DMURS is not applicable.

9.10.54. While I consider that the design is generally consistent with the provisions of DMURS and that the proposed carriageway width is appropriate for the context and traffic level, the corner radii would appear to be overly large which would facilitate faster vehicle turning movements, potentially affecting pedestrian safety. I do not consider that reducing the corner radii as outlined in DMURS would materially alter the scheme as proposed.

9.10.55. If the Board is minded to grant the Railway Order, I recommend that a condition be included requiring that the proposed development at XC212 be consistent with DMURS.

9.10.56. **Biodiversity Issues**

9.10.57. A number of the submissions relating to XC211 and XC212 raised concerns regarding the potential impacts on biodiversity, particularly with regard to bats and on the area of Annex I habitat that it is proposed to translocate. These issues are addressed in Section 11.7 below.

9.11. XC215 Shinanagh (Co. Cork) Specific Issues

9.11.1. The proposed development at XC215 Shinanagh entails the closure of the existing level crossing and the extinguishment of the public right of way and the construction of a new realigned road, connecting the L1320 local road to the L5507 local road and connecting to the existing Shinanagh road-over-rail bridge c. 1km to the north of XC215. It also includes the upgrade of the existing junction of the L5507 onto the N20 national road and associated works.

9.11.2. I note that the only written submissions to raise issues specific to XC215 Shinanagh were the submissions by Colm Moore and Cork County Council. Subsequently, a new observer, David Hickey, made a submission relating to this level crossing at the oral hearing on 28th September 2022.

9.11.3. **Anti-Social Behaviour, Littering and Screening**

9.11.4. Mr Hickey resides in a house adjacent to Shinanagh Bridge and raised concerns regarding the implications of closing off a section of existing roadway outside his dwelling and the potential for anti-social behaviour and littering at this location. He sought the applicant's assurances regarding the landscaping of this area and he also queried the height of the proposed road embankment in this location, which he noted was 5m high. He sought that the elevation of the embankment be reduced if possible, or if not, that adequate mature trees and landscaping planting be provided.

9.11.5. Gerry Healy, responding on behalf of the applicant, confirmed that the area of road in question would be broken up and covered with soil and landscaping. With regard to the embankment, Mr Healy stated that its height was fixed in order to meet the required road geometry standards and could not be lowered. Richard Barker, the applicant's landscape advisor, referred to the submitted landscaping plans and confirmed that the embankment would be planted with low canopy species, semi-mature trees and a tree-lined hedgerow along the boundary, with the two layers of tree planting providing a good level of screening.

9.11.6. Having reviewed the submitted drawings and supporting documentation, I am satisfied that the applicant has adequately addressed the observer's concerns regarding planting and landscaping and that the visual impact on the observer will be at an acceptable level, and that the treatment of the existing portion of road at this location has been adequately considered.

9.11.7. **Impact on Shinanagh Railway Bridge**

9.11.8. Cork County Council's Architectural Conservation Officer, in their written submission, queried the applicant's intent with regard to the existing railway bridge at XC215. I have addressed this issue in Section 11.14 below.

9.11.9. **Road Safety**

9.11.10. I consider that the proposed design solution at XC215 represents a considerable improvement from a road safety perspective than the current arrangement. XC215 is located several metres from the edge of the N20 National Road, with limited queuing space available in front of the level crossing barrier for traffic turning off the N20, creating a potentially dangerous situation given the 100km/hr speed limit on the national road. My photographs included on file demonstrate this potentially unsafe arrangement, with insufficient space for vehicles to queue while waiting for the barrier to be raised. The proposed development would remove this junction and improve the existing junction of the L5507 with the N20 and the manner in which the L5507 and the existing local road to the west connect to Shinanagh Bridge.

9.12. XC219 Buttevant (Co. Cork) Specific Issues

9.12.1. The proposed development at XC219 Buttevant entails the closure of the existing level crossing and extinguishment of the public right of way and the construction of a new road-over-rail bridge tying into the existing R522 regional road to the east and west and associated development including a c. 14.5m long river bridge structure and box culvert across a tributary of the Awbeg River.

9.12.2. **Visual and Residential Amenity**

9.12.3. The submission made by Nagle Solicitors on behalf of Drs. Michael Kennedy and Deidre O'Reilly states that the proposed road will result in overlooking, loss of privacy and the potential for headlight glare on their property, due to its alignment

and elevated position compared to the existing road. The submission also included a report from MHL Consulting Engineers elaborating on the issues raised.

9.12.4. Dr Kennedy and Dr O'Reilly's house is located to the east of the railway line, on the southern side of the R522, at the point at which the proposed realigned road would diverge from the existing road. Their house is surrounded by dense hedgerows/planting and is set back from the road by c. 44m. The current boundary arrangement is a low stone wall and dense hedgerow, with a footpath along the R522. It is proposed to permanently acquire a thin strip of land to facilitate the road realignment and the marginal set back of the boundary wall to the west of the entrance to the dwelling. It is proposed to provide a footpath on the realigned portion of road outside this dwelling.

9.12.5. Richard Barker (Macro Works) responded to this issue on behalf of the applicant in his submission to the oral hearing (Ref. 14). He noted that mitigation screening is proposed along the embankments on both sides of the road and stated that this will provide effective screening. He also noted that the observers' property is surrounded by an existing tree-lined hedgerow, providing an additional level of screening.

9.12.6. Dr O'Reilly subsequently made a submission at the oral hearing reiterating her concerns regarding noise, the change in level and direction of the road and associated impacts due to light glare and reduction of privacy. She also queried how long it would take for the proposed planting to grow and provide effective screening, noting that the existing hedgerow had taken 20 years to grow.

9.12.7. Mr Barker noted the existing screening planting on the western side of the observers' property and the separation distance from their house as well as the proposed planting on the embankment. Along the roadside boundary, he accepted that some planting would be removed but, noting the depth of the thicket at this location, he stated that the applicant would seek retain as much of this as possible and would bolster it as necessary. Mr Barker stated that it would be possible to provide additional semi-mature tree planting at this location to provide an instant screening effect and address glare and privacy concerns.

9.12.8. Subsequently, the applicant included an additional commitment in the updated Schedule of Mitigation submitted at the oral hearing in respect of this property, as follows:

"In respect of Dr. Kennedy and Dr. O'Reilly's property, CIE will undertake additional planting of semi mature native species (which will be carried out with the co-operation and in conjunction with the owner's) so as to deal with the issue of delay in maturity and to provide for improved screening."

9.12.9. Having reviewed the landscaping proposals and visited site, I am satisfied that the proposed development will not result in an undue level of overlooking of the observers' property or significantly impact on residential amenity through loss of privacy or light glare. While some impacts may arise in the short-term, they will lessen as planting becomes established and provides effective screening. In this regard, I consider the proposal to provide additional semi-mature planting in this location to be an appropriate enhancement of the mitigation measures.

9.12.10. Dr O'Reilly also raised issues with regard to existing noise from the use of Buttevant train station as a maintenance depot, the potential for operational phase noise impacts due to the road moving closer to their house and she sought that noise barriers be provided. In response, Chris Conroy, the applicant's noise consultant, stated that while the noise levels at this property would increase by more than 1dB, it would not satisfy the three criteria set out in the TII guidelines for providing noise mitigation, since the noise level at all facades of the property are predicted to be well below 60dBL_{den}.

9.12.11. Given the results of the noise modelling and noting the separation distances from the proposed road to the dwelling, I am satisfied that noise levels at this property or others in the vicinity of XC219 are not likely to be significant in the operational phase and that no specific noise abatement barriers are required. In the construction phase, I consider that the implementation of an effective Construction and Environmental Management Plan and the proposed noise mitigation measures will be adequate to ensure that no significant post-mitigation impacts arise.

9.12.12. Dr O'Reilly noted existing drainage issues on the R522 road outside their dwelling but stated that this did not appear to have been addressed in the application. The MHL report accompanying her written submission raised concerns regarding potential increases in flows of surface water into the roadside drainage, given the increased gradient on the realigned road.

9.12.13. Gerry Healy and Heidi Sewnath provided the applicant's response to these matters. Ms Sewnath advised that over-the-edge drainage would be used at this location, supplemented with swales, draining to a low point and discharged to existing ditches. She advised that the road drainage outside their property would not be connected into by the proposed development, and that there would not be any effect on existing drainage.

9.12.14. Dr O'Reilly also noted difficulties in exiting their dwelling due to current speeds on the road and asked that the Board direct the applicant to apply to Cork County Council to reduce the speed limit on the realigned road to 50km/hr. In response to this the applicant noted that speed limits were an executive function of the local authority. I note that it is proposed that the road would be taken in charge by the local authority and that a Stage 2 Road Safety Audit is proposed. Noting that the proposed road is designed in accordance with TII standards, I consider that the speed limit on this section of regional road are most appropriately a matter for the local authority, once they have taken the road in charge.

9.12.15. **Cultural Heritage – Buttevant Train Station**

9.12.16. The proposed development affects the former Buttevant Train Station. I have addressed the potential impacts on cultural and architectural heritage in Section 11.14 below. The Board will note the agreement submitted at the oral hearing between the applicant and Cork County Council (Ref. 23), which states that "*the scheme does not preclude the future use of Buttevant Station as a commuter rail station"*.

9.12.17. Having reviewed the drawings submitted, I would concur with this position. The proposed development retains a pedestrian link from the vicinity of the bridge to the town, with a sufficiently wide verge to provide future footpaths, as well as vehicular access to the former train station. There is no reason to believe that the proposed development would preclude any potential future reopening of Buttevant train station, as referenced in the County Development Plan.

9.12.18. **Water Quality and Biodiversity**

9.12.19. The potential impacts of the proposed development on an area of Annex I habitat and the potential impacts of the proposed bridge and culvert on aquatic biodiversity and surface water quality are addressed in Sections 11.7 and 11.9 below.

9.13. Other Issues

9.13.1. Agreements

9.13.2. The Seventh Schedule of the Draft Railway Order is entitled 'Agreements'. The Schedule submitted with the application was blank, however copies of agreements reached between the applicant and Limerick City and County Council and Cork County Council were submitted at the oral hearing on 27th and 28th September 2022 (Refs. 9 and 23, respectively). Having reviewed the agreements, I consider that their contents are acceptable and represent useful clarifications and revisions to the proposed development that are consistent with proper planning and sustainable development. The particulars of the agreements are addressed in the relevant sections of this report, where appropriate. Should the Board be minded to grant the Railway Order, I recommend that these two agreements be included in the Seventh Schedule.

9.13.3. Inclusion of Reasoned Conclusions and Environmental Conditions

9.13.4. At the oral hearing, Conleth Bradley SC, on behalf of applicant, sought to draw the Board's attention to SI 743/2021, 'European Union (Railway Orders) (Environmental Impact Assessment) (Amendment) Regulations 2021, which were made post-lodgement of the application.

9.13.5. In particular, it is noted that section 43 of the Act of 2001 (inserted by section 49(b) of the Act of 2006) is amended by article 12 of the abovementioned Regulations, including the insertion of the following subsection:

> *"(2A) A railway order shall include -*
>
> *(a) the reasoned conclusion referred to in section 42B,*
>
> *(b) any environmental conditions, including conditions regarding monitoring measures, parameters to be monitored and the duration of monitoring, to which the authorisation is subject, and*
>
> *(c) a description of any features of the proposed railway works, or any measures envisaged, to avoid, prevent or reduce, or offset significant adverse effects on the environment."*

9.13.6. In light of this legislative change Mr Bradley suggested that, should the Board decide to grant the Railway Order, then a Ninth[3] Schedule could be added to the submitted draft Railway Order, entitled 'conditions, modifications, restrictions and requirements', to include conditions and the Board's reasoned conclusion.

9.13.7. Should the Board be minded to grant the Railway Order, I recommend that an Eighth Schedule be added to the Railway Order, as outlined by the applicant, in order to comply with the updated legislative requirements.

9.13.8. **Format of Oral Hearing**

9.13.9. Sean Brosnahan in his submission to the oral hearing on behalf of Minister Patrick O'Donovan TD (Ref. 15), expressed the Minister's disappointment and displeasure at not being facilitated to make a submission via videoconferencing, due to his inability to attend in person as a result of his Budget Day commitments. Due to the holding of the hearing in a hotel remote from the Board's offices and the need to both record oral submissions and facilitate three-way communication between the Inspector, the applicant and Minister O'Donovan, I did not consider it feasible to accommodate the Minister's request at short notice. The matters raised in the Minister's written submission and those made on his behalf at the oral hearing, which related to XC187 Fantstown and XC201 Thomastown are addressed in full at the relevant sections of this report.

9.13.10. **'Strategic Environmental Impact Assessment'**

9.13.11. McCutcheon Halley, on behalf of the Trustees of the Diocese of Cloyne, contended that a 'Strategic Environmental Impact Assessment' should be required by the Board. The Board will be aware that under European and Irish law there is Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA), but there is no such process as 'Strategic Environmental Impact Assessment'.

9.13.12. EIA is mandatory for railway works that are the subject of a Railway Order, under the provisions of the Transport (Railway Infrastructure) Act 2001, as amended.

9.13.13. The submitted EIAR addresses the potential environmental impacts associated with each of the 7 No. level crossing sites individually and cumulatively. The McCutcheon

[3] This would appear to be an error by Mr Bradley, as there are only Seven Schedules attached to the draft Railway Order submitted to the Board. The error is also contained in Mr Dineen's submission at the oral hearing.

Halley submission contends that the use of a single EIAR precludes a proper consideration of alternatives and mitigation measures appropriate to each site.

9.13.14. While I consider that the grouping of the development proposals at the 7 No. level crossings into a single Railway Order application with a single EIAR results in a somewhat unwieldy and lengthy EIAR, given the physical separation of the sites and the differing baseline and receiving environment at each location, I consider that it constitutes an appropriate format for allowing the robust assessment of the potential environmental impacts of the overall project, both individually and cumulatively.

9.13.15. I am also satisfied that matters with regard to the compliance of the proposed development with strategic plans and policies were addressed in the application and these are assessed in Section 9.2 of this report.

9.13.16. **Errors and Omissions in Application Documentation**

9.13.17. The submission made by Colm Moore identified a range of issues, or contended issues, with the application documentation, including missing documents and unopenable files on the project website. The applicant was consequently requested to address this issue by the Board and to submit copies of all missing documents and ensure that all files were available electronically. This was done and a further period for the making of submissions was provided. The applicant, in their submissions at the oral hearing, also addressed the items raised by Mr Moore on a point-by-point basis[4]. Mr Moore did not make a further submission and did not appear at the oral hearing, however I am satisfied that the material and substantive issues raised by him in his submission have been adequately addressed by the applicant.

10.0 Compulsory Acquisition

10.1. Format of Draft Railway Order

10.1.1. The Draft Railway Order includes a series of Schedules, of which the following are relevant to the issue of land acquisition:

[4] See for example the submission made by Rory McDonnell on 27th September 2022 entitled 'EIA Co-ordination' (Ref. 5).

- Second Schedule: Land which may be acquired.
- Third Schedule: Land of which temporary possession may be taken.
- Fourth Schedule: Public rights of way which may be extinguished.
- Fifth Schedule: New roads including public roads and bridges which may be constructed and roads including public roads which may be altered, realigned or closed.

10.1.2. Part III of the Draft Railway Order relates to 'Acquisition and Possession of Land and Rights' and contains a series of Articles setting out the powers of the railway undertaking to extinguish rights of way, acquire lands, easements and other rights over the lands identified in the abovementioned Schedules.

10.1.3. The affected lands are also identified in the Book of Reference and are illustrated in the series of Railway Order Schedule drawings.

10.1.4. David Dineen (CIÉ) made two submissions to the oral hearing on 27th September 2022 (Refs. 3 and 11) regarding the property referencing process and the notifications to landowners. In the second of his submissions, he included a corrigenda list, identifying changes to the ownership of 3 No. areas of land that it is proposed to permanently or temporarily acquire in the vicinity of XC212 Ballycoskery, due to named Trustees having passed away. Should the Board be minded to grant the Railway Order, I recommend that these changes be incorporated into the appropriate Schedules.

10.2. Assessment

10.2.1. The matters that the Board must consider before confirming the compulsory acquisition of lands are not clearly prescribed in legislation. Case law indicates that the Board must be satisfied that the applicant (in this case CIÉ) has demonstrated that the CPO "*is clearly justified by the common good*"[5].

[5] Para. [52} of judgement of Geoghegan J in Clinton v An Bord Pleanála (No. 2) [2007] 4 IR 701.

10.2.2. Legal commentators[6] have stated that this phrase requires the following minimum criteria to be satisfied:

- There is a community need that is to be met by the acquisition of the lands in question,
- The particular lands are suitable to meet that community need,
- Any alternative methods of meeting the community needs have been considered but are not demonstrably preferable (taking into account environmental effects, where appropriate), and
- The works to be carried out should accord with or at least not be in material contravention of the provisions of the statutory development plan.

10.2.3. I will address each of these criteria in turn below, along with other issues arising from the submissions received. The Board will note that some of the criteria have also been addressed in other sections of this report, and, therefore, this Section should be read in conjunction with same, where relevant.

10.2.4. Matters relating to compensation for land/property acquisition are not within the remit of the Board and will be subject to separate compulsory purchase practice and procedures, should the Board grant the Railway Order.

10.3. Community Need

10.3.1. As detailed in Section 9.3 above, it is considered that the need and justification for the proposed development has been adequately established. The need for the proposed development is identified as reducing the safety risk profile of the railway and increasing its operational reliability through the removal of potential conflict between train movements and road traffic movements. The removal of the level crossings will also allow for reduced journey times for road users at the level crossings where the barrier is kept in the closed position either all day or at night-time.

[6] Pg. 127 of Compulsory Purchase and Compensation in Ireland: Law and Practice, Second Edition, by James Macken, Eamon Galligan, and Michael McGrath and published by Bloomsbury Professional (West Sussex and Dublin, 2013).

10.3.2. I consider, therefore, that the proposed development will benefit the community as a whole at a local, county, regional and national level. While there will be adverse impacts for individual landowners and occupiers whose lands it is proposed to acquire and for people affected by extinguishment of rights of way and associated severance impacts, I consider that the proposed acquisition can be justified by the exigencies of the common good. I conclude, therefore, that the community need for the proposed development has been established.

10.4. Suitability of the Lands

10.4.1. I refer to the planning assessment carried out in Section 9 above and the Environmental Impact Assessment and Appropriate Assessment carried out in Sections 11 and 12 below. I have reviewed the submitted drawings and application documentation, considered the submissions made, conducted a site inspection and an oral hearing. Having considered these matters, I am satisfied that the extent of land that would be permanently or temporarily acquired is determined by the specifications for the proposed development, which generally is driven by road engineering requirements (e.g. TII specifications for such roads and the clearance required for road-over-rail bridges and associated embankments), with additional lands also required for various purposes in connection with the proposed development (e.g. biodiversity reasons, temporary construction compounds, junction works etc.). I consider that the extent of lands that it is proposed to acquire is proportionate to the identified community need and I do not consider that the applicant is seeking to acquire lands in excess of the minimum required to achieve the project objectives.

10.4.2. The lands that it proposed to compulsorily acquire are primarily either agricultural lands or existing roadbed, with a small area of roadside curtilage of a dwelling at XC219 to be acquired. I note that the only structures to be demolished to facilitate the proposed development are located within the applicant's landholding.

10.4.3. I consider it reasonable to conclude that all of the lands identified in the relevant Railway Order Schedules are required in connection with the proposed development and that they are suitable for such use.

10.5. Accordance with Planning Policy

10.5.1. As detailed in Section 9.2 above, I am satisfied that the proposed development is consistent with all applicable planning policy and, more particularly, is supported by and in accordance with policies and objectives of both the Limerick City and County Development Plan and the Cork County Development Plan.

10.5.2. The proposed development and the positive effect it will have on public transport reliability and safety is also consistent the applicable transport policies, including the National Investment Framework for Transport in Ireland 2021, National Sustainable Mobility Policy 2022 and Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009 – 2020.

10.6. Use of Alternative Methods

10.6.1. The consideration of alternatives was addressed in Chapter 2 of the EIAR and is assessed in Sections 9 above and 11.3 below. This included an evaluation of do Nothing, straight closure or CCTV controlled barriers, as well as site-specific consideration of alternatives, including underpasses, overbridges and alternative road options.

10.6.2. There was much opposition in the submissions received to the option chosen for a number of the level crossing sites, particularly XC187 Fantstown and XC212 Ballycoskery and these matters were the subject of considerable debate during the oral hearing, as detailed in the abovementioned sections of this report. However, I consider that the process undertaken by the applicant has included a robust assessment of alternative options having regard to planning and environmental considerations, safety, economic and social factors, and the stated project need and objectives. I consider that the applicant's approach to the consideration of alternatives was reasonable and rigorous, and I consider that the option chosen for each level crossing is the one which best satisfied these factors and objectives. I generally concur with the reasons for choosing the preferred option for each level crossing site as presented in the application.

10.7. Issues Raised by Affected Landowners/Occupiers

10.7.1. The matters raised by affected landowners/occupiers or those affected by the extinguishment of rights of way are primarily planning or environmental issues, rather than issues directly relating to the proposed land acquisition *per se*, and as such are addressed in detail in the relevant sections of this report. Matters specific to the issue of land acquisition are addressed below.

10.7.2. **Trustees of the Diocese of Cloyne (XC212 Ballycoskery)**

10.7.3. The submission made on behalf of the Trustees of the Diocese of Cloyne by McCutcheon Halley contends that the extent of the proposed acquisition is disproportionate to the reduction in rail safety risk. The submission notes the Supreme Court judgment in *Thomas Reid v Industrial Development Agency, Ireland and the Attorney General* [2015 IESC82], where McKechnie J. stated that the statutory power to acquire land must be:

> *"…carried out in such a way that the impairment of the individual's rights must not exceed that which is necessary to attain the legitimate object sought to be pursued. In other words, the interference must be the least possible consistent with the advancement of the authorised aim which underlines the power."*

10.7.4. Brian McCutcheon, in his subsequent submission to the oral hearing on behalf of the Trustees, also raised the Constitutional protections afforded to church property. He noted Article 44.2.6 of the Constitution, which states that "*the property of any religious denomination or any educational institution shall not be diverted save for necessary works of public utility and on payment of compensation*". Mr McCutcheon stated that some way of avoiding the acquisition of church lands should be pursued to avoid the risk of judicial review. He also noted that the Board, in the pre-application consultation, had identified the need to demonstrate that the proposed development at XC212 Ballycoskery was proportionate.

10.7.5. Michael O'Donnell BL, on behalf of the applicant, stated that the lands to be acquired from the Diocese are the minimum necessary, which is to say that they are necessary and that they are the minimum amount required and that the proposed acquisition therefore meets the test of proportionality. Rory McDonnell (Jacobs), agreed with Mr McCutcheon that the proportionality issue had been identified in pre-

application consultation with the Board and stated that it had been addressed and justified in the EIAR (see Section 3.7 of EIAR).

10.7.6. As noted above, I am satisfied that the applicant has satisfied the criteria for compulsory acquisition, including the proportionality issue. I do not consider that Article 44.2.6 of the Constitution prevents the Board from approving the acquisition of the Diocesan lands, since I am satisfied that they are required for necessary works of public utility and that the applicant will be required to pay appropriate compensation for said acquisition.

10.7.7. **Patrick and Helen Morrissey (XC212 Ballycoskery)**

10.7.8. The submission made by Mr and Mrs Morrissey raises concerns regarding the temporary possession of 166.6 sq m which they state will permanently affect the entrance to their property. They state that they will be seeking compensation if their entrance is affected in any way.

10.7.9. The area of land in question is identified on the property maps as XC212.T03 and consists of part of the public road, which is listed as being in Mr Morrissey's ownership.

10.7.10. The Morrissey property is located on the northern side of the local road, close to the eastern end of the proposed road realignment, at the point where the proposed road begins to diverge from the existing road line. The area that it is proposed to temporarily take possession of is outside the boundary of the property and access to the house will be provided from the realigned road. The existing road surface will be broken up and landscaped, with the observers' house slightly set back when compared to the existing situation. I consider that this will be a positive impact for this property. Finally, any matters regarding compensation are outside the remit of the Board.

10.7.11. **David Fleming (XC201 Thomastown)**

10.7.12. The submission made by David Fleming raised concerns regarding the removal of the road margin along 23m of his land between the points marked XC201.T.13 and XC201.T.14 and the impact of this on his ability to build on that land in the future or to put an entrance at that location.

10.7.13. Mr Fleming did not appear at the oral hearing, however I note that only temporary possession is sought for the two land parcels he references, which are needed to facilitate the tie-in to the existing road. The proposed roadway at this location will have a grass verge and while no access point is provided, I do not consider that the design of the proposed development would inherently prevent the future development of that land or the provision of a new access point, should planning permission be obtained for such development.

10.7.14. **Daniel Lucey (XC219 Buttevant)**

10.7.15. The submission made on behalf of Mr Lucey by Frank Ross Consulting Engineers raised issues regarding the impact of the proposed development on his lands (identified in his submissions as Folio CK26597F), located immediately to the east of Buttevant train station and the railway line. It is proposed to acquire a portion of this field to facilitate the realignment of the R522 and the embankments leading to the road overbridge. Mr Lucey's concerns relate to access arrangements to his land, the impact on its development potential, farm viability and severance, with a small roughly triangular area of land being left to the north of the realigned R522 with the majority of the land to the south of the new road. Mr Lucey is seeking that an underpass be provided under the realigned R522 to link his severed parcels of land.

10.7.16. Heidi Sewnath, in her submission to the oral hearing on behalf of the applicant (Ref. 6), responded to these issues. She noted that the land required plus the severed land to the north west, is c. 10%, or 0.4 ha, of the land available for development or farming. She stated that the landowner would retain the majority of his land, with access provided in the north east corner of the field, which provides the same degree of access as he currently enjoys. With regard to the impact on his farming operation, she stated that no evidence had been provided to support his assertions regarding stocking levels or the viability of the farm but noted that matters of loss and damage will be addressed through the separate compensation process. Gerry Healy, in his submission to the oral hearing on behalf of the applicant, stated that an underpass was not feasible due to insufficient headroom, but that a gated access could be provided to the severed area of land from the existing portion of road which is to be retained.

10.7.17. Frank Ross subsequently made a submission at the oral hearing on behalf of Mr Lucey. He contended that an underpass may be feasible and that Mr Lucey may compromise by swapping bits of land to accommodate an underpass. He reiterated Mr Lucey's safety concerns regarding access. In response, Mr Healy stated that the applicant was willing to discuss landswaps separately with Mr Lucey. I advised Mr Healy that any proposed modifications to the proposed Railway Order scheme on foot of those discussions would need to be notified to the Board prior to the closing of the oral hearing. No further submissions regarding Mr Lucey's lands were made to the hearing.

10.7.18. Having reviewed the drawings, I agree with Mr Healy that there is insufficient headroom available for a useful agricultural underpass, without raising the road level or lowering the ground level, which may create drainage issues. I consider that the provision of a gated access to the severed portion of land to the north of the realigned R522 from the existing road would adequately address the access issue. I consider that matters such as impacts on the development potential of Mr Lucey's land and the impact of the severance on his farming activities are matters more appropriately addressed through the separate compensation process.

10.7.19. Therefore, I recommend a condition requiring the provision of a gated access to Mr Lucey's retained lands, as outlined above.

10.8. Conclusion

10.8.1. In conclusion, I consider that the proposed land acquisition (both permanent and temporary) and the extinguishment of certain public rights of way is reasonable and proportionate to the stated purpose of the proposed development. I am satisfied that the process and procedures undertaken by CIÉ have been fair and reasonable and that it has demonstrated the need for the lands and that all the lands being acquired (or rights thereover) are both necessary and suitable. I consider that the proposed acquisition of the lands in question and the extinguishment of the identified rights of way would be in the public interest and the common good and that the proposed development that would be facilitated by this acquisition would be consistent with both planning policies and objectives, as expressed in the National Planning Framework, National Development Plan, Regional Spatial and Economic Strategy for the Southern Region, Limerick City and County Development Plan 2022-2028 and

the Cork County Development Plan 2022-2028, as well as transport policies including the National Investment Framework for Transport in Ireland 2021, National Sustainable Mobility Policy 2022 and Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009 – 2020.

11.0 Environmental Impact Assessment

11.1. Introduction

11.1.1. The application is accompanied by an Environmental Impact Assessment Report (EIAR) which was prepared by Jacobs. Chapter 4 of the EIAR is entitled 'EIA Process and Methodology' and notes at Section 4.4.1 that:

> *"…the provisions of section 37 of the 2001 Act require that an application for a [Railway Order] shall be made to An Bord Pleanála (the Competent Authority) in writing and shall be accompanied by a number of matters including "a statement of the likely effects on the environment of the proposed railway works" which comprises an Environmental Impact Assessment Report (EIAR) (previously referred to as an Environmental Impact Statement in section 39 of the 2001 Act). In terms of the EIA Directive (85/337/EEC) as amended and codified, this is similar to a mandatory EIA for an Annex I project. The EIAR in relation to this Railway Order application has been compiled in accordance with the 2014 EIA Directive, the 2001 Act, including section 39 thereof, and having regard to relevant guidelines listed above."*

11.1.2. This section of my report comprises an environmental impact assessment of the proposed development. As noted in Section 9 above, some of the matters considered have already been addressed in the Planning Assessment above. This section of the report should therefore be read, where necessary, in conjunction with the relevant sections of the Planning Assessment.

11.2. Format of EIAR

11.2.1. The EIAR comprises 5 No. volumes. Volume 1 is a Non-Technical Summary (NTS), which provides a summary of the EIAR in non-technical language. Volumes 2 and 3 comprise the main body of the EIAR. Volume 4 contains various Figures relating to

the various chapters of Volumes 2 and 3, while Volume 5 comprises a series of technical appendices relating to various chapters. The Natura Impact Statement is included as Appendix 7H of the EIAR. A schedule of mitigation measures is contained at Appendix 1L.

11.2.2. This application was submitted after 16th May 2017, the date for transposition of Directive 2014/52/EU amending the 2011 EIA Directive, and therefore the subject application falls within the scope of the amending 2014 EIA Directive (Directive 2014/52/EU).

11.2.3. The EIAR:

- Describes the project and provides information on the site, design, size and particular features of the proposed development;
- Describes the likely significant effects of the project on the environment;
- Describes the features of the project and/or measures envisaged to avoid, prevent, reduce, and if possible, remedy significant impacts;
- Provides a description of the main alternatives studied, and an indication of the main reasons for the choice of alternative put forward, taking into account environmental effects; and
- Includes a non-technical summary of the above information.

11.2.4. As is required under Article 3(1) of the amending Directive, the EIAR describes and assesses the direct and indirect significant effects of the project on the following factors: (a) population and human health; (b) biodiversity with particular attention to the species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape. It also considers the interaction between the factors referred to in points (a) to (d).

11.2.5. I have carried out an examination of the information presented by the applicant, including the EIAR and the submissions made during the course of the application, and I have conducted an oral hearing. A summary of the submissions made has been set out at Section 5 of this report and the issues arising from the written submissions and the oral hearing submissions are addressed below under the

relevant headings, and as appropriate in the reasoned conclusion and recommendation, including conditions.

11.2.6. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality, and that the information contained in the EIAR and supplementary information provided by the developer is up to date, adequately identifies and describes the direct and indirect effects of the proposed development on the environment, and complies with article 94 of the Planning and Development Regulations 2001, as amended.

11.3. Alternatives

11.3.1. The issue of alternatives is addressed in Chapter 2 of the EIAR. I note that Article 5(1)(d) of the 2014 EIA Directive requires:

> "*(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;"*

11.3.2. Annex IV of the Directive (Information for the EIAR) provides more detail on 'reasonable alternatives':

> "*A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects*."

11.3.3. Section 2.3.1 of the EIAR outlines the history of the project. It is noted that options for the closure of XC211 Newtown and XC212 Ballycoskery were considered as far back as 2005, with a Part 8 application by Cork County Council for a new road-over-rail bridge at the south of XC212 (i.e. similar to the proposed development). That application was withdrawn. A proposal to close XC187 Fantstown was also pursued by Limerick County Council in 2009, pursuant to section 73 of the Roads Act 1993. It is stated that the extinguishment of the right of way failed to gain the necessary support of the elected members, and the scheme did not progress.

11.3.4. The current proposals to address all 7 No. level crossings are stated to have commenced in 2010/2011 with concept stage options. A further feasibility study took place in 2018/2019 which included an options appraisal, assessing the following four options for each of the sites:

- Do Nothing.
- Straight Closure[7].
- Alternative access/Overbridge.
- Upgrade to 4 Barrier CCTV.

11.3.5. A summary of the appraisal scoring is provided in Table 2.3 of the EIAR, which relates the options put forward in this application.

11.3.6. The EIAR makes reference to the Commission for Railway Regulation's 'Guidelines for the Design of Railway Infrastructure and Rolling Stock (RSC-G-006B), which provides guidance on the infrastructure to be provided at each type of level crossing and also addresses the suitability of the various types of level crossing. I note that the Guidelines have since been updated, (RSC-G-006C, May 2022).

11.3.7. Section 5.1 of the current Guidelines sets out the principles for level crossings and I note that it states that "*level crossings should be closed where possible and practicable, and the introduction of new level crossings resisted*". Both the previous and current Guidelines state that "*the decision to introduce a level crossing or upgrade an existing level crossing should follow a suitable risk assessment and after all possibilities for a grade separated crossing have been evaluated and discounted as not reasonably practicable*". The applicant contends that this, in effect, means that retention of the level crossing should be the last option considered.

11.3.8. The EIAR also notes the statement in the Guidelines (also included in the updated Guidelines), that "*the choice of level crossings should avoid causing unnecessary delay to road users…*"

11.3.9. Do-nothing was not preferred for any of the sites, given the ongoing safety and cost implications. I consider this to be reasonable. A number of observers, in their

[7] Straight closure was not assessed for XC209 Ballyhay, XC212 Ballycoskery, XC215 Shinanagh and XC219 Buttevant due to the volume of road traffic using these level crossings and length of the existing alternative routes.

submissions to the oral hearing, sought that the status quo at XC212 Ballycoskery be retained on the basis of the safety performance of the level crossing. There is an inherent public safety risk in an at-grade interface between high-speed rail and pedestrian/vehicle traffic, particularly one which relies on human operation of the level crossing. In the case of XC212, there is a school on one side of the crossing, with housing primarily on the other side. I consider that the physical separation of road and rail traffic at this level is appropriate. The straight closure of all sites (i.e. extinguishment of right of way and removal of access across the railway line) was discounted for the busier crossings due to the level of traffic using the crossings and the community severance impacts. Again, I consider this to be reasonable.

11.3.10. The option of CCTV controlled crossings for all sites was also considered with a risk assessment undertaken. This found that the risk would be reduced at the level crossings but would not be removed. Given the level of investment required, the EIAR considers this a last resort, following consideration of straight closure and alternative access/overbridges. Noting the CRR Guidelines referenced above, I agree that, on safety grounds, the upgrade to CCTV controlled crossings should be the last resort in circumstances where grade-separation is not practicable.

11.3.11. Multi-Criteria Analysis (MCA) was undertaken for a number of options for each of the sites, with the exception of XC187, where straight closure is proposed. This is stated to have been carried out in accordance with relevant guidance from the Department of Transport, Department of Finance and NTA. The criteria and sub-criteria utilised in the assessment were:

- Economy (Cost, Land Take, Reliability/Journey Time).
- Engineering (Geotech, Structures, Geometry).
- Environment (Ecology, Water/Flood Risk, Landscape, Noise and Cultural Heritage).

11.3.12. Table 2.9 of the EIAR outlines the options subjected to MCA. These generally included various options for road alignment and in the case of XC212, included the options of both an overbridge and an underbridge.

11.3.13. The consideration of alternatives is an information requirement of Annex IV of the EIA Directive, and the single most effective means of avoiding significant

environmental effects. Having regard to this requirement and its purpose (i.e. avoidance of significant environmental effects) and noting the nature and purpose of the proposed development, I am satisfied that the consideration of alternatives is adequate.

11.3.14. With regard to XC212 Ballycoskery, a number of written submissions and submissions to the oral hearing indicated a preference for either a CCTV-based solution or a road underpass under the railway line, rather than the elevated road-over-rail bridge proposed. I have addressed this issue in Section 9 above where I conclude that I am satisfied that the applicant has provided an adequate assessment of alternatives and identified the main reasons for the chosen option.

11.3.15. In conclusion, I consider that the applicant has adequately addressed their consideration of alternatives and has justified the design option chosen for each of the 7 No. sites. The planning and environmental impacts and issues associated with the options chosen are addressed throughout this report, but for the purposes of the EIA Directive requirements, I am satisfied that the information submitted regarding the alternatives considered and the basis for selecting the chosen option meets the standard required.

11.4. **Major Accidents**

11.4.1. The Risk of Major Accidents and Disasters ('MANDs') is addressed in Chapter 16[8] of the EIAR.

11.4.2. A list of potential MANDs was identified, and subsequently screened using a number of criteria (see Table 16.7 of EIAR). The remaining MANDs were then evaluated using the standard risk assessment methodology of classifying the likelihood of occurrence and the potential consequences for each MAND and utilising a 'traffic light' style risk matrix.

11.4.3. Table 16.5 of the EIAR sets out the resulting risk category for each of the remaining MANDs. The construction phase MANDs brought forward for further assessment are: damage to power infrastructure; damage to gas infrastructure at XC201, XC211, XC212, XC215 and XC219; accidental release to surface water for XC201, XC209,

[8] Chapter 16, 'Cross-Cutting Themes', also addresses Material Assets and Climatic Factors. I have addressed these issues at Sections 11.12 and 11.10, respectively.

XC211, XC212, XC215 and XC219; biosecurity breach/spread of livestock diseases (i.e. TB); spread of invasive species at XC215; road traffic accidents and falls due to working from heights. The only operational phase MAND brought forward for further assessment was embankment failure at XC201, XC11, XC212, XC215 or XC219 due to prolonged flooding.

11.4.4. Table 16.8 of the EIAR sets out the proposed mitigation measures for each of the abovementioned risk events, and the resultant post-mitigation risk category. The mitigation measures are generally cross-referenced to the relevant environmental topics and in relation to construction health and safety it is stated that there will be compliance with the Project Health & Safety Plan. The EIAR also refers to the various other plans that will mitigate risk, including the CEMP, CTMP, Environmental Incident Response Plan (EIRP), Pollution Incident Control Plan (PICP) and Dust Management Plan.

11.4.5. Following the implementation of biosecurity mitigation measures the EIAR concludes that there remains a risk of significant impacts associated with the proposed project being impacted by a biological contagion, with the consequence of such an event being classified as 'Catastrophic'. The EIAR gives the example of the impacts the 2001 Foot and Mouth outbreak had on agriculture, tourism and social/cultural events.

11.4.6. In the event of such a biosecurity incident during the construction phase, it is stated that all construction activities would be suspended, while during the operational phase all non-essential maintenance work and walkovers/inspections would be postponed and guidance provided by the Department of Agriculture would be followed.

11.4.7. It is stated that EIRP will be monitored, reviewed and updated throughout the lifetime of the proposed project, and that the MANDs risk assessment will be continued on an ongoing basis throughout the various phases of the development.

11.4.8. **Assessment**

11.4.9. I consider that the applicant has adequately identified the likely risks of major accidents and disasters to and from the proposed development and that the screening exercise and risk assessment undertaken is in line with good practice. I consider that appropriate mitigation measures have been proposed to manage and reduce the identified risks and note that it is proposed to maintain and update the

risk assessment throughout the design and construction of the proposed development. In conclusion, I am satisfied that the applicant has addressed the requirements of the EIA Directive with respect to Major Accidents.

11.5. Likely Significant Direct and Indirect Effects

11.5.1. The likely significant direct and indirect effects of the development are considered under the following headings, after those set out in Article 3 of the EIA Directive 2014/52/EU:

- population and human health;
- biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- land, soil, water, air and climate;
- material assets, cultural heritage and the landscape;
- the interaction between the factors referred to in points (a) to (d).

11.5.2. My assessment is based on the information provided by the applicant, including the EIAR, the additional material presented at the oral hearing, and the submissions made in the course of the application and during the oral hearing by the local authorities, prescribed bodies and observers.

11.6. Population and Human Health

11.6.1. Population and human health are addressed in Chapter 6 of the EIAR.

11.6.2. Due to the nature of the project, with development proposed at various locations along the railway line, the 7 No. level crossing sites sit within six distinct small areas, three Local Electoral Areas (LEAs) and two Counties and Section 6.4 of the EIAR outlines the baseline population, employment, health, land use and tourism statistics for each site.

11.6.3. <u>Potential Impacts and Proposed Mitigation Measures</u>

11.6.4. Potential impacts are addressed in Section 6.6 of the EIAR under the headings of: ‘do nothing’; amenity; health; land use; and wider effects (employment and tourism).

With regard to each of the 7 No. level crossing sites, the following significant impacts are identified:

- **XC187 Fantstown:**
  - Do Nothing: Existing risk would remain.
  - Construction Phase: None.
  - Operational Phase: None.
- **XC201 Thomastown:**
  - Do Nothing: Existing risk would remain.
  - Construction Phase: Potential effects on health as a result of noise and construction traffic and the risk of accidents.
  - Operational Phase: None.
- **XC209 Ballyhay:**
  - Do Nothing: Existing risk would remain.
  - Construction Phase: None.
  - Operational Phase: None.
- **XC211 Newtown & XC212 Ballycoskery:**
  - Do Nothing: Existing risk would remain.
  - Construction Phase: Significant amenity and health impacts due to noise and construction traffic.
  - Operational Phase: None.
- **XC215 Shinanagh:**
  - Do Nothing: Existing risk would remain.
  - Construction Phase: Significant health impacts due to noise effects on 3 receptors.
  - Operational Phase: None.
- **XC219 Buttevant:**
  - Do Nothing: Existing risk would remain.

- Construction Phase: Significant amenity and health impacts due to noise and construction traffic.
- Operational Phase: None.

11.6.5. Cumulative Impacts

11.6.6. With regard to the combined effects of all seven sites, the EIAR identifies the following cumulative impacts:

- Do Nothing: Existing risk would remain.
- Construction Phase: No additional significant cumulative impacts.
- Operational Phase: No additional significant cumulative impacts.

11.6.7. With regard to other potential cumulative effects, the EIAR notes the M20 Cork to Limerick Road Improvement Scheme which, at the time of lodgement of this railway order application, was at the route selection stage. It is stated that the M20 project team were consulted with and that no significant concerns were raised. It is concluded that given the timeframes for the two projects, no significant cumulative impacts on population or human health are likely.

11.6.8. Mitigation Measures

11.6.9. The mitigation measures outlined in this chapter of the EIAR are cross-referenced to those contained in other relevant chapters of the EIAR, such as noise and vibration, and traffic and transport.

11.6.10. In particular, the noise-related mitigation refers to restrictions on construction working hours, positioning construction plant and activities to minimise noise at sensitive locations and use of noise abatement site hoardings and screens where appropriate all help to reduce the impact on health.

11.6.11. With regard to construction traffic, the EIAR refers to the proposed Construction Traffic Management Plan (CTMP), which will be used to prevent or minimise transport impacts during construction.

11.6.12. Residual Impacts

11.6.13. The EIAR concludes that, with the implementation of the mitigation measures outlined in the EIAR, there will be no significant residual impacts in relation to population and human health as a result of the proposed development.

11.6.14. **Assessment**

11.6.15. A number of the submissions raised issues with regard to potential impacts on population and human health and a response was provided by Heidi Sewnath (Jacobs), on behalf of the applicant, at the oral hearing (Ref. 6).

11.6.16. I have addressed issues with regard to severance, noise, dust and traffic elsewhere in this report, in both the planning assessment and in the relevant sections of this EIA. Other issues raised in the written and oral submissions that are relevant to this environmental topic include community separation, anti-social behaviour, fly-tipping/dumping, access to community facilities and schools and age-action compliant designs. I have addressed these issues primarily in the planning assessment above. Subject to mitigation, where appropriate, I am satisfied that the proposed development will not have a significant residual impact on population and human health.

11.6.17. Conclusion

11.6.18. I have considered all of the submissions made in relation to population and human health and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on population and human health can be avoided, managed and mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on population or human health.

11.7. Biodiversity

11.7.1. Biodiversity is addressed in Chapter 7 of the EIAR. A Natura Impact Statement was also submitted with the application, and I have addressed the issue of Appropriate Assessment separately in Section 12. I also refer the Board to the two submissions made on behalf of the applicant by Dr Susie Coyle at the oral hearing (Refs. 7 and 7A) which responded to biodiversity-related matters raised in the submissions.

11.7.2. Study areas and Zones of Influence (ZoI) were identified for each of the level crossing sites and varied depending on the nature of works and the nature and sensitivity of the ecological receptors at each location. Table 7.2 of the EIAR sets out the study area and survey extents for each of the sites.

11.7.3. Details of the desk study and field surveys undertaken are set out in Section 7.2.6 of the EIAR. The desk study included review of NPWS, EPA, NBDC, I-WeBS and Bat Conservation Ireland datasets and OSI mapping and aerial photography. The field surveys undertaken included: habitat surveys; habitat suitability assessment (reptile, amphibian, fish and aquatic macroinvertebrates (white-clawed crayfish only)); mammal surveys (otter, badger etc.); identification of potential bat roost features in trees/buildings and emergence/re-entry surveys (structures and trees); breeding birds; eDNA Sampling for white-clawed crayfish (Pepperhill River, Buttevant only); newt survey; and Winter bird surveys.

11.7.4. I note that a number of specific survey types were scoped out from the assessment. With regard to amphibians and reptiles, the surveys comprised a habitat suitability assessment only as these species are assumed present where suitable habitat is found within the study area, unless otherwise stated. With regard to bats, it is stated that, given the minimal loss of hedgerow, trees/treelines as part of the proposed project, bat species and general bat activity within the study area was recorded during dusk emergence and dawn re-entry surveys of trees/buildings scheduled for removal and that these surveys are considered to give a representative picture of bat species likely to be utilising the study area and immediate surrounding environments. The EIAR notes that the project study area does not overlap the known distribution or range for the Lesser Horseshoe bat. With regard to breeding Birds, it is stated that the project will not result in the loss of any significant bird nesting habitat (e.g. woodland) and that the main habitats present within the study area (agricultural land with scrub, tree lines and hedgerows) are suitable to support common garden/woodland nesting bird species rather than Annex I species. Therefore, the EIAR considered that dedicated breeding bird surveys were not necessary, given the scale of the proposed Project. However, bird species present within the study area were recorded during habitat surveys. With regard to aquatic receptors, an aquatic habitat assessment and desk study was undertaken. With the exception of white-clawed crayfish, the EIAR states that watercourses were found to have limited potential to support species of conservation concern and no further surveys were therefore undertaken. However, given the hydrological links from the watercourses to the Awbeg River (which is known to support Atlantic salmon for example) and the potential for direct impacts on fish species (e.g. due to a pollution event), the species

are considered to be present within the study area downstream of the proposed project.

11.7.5. Section 7.2.7 of the EIAR outlines consultation held with NPWS and IFI. This related to potential impacts to whooper swan and Kilcolman Bog SPA, the proposed translocation of Annex I habitat, the proposed mitigation measures and the timing of in-stream works.

11.7.6. The EIAR identifies all European and nationally designated sites within the Zone of Influence (ZoI) and these are set out in Tables 7.8 and 7.9 and mapped in Figures 7.3 and 7.4 of the EIAR. I note that the application site is not located in or immediately adjacent to any designated sites.

11.7.7. Two European Sites are stated to be located within the ZoI for the project. These are the Blackwater River (Cork/Waterford) SAC (Site Code 002170), located c. 240m from the proposed crossing at XC219 Buttevant and Kilcolman Bog SPA (Site Code 004095), which is located c. 4.3km from XC219 Buttevant.

11.7.8. The crossing at XC219 Buttevant is hydrologically linked to the Blackwater SAC by the Pepperhill River and an unnamed ditch, both of which will be crossed as part of the proposed project. The Pepperhill River flows directly into the Awbeg River (Buttevant) 240m downstream, which is within the SAC. The proposed crossing at XC212 Ballycoskery is hydrologically connected via a ditch to the Newton River which flows directly into the Awbeg (Buttevant East) River c. 450m downstream which also forms part of the SAC. The crossing at XC209 Ballyhay is c. 19m from the Awbeg (Buttevant East) River, which joins the Blackwater River SAC c. 1.5km downstream. There is no hydrological link to any SAC from XC187 Fantstown, XC201 Thomastown and XC215 Shinanagh.

11.7.9. Kilcolman Bog SPA is located a minimum of c. 4km from the proposed project. Whooper swan (Cygnus Cygnus) is a QI species for which the site is designated and have been recorded in close proximity to XC187 Buttevant and XC215 Shinanagh.

11.7.10. There are no NHAs and 13 pNHAs located in the vicinity of the proposed project and potentially within the ZoI of the proposed project. The closest of these is Eagle Lough pNHA, located c. 2.6km from XC219 Buttevant.

11.7.11. Having regard to the nature and scale of the proposed development and the potential pathways to the designated sites, I consider the applicant's choice of ZoI to be acceptable.

11.7.12. A habitat survey of each of the level crossing sites and their surrounds was undertaken, with habitats maps provided in Volume 4 of the EIAR (Figures 7.5 - 7.10) and associated target notes and photographs provided in Appendices 7B and 7C. The dominant habitats across the level crossing sites comprised Improved Agricultural Grassland (GA1) and Hedgerows (WL1) which formed most field boundaries. Other recorded habitat types included: Broadleaved Woodland (WD1); Scrub (WS1); Treeline (WL2); Depositing Lowland Rivers (FW2); Drainage Ditches (FW4); Tall Herb Swamps (FS2); Dry Meadows and Grassy Verges (GS2); Wet Grassland (WS4); Amenity Grassland (GA2); Building or Artificial (BL3); and Stone Walls (Bl1).

11.7.13. Hedgerows (WL1), Scrub (WS1), Treeline (WL2) were classified as being of Local Importance (Higher Value) as they provide habitat and refuge for nesting birds and small mammals.

11.7.14. Broadleaved Woodland (WD1) was only recorded at two locations at XC209 Ballyhay. One of these areas comprised alder plantation woodland, while the second comprised a mixed woodland area dominated by sycamore and ash. This second area is classified as being of Local Importance (Higher Value) as it is not common in the surrounding area.

11.7.15. The recorded Depositing Lowland River (FW2) habitats related to four watercourses within the study area, the Ahnagluggin Stream at XC187 Fantstown, the Newton River at XC212 Ballycoskery, the Pepperhill River at XC219 Buttevant and the Awbeg River at XC219 Buttevant/ XC209 Ballyhay.

11.7.16. Both dry and wet drainage ditches (FW4) were recorded, mainly associated with field boundaries and this habitat is classified as being of Local Importance (Higher Value) as it provides habitat and refuge for amphibians.

11.7.17. Tall Herb Swamp (FS2) was recorded at XC212 Ballycoskery, at a wet ditch at the base of the existing railway embankment, where it covered an area of c. 30m x 3m. A wide variety of species were recorded including dominated by tall herbs. The EIAR states that this habitat type is considered to correspond to the Annex I habitat

Hydrophilous tall herb swamp (6430) as it supported eight positive indicator species of this Annex I habitat. It is therefore considered to be of National Importance as a habitat of high conservation concern.

11.7.18. Dry meadows and grassy verges (GS2) was uncommon within the study area, where it was mainly associated with unmanaged grass verges dominated by a variety of grasses and forbs. This habitat, where it is associated with grassy verges, is classified as being of Local Importance (High Value) as it is uncommon in the wider area and provides habitat for a range of invertebrate and pollinator species. However, an area of this habitat type was also recorded within an abandoned/disused area of land immediately adjacent the railway at Buttevant embankment, where the grassland was relatively species rich. This habitat type is considered to correspond to the Annex I habitat Lowland Hay meadows (6510), as it supported three high quality positive indicator species and four positive indicator species. The EIAR considers this to be a degraded example of the habitat due to lack of management (i.e. grazing or mowing), noting that three negative indicator species were also recorded. The EIAR considers this to be a habitat of County to National Importance as a habitat of high conservation concern.

11.7.19. Stone walls (BL1) were recorded at two locations: an old stone wall at XC209 Ballyhay and stone walls adjacent the railway embankment at XC219 Buttevant. The EIAR classifies this habitat type as being of Local Importance (Higher Value), as it is uncommon within the study area and can provide winter refuge for species such as common lizard.

11.7.20. The remaining habitats recorded within the study area are classified as Local Importance (Lower Value).

11.7.21. Sections 7.4.3 to 7.4.8 of the EIAR set out the results of the desk survey and field surveys for each of the 7 No. level crossing sites. This is drawn together in Table 7.21 of the EIAR, where the following Key Ecological Receptors (KERs) are identified:

- <u>Designated sites:</u>
    - Blackwater River (Cork/Waterford) SAC (International Importance).
    - Kilcolman Bog SPA (International Importance).

- Kilcolman Bog pNHA (National Importance).

- Habitats (outside of designated areas):
  - Hedgerows (Wl1) (Local Importance (Higher Value)).
  - Broadleaved woodland (WD1) - Ash-Sycamore woodland (WL2C) (Local Importance (Higher Value)).
  - Scrub (WS1) (Local Importance (Higher Value)).
  - Treeline (WL2) (Local Importance (Higher Value)).
  - Depositing lowland rivers (FW2) (International Importance – connection to the River Blackwater (Cork/Waterford) SAC).
  - Drainage ditches (FW4) (Local Importance (Higher Value)).
  - Drainage ditches (FW4) – supporting tall herb swamps (FS2). (National Importance (only those supporting Tall Herb Swamps)).
  - Tall Herb Swamps (FS2) - including the Annex I habitat 6430 Hydrophilous tall herb swap (National Importance).
  - Dry meadows and grassy verges (GS2) - including Annex I habitat 6510 lowland hay meadows (County to National Importance).
  - Dry meadows and grassy verges (GS2) (Local Importance (Higher Value))
  - Stone walls (Bl1) (Local Importance (Higher Value))

- Fauna Species
  - Otter (International Importance).
  - Bats (Local Importance (Higher Value)).
  - Badger (Local Importance (Higher Value)).
  - Other small mammal species protected under the Wildlife Acts (Local Importance (Higher Value)).
  - White-clawed crayfish (International Importance).
  - SCI bird species (International Importance).
  - All other Red, Amber or Green listed bird species (non-SCI breeding populations) (Local Importance (Higher Value)).

- Smooth newt (Local Importance (Higher Value)).
- Common frog (Local Importance (Higher Value)).
- Common lizard (Local Importance (Higher Value)).
- Atlantic salmon (International Importance).
- Freshwater pearl mussel (International Importance).
- Lamprey spp. (International Importance).

11.7.22. Potential Impacts

11.7.23. The potential impacts of the proposed development on the identified KERs are generally associated with: direct habitat loss (due to vegetation removal associated with land take); mortality of protected species (due to vegetation removal and construction activities); disturbance associated with works in the vicinity of retained habitats (e.g. impacts on foraging/roosting SCI birds); and pollution of watercourses due to contaminated surface water run-off and sediment during site clearance/construction works with impacts on sensitive aquatic receptors.

11.7.24. With regard to each of the 7 No. level crossing sites, the following significant impacts are identified:

- **XC187 Fantstown:**
  - Do Nothing: None.
  - Construction Phase: None.
  - Operational Phase: None.
- **XC201 Thomastown:**
  - Do Nothing: None.
  - Construction Phase:
    - Significant effect on small mammals, breeding amphibians and green and amber-listed nesting bird species at a local geographic scale during site clearance works.
  - Operational Phase:

- Permanent loss of habitats (WL1, WL2, FW4, GS2) would result in a significant effect at a local geographic scale.
- Significant effects on bats and breeding birds at the local geographic scale, due to loss of foraging and commuting habitats in the case of bats and breeding habitat for birds.

- **XC209 Ballyhay:**
  - Do Nothing: None.
  - Construction Phase: A pollution event (e.g. release of contaminated surface water runoff/sediments) into the River Blackwater SAC would likely result in a significant effect on the European site at a local to county geographic scale.
  - Operational Phase: None.
- **XC211 Newtown & XC212 Ballycoskery:**
  - Do Nothing: None.
  - Construction Phase:
    - A pollution event (e.g. release of contaminated surface water runoff/sediments) into the River Blackwater SAC would likely result in a significant effect on the European site at a local to county geographic scale.
    - Significant effect on small mammals, breeding amphibians and green and amber-listed nesting bird species at a local geographic scale during site clearance works.
    - Pollution event into the River Awbeg will likely result in a significant effect on fish species and white-clawed crayfish at a local to county geographic scale.
    - Significant effect on wintering bird species at a local geographical scale due to infilling or pollution of pond at Newtown resulting in habitat loss.
  - Operational Phase:

- Permanent loss of habitats (WL1, WL2, WS1, FW4, GS2) would result in a significant effect at a local geographic scale. Permanent loss of the tall herb swamp (FS2) would result in a significant effect at a local to county scale.
- Significant effects on bats, breeding birds and wintering birds at the local geographic scale, due to loss of foraging and commuting habitats in the case of bats, breeding habitat for green and amber-listed bird species and foraging/roosting habitats for wintering birds.

- **XC215 Shinanagh:**
  - Do Nothing: None.
  - Construction Phase:
    - The spread of Japanese knotweed during construction would likely result in a significant effect to habitats and species at a local geographic scale.
    - Significant effect on the badger population at a local geographic scale due to construction works proposed at this crossing point (e.g. uncovered excavations).
    - Significant effect on small mammals, breeding amphibians and green and amber-listed nesting bird species at a local geographic scale during site clearance works.
  - Operational Phase:
    - Permanent loss of habitats (WL1, WL2, WS1) would result in a significant effect at a local geographic scale.
    - Significant effects on badger, bats and breeding birds at the local geographic scale, due to loss of foraging and commuting habitats in the case of badger and bats, and breeding habitat for green and amber-listed bird species.
- **XC219 Buttevant:**
  - Do Nothing: None.
  - Construction Phase:

- A pollution event (e.g. release of contaminated surface water runoff/sediments) into the River Blackwater SAC would likely result in a significant effect on the European site at a local to county geographic scale.
- A disturbance event resulting in displacement of whooper swan during construction will likely result in a significant effect on Kilcolman Bog SPA at a national geographic scale.
- Significant effect on otter at a local geographic scale during construction works due to disturbance or pollution events impacting on prey availability.
- Significant effect on small mammals, breeding amphibians and green and amber-listed nesting bird species at a local geographic scale during site clearance works.
- Pollution event into the River Awbeg will likely result in a significant effect on fish species and white-clawed crayfish at a local to county geographic scale.
- Significant effects due to disturbance/displacement during construction on whooper swan at a national geographic scale and little egret, mallard and grey heron at a local to county geographic scale.

o Operational Phase:

- Permanent loss of habitats (WL1, WS1, FW4, BL1) would result in a significant effect at a local geographic scale. Permanent loss of the Dry Meadows and Grassy Verges (GS2), corresponding to Annex I habitat 6510 Lowland Hay Meadows would result in a significant effect at a local to county scale.
- Significant effects on bats and breeding birds at the local geographic scale, due to loss of foraging and commuting habitats in the case of bats, and foraging and nesting habitat for green and amber-listed bird species.

11.7.25. Mitigation Measures

11.7.26. The proposed mitigation measures for the construction and operational phases are set out in Sections 7.7.1 and 7.7.2, respectively, of the EIAR.

11.7.27. The proposed construction phase mitigation measures are set out under a series of headings. Those contained under the headings of: general mitigation measures; pollution control; control of silt laden runoff; stockpiling of materials; storage of materials; fuel tanks, drums, mobile bowsers; vehicles and plant; working in or near watercourses; and use of concrete are generally as per the migration measures contained in the NIS, which I have listed at Section 12.5.12 below. Other construction phase mitigation measures include:

- **Small Mammals:**
    - Excavations covered at night to prevent small mammals from falling in or becoming trapped.
    - Night working prohibited.
    - Lights turned off after working hours.
    - Noise levels will not exceed permissible levels for construction works (70dB(A)) based on NRA Guidelines.
    - site will be revegetated post-construction.
- **Amphibians:**
    - Pre-construction survey for amphibians, including frog/newt spawn during the breeding season (February – May). If translocation is required, then a suitable receptor habitat will be identified.
    - Toolbox talk to ensure all site personnel are aware of these protected species and their mitigation requirements.
    - If found to be present during pre-construction surveys or during works, amphibians and/or spawn will be cleared by a suitably qualified and experienced ecologist under licence to displace any animals present within the works area prior to construction. In particular, areas where soil heaps are to be placed will be checked. Any amphibians removed will be placed into alternative suitable receptor habitat in the locality.

- Water levels will be maintained in any watercourses potentially used by amphibians, where practical.
- Habitat reinstatement will re-create, as far as is practicable, the former channels so that amphibians may use these post-construction.

- **Breeding Birds (BoCCI Amber and Green List Species):**
  - Vegetation will not be removed between 1st March and 31st August to avoid impacts on nesting birds. Where this seasonal restriction cannot be adhered to, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Where nests are present, an ecologist will make a decision as to whether a licence is required for vegetation removal. Alternatively, the ecologist can demarcate a suitable buffer around an active nest and clearance within this area will be postponed until the chicks have fledged. A suitable exclusion zone will be established dependant on the species identified.
  - Areas found not to contain nests must be cleared within three days of the inspection; otherwise repeat inspections will be required. If vegetation is to be cleared in the breeding season (under supervision of an ecologist) it will be chipped, removed or covered (ideally) on the same day to prevent birds from nesting.

11.7.28. In addition to the project-wide generic mitigation set out above, specific mitigation measures at a number of the level crossing sites are also proposed, as follows:

- **XC209 Ballyhay:** Additional groundwater quality sampling prior to construction. Based on results, it may be possible to dewater and discharge to the Awbeg (Buttevant East) River following settlement. Alternatively, if other contamination detected (e.g. metals/hydrocarbons), additional measures will be needed which could include additional treatment or disposal off site.
- **XC211 Newtown & XC212 Ballycoskery:**
  - Designated Sites: Mitigation measures to protect European sites are set out in the NIS. Kilcolman Bog pNHA is concurrent with the boundaries of Kilcolman Bog SPA and is designated for the same QI. It will therefore be protected by the mitigation measures set out in the NIS.

- Fish and Invertebrates (white-clawed crayfish): The proposed culvert to the west of the railway at Ballycoskery will be prefabricated and clean, so as to avoid concrete washings contamination. If the ditch is flowing, it will be dammed and pumped over the installation area to avoid the transportation sediment downstream. Additional in-stream measures will also be deployed, such as straw bales and oil booms to ensure there is no downstream impact as a result of the installation process.
- Wintering Birds: No infilling or direct discharge of pollutants will occur to the pond at Newton, which is used by several species of wintering birds.

- **XC215 Shinanagh:**
  - Invasive Species: Pre-construction survey; staff will be informed of the presence of Japanese knotweed/other invasive species through toolbox talks; exclusion zones will be established where necessary to prevent spread of invasive species; no machinery will be allowed within exclusion zones other than where necessary to undertake treatment measures; any plant material and soil containing plant material must be disposed of in accordance with the NRA guidelines; and care will be taken near watercourses to ensure that material that contains flower heads, seeds or cuttings of any invasive species will be disposed of correctly and not enter watercourses.
  - Badger: Pre-construction survey; if badgers are found to be present, any works within 30m of a sett will be supervised by a suitably qualified ecologist (50m during the breeding season); night-time working will be restricted as far as possible within 100m of a sett; use of noisy plant and machinery in the vicinity of badger setts will cease before sunset; excavations will be covered at night to prevent badger from falling in or becoming trapped; any borrow pits or spoil heaps will be sited at a minimum distance of 30m from setts; and chemicals shall not be used within 20m of a badger sett.

- **XC219 Buttevant:**

- Designated Sites: Mitigation measures to protect European sites are set out in the NIS. Kilcolman Bog pNHA is concurrent with the boundaries of Kilcolman

Bog SPA and is designated for the same QI. It will therefore be protected by the mitigation measures set out in the NIS.

- Otter: Pre-construction survey; if otters are found to be present no works undertaken within 150m of any holts at breeding females or cubs are present; no wheeled or tracked vehicles used with 20m of active, but non-breeding, holts; light work (digging by hand or scrub clearance) should not take place within 15m of such holts, except under licence; excavations covered at night to prevent otter from falling in or becoming trapped; working at night will be prohibited; lights will be turned off after working hours or angled away from watercourses; noise levels will not exceed permissible levels for construction works (70dB(A)) based on NRA Guidelines; site will be revegetated post-construction.
- Fish and Invertebrates (white-clawed crayfish): Where culverts are to be installed the area will be dewatered to provide a dry working area. The Pepperhill River and the ditch will have culverts installed at separate times so that flows can be maintained downstream during the installation; culverts will be prefabricated and clean, so as to avoid concrete washings contamination; netting, sandbags and/or dumpy-bags filled with rock will be installed upstream to prevent fish travelling downstream into the working area; fish will be removed from the working area through electrofishing and moved upstream of the dammed area; water will then be over pumped continually to ensure a dry working area; use of silt buster and additional in-stream measures (e.g. straw bales and oil booms) to ensure no downstream impact; re-wetting of watercourse post-construction under the direction of an EcoW with water released slowly and sediment control measures again used; prior to dewatering of the Pepperhill River and ditch hand searches for crayfish will be conducted and any found will be removed and moved upstream of the dammed area by the EcoW under licence.
- Wintering birds: Where timing of works cannot be completed outside the critical period (October – March) the following measures are proposed to mitigate the disturbance impacts to whooper swan foraging in the vicinity of XC219: existing treeline along R522 road must be retained in order to act as natural visual screen; if treeline cannot be retained, then artificial screening

(2-3m high) must be in place and installed in early September to ensure the site/works are screened before the main migration period (October); screening will remain in place for the duration of the works; EcoW will supervise the erection of the screening, provide guidance to the appointed contractor(s) and make regular checks of the screening throughout the works to ensure it is maintained in good condition and working order.

11.7.29. The proposed operational phase mitigation measures include:

- **Pollution Control:** No drainage works are proposed at XC187 Fantstown or XC209 Ballyhay due to the limited construction proposed at those locations. For the other sites, over-the-edge drainage is proposed in accordance with NRA road drainage standards, with new swales as part of a SuDS management chain. Swales will discharge to ditches/road drainage at existing greenfield runoff rates.
- **XC201 Thomastown:**
    - Habitats: Areas of existing vegetation will be retained and enhanced insofar as possible; where hedgerows need to be removed they will be replaced with areas of planting throughout the site; mitigation for the loss of habitat entails planting of native scrub and trees as per the landscape plan, to complement the existing broadleaf hedgerow species mix and will be of local provenance. Any residual space between the landscape measures will be planted with a wild grass seeding mix of local provenance.
    - Bats: Mitigation measures for the loss of habitat will also protect bat species from loss of foraging and commuting habitat.
    - Breeding Birds (BoCCI Amber and Green List Species): Hedgerows and scrub will be incorporated into the landscape plan to mitigate for loss of nesting habitat trees. Nest boxes will also be provided to compensate for passerine habitat loss. One large mature tree will be lost and 4 No. nest boxes to accommodate different species will be erected under supervision of an ecologist at appropriate locations.
- **XC211 Newtown & XC212 Ballycoskery:**

- Habitats: Indicative Mitigation Strategy has been developed detailing the method for translocating the area of tall herb swamps (FS2), including the Annex I habitat (6430) Hydrophilous tall herb swap communities, which will be lost under the footprint of the proposed project; the extent of the receptor site will be on a like-for-like basis; areas of existing vegetation will be retained and enhanced insofar as possible; where hedgerows need to be removed, they will be replaced with areas of planting throughout the site; mitigation for the loss of habitat entails planting of native scrub and trees as per the landscape plan, to complement the existing broadleaf hedgerow species mix and will be of local provenance. Any residual space between the landscape measures will be planted with a wild grass seeding mix of local provenance.
- Bats: Mitigation measures for the loss of habitat will also protect bat species from loss of foraging and commuting habitat.
- Breeding Birds (BoCCI Amber and Green List Species): Hedgerows and scrub will be incorporated into the landscape plan to mitigate for loss of nesting habitat trees. Nest boxes will also be provided to compensate for passerine habitat loss. A small area of scrub will be lost at XC211 and c. 15 No. large mature trees will be lost at XC212. 2 No. nest boxes at XC211 and 15 No. boxes at XC212 to accommodate different species will be erected under supervision of an ecologist at appropriate locations.
- Wintering Birds: No infilling or direct discharge of pollutants will occur to the pond at XC211 which is used by several species of wintering birds.

- **XC215 Shinanagh**
  - Habitats: Areas of existing vegetation will be retained and enhanced insofar as possible; where hedgerows need to be removed they will be replaced with areas of planting throughout the site; mitigation for the loss of habitat entails planting of native scrub and trees as per the landscape plan to complement the existing broadleaf hedgerow species mix and will be of local provenance. Any residual space between the landscape measures will be planted with a wild grass seeding mix of local provenance.

- Badger: No large areas of badger habitat will be lost. Mitigation measures for the loss of habitat will also protect badgers from loss of foraging and commuting habitat.
- Bats: Mitigation measures for the loss of habitat will also protect bat species from loss of foraging and commuting habitat.
- Breeding Birds (BoCCI Amber and Green List Species): Hedgerows and scrub will be incorporated into the landscape plan to mitigate for loss of nesting habitat trees. Nest boxes will also be provided to compensate for passerine habitat loss. Three large mature trees will be lost at XC215 and 4 No. nest boxes to accommodate different species will be erected under supervision of an ecologist at appropriate locations.

- **XC219 Buttevant**
  - Habitats: Indicative Mitigation Strategy has been developed detailing the method for translocating the area of dry meadows and grassy verges (GS2), including the habitat corresponding to Annex I habitat (6510) Lowland hay meadows, which will be lost under the footprint of the proposed Project; the extent of the receptor site will be greater than the donor site to include an area that will be enhanced for invertebrates, reptiles and birds; areas of existing vegetation will be retained and enhanced insofar as possible; where hedgerows need to be they will be replaced with areas of planting throughout the site; mitigation for the loss of habitat entails planting of native scrub and trees as per the landscape plan to complement the existing broadleaf hedgerow species mix and will be of local provenance. Any residual space between the landscape measures will be planted with a wild grass seeding mix of local provenance; the stones from a section of a stone wall to be removed at this site will be moved to the receptor site to create refugia for reptiles. EcoW will be present during these works to check for reptiles and a license may be required if reptiles are found to be present.
  - Bats: Mitigation measures for the loss of habitat will also protect bat species from loss of foraging and commuting habitat.

- Breeding Birds (BoCCI Amber and Green List Species): Hedgerows and scrub will be incorporated into the landscape plan to mitigate for loss of nesting habitat trees. Nest boxes will also be provided to compensate for passerine habitat loss. Three nest boxes to accommodate different species will be erected under supervision of an ecologist at appropriate locations.

11.7.30. Cumulative Impacts

11.7.31. With regard to potential interactions and cumulative effects between the 7 No. sites, the EIAR considers that - were the construction phases at each site to overlap - they are far enough apart to not have a significant impact on each other, except for XC211 Newtown and XC212 Ballycoskery which are consequently considered together within the EIAR.

11.7.32. The potential for cumulative effects between hydrologically linked sites via a deterioration in water quality, should a construction related pollution event occur, is noted. However, no significant cumulative effects are anticipated, following implementation of the mitigation measures.

11.7.33. Cumulative impacts are also considered with regard to other projects, including the upgrade of the N20 to the M20 motorway, however the two projects are not anticipated to overlap in terms of programme. The risk of cumulative impacts from other local schemes is considered not significant due to the scale and location of the proposed project and the non-significant residual impacts.

11.7.34. Residual Impacts

11.7.35. Residual impacts on biodiversity are addressed in Section 7.8 of the EIAR and tabulated in Table 7.27. The EIAR concludes that, with the implementation of the mitigation measures outlined in the EIAR, there will be no significant residual impacts on biodiversity (as represented by the KERs) from the proposed development.

11.7.36. **Assessment**

11.7.37. A number of the submissions raised issues with regard to potential impacts on biodiversity and a response was provided by Dr Susie Coyle, on behalf of the applicant, at the oral hearing (Refs. 7 and 7A).

11.7.38. Habitat Loss

11.7.39. While the majority of the habitat affected by the proposed development is improved agricultural grassland, the EIAR identified significant effects at a local geographic scale due to loss of habitats at XC201, XC211 & XC212, XC215 and XC219. The habitat types affected include hedgerows, treelines, scrub, drainage ditches, stone walls and dry meadows and grassy verges which will be removed due to their location relative to the proposed footprint of the development. I have addressed the Annex I habitats separately below.

11.7.40. The proposed mitigation measures for habitat loss include the retention and enhancement of existing vegetation where possible, with extensive replacement planting of native hedgerow, scrub and tree planting as outlined on the landscaping drawing, including semi-mature trees in a number of locations.

11.7.41. In the absence of mitigation, I would concur with the EIAR that there will be a significant impact on habitats as a result of the proposed development. Having reviewed the information submitted, including the landscaping plans, and having visited all of the sites, I am satisfied that the applicant has sought to limit the extent of habitat removal to the minimum required to facilitate the proposed development and noting the extensive replanting proposed, I am satisfied that as the planting becomes established, the residual impacts on habitats will not be significant.

11.7.42. <u>Annex I Habitat Loss at XC212 Ballycoskery and XC219 Buttevant</u>

11.7.43. Two small areas of habitat corresponding to Annex I habitat would be lost as a result of the proposed development. These comprise an area of Hydrophilous Tall Herb Swamp (6430) at XC212 Ballycoskery and an area of Lowland Hay Meadows (6510) at XC219 Buttevant. Neither area of habitat is within or connected to a European Site for which the habitat type is a qualifying interest.

11.7.44. The area of Hydrophilous Tall Herb Swamp (6430) at XC212 Ballycoskery is associated with a wet ditch at the base of the railway embankment and covers an area of c. 200 sq m, of which 40 sq m would be lost as a result of the proposed development. The area affected is located at the northern end of the habitat, where the proposed road embankment would be located.

11.7.45. The proposed mitigation strategy is to translocate the affected habitat area to a contiguous receptor site of the same size, located immediately to the west, and to the southern base of the proposed embankment. which will require engineering

works to ensure that it retains the wet conditions necessary for this habitat type and fencing to ensure that there is no regular biomass removal due to grazing animals.

11.7.46. With regard to what observers have contended is a lack of reference to scientific literature for such translocation, Dr Coyle, in her submission to the oral hearing, made reference to Latvian guidelines for the management of this habitat type. Having reviewed the referenced guidelines, while they do address management and restoration methods for this habitat type, they do not appear to provide guidance on habitat translocation or creation.

11.7.47. A report prepared by Mary O'Connor PhD, a botanical ecologist, was submitted at the oral hearing on behalf of the Trustees of the Diocese of Cloyne (Ref. 19). Dr O'Connor was unable to attend the hearing, so I read her submission for the record. Dr O'Connor stated that for translocation to be feasibly put forward as a mitigation for the loss of important habitat, a high degree of site assessment of both the donor and the receptor sites must be carried out prior to its proposal as a mitigation method. She noted that habitat is greater than the sum of its soils, plants and animals – it is the result of a complex and dynamic interaction between each component, over a number of years. She stated that there had been a failure to comply with best practice, since the receptor site had been chosen without consulting with a hydrologist or carrying out due investigations and that this proposed mitigation measure was, therefore, inadequate.

11.7.48. In response to this, Dr Coyle stated that a full assessment of both the donor and receptor sites would be carried out in advance of construction. Ms Sewnath, the applicant's surface water advisor, stated that the donor and receptor sites were contiguous and as part of the final design the conditions would be recreated at the receptor site. She stated that the habitat had established by itself at the current location and that there was no reason why the translocation would not be successful and that it would be monitored by ecologists to ensure its success.

11.7.49. I note that the following additional mitigation measure was added to the updated Schedule of Mitigation submitted at the oral hearing (Ref. 31A):

> *"Information from the site assessments will be used to inform a detailed translocation Method Statement / Strategy which will be consulted on and approved by NPWS.*

The loss of an area of 40m^2 Hydrophilous tall herb and an area of 300m^2 of Lowland hay meadows, both corresponding to Annex I habitat, lost under the footprint of the proposed Project will mitigated through the translocation of turves from the area to be lost to receptor sites.

The extent of the receptor site at Ballycoskery is based on a like for like area basis and will be contiguous with the existing habitat. The site at Buttevant will be the same size or larger and will be includes an additional area that will be enhanced for invertebrates and birds.

A pre-construction detailed site inspection will be carried out by a botanical expert, including condition assessment, at donor and receptor sties. Sites will be surveyed by an experienced botanist in June and the existing habitat mapped in detail. The substrate will be assessed by digging soil pits to determine rooting depth to aid the design of the translocation. Any constraints present at the donor and receptor sites will be identified, e.g. soil testing to identify soil pH along with nitrogen, phosphorus and potassium (NPK) values for the soils. Each site will be assessed for any issues such as nutrient seepage and any issues that may carry implications for further management of this habitat.

At Ballycoskery from a hydrological perspective the proposed location for the translocation of the flora may not currently provide the conditions where it can grow, however under the proposals for the drainage system and design of the embankment and swales; local conditions can be augmented, as necessary. Preparation of receptor site and translocation of turves (seed bank, above ground vegetation and below ground roots) will be undertaken in early autumn when vegetation is dying back and the ground is still dry enough to disturb. Turves will not be removed and stored prior to translocation to increase potential of success. Where this is not possible an alternative method will be developed to ensure the viability of the turves to be translocated.

The entire donor site area will be removed to an appropriate depth, to be determined by detailed site inspection and pre-construction survey, and moved to the cleared receptor site as noted above. Under the direction of an experienced Ecological Clerk of Works (EcoW), turves will be laid by hand or

with the use of specialist plant on the pre-prepared bare ground and staked-in to prevent movement. Turves will not be translocated when the ground is water-logged or frozen. Translocation of the habitat at Ballcoskery will be completed within one day where possible.

At Ballycoskery stock fencing will be installed to prevent grazing and poaching by livestock. Where present overhanging vegetation, scrub comprising small bushes and trees, will be trimmed back to reduce leaf litter."

11.7.50. I also note Item 2 of the agreement reached between the applicant and Cork County Council, which was submitted to the oral hearing (Ref. 23) and states that:

"Translocation of Annex I habitat shall be carried out in consultation with the National Parks and Wildlife Service and in accordance with the detailed construction method statements."

11.7.51. The Hydrophilous Tall Herb Swamp habitat area appears to have developed as a consequence of the railway embankment construction and its effects on local soil and drainage conditions, Given that it is not proposed to translocate the entire 200 sq m area of habitat, but instead to translocate a small portion of it to a contiguous area, which is also at the base of an embankment, there is no compelling reason to believe that the translocation would not be successful, where appropriate soil and drainage investigation and preparatory works have been undertaken to replicate existing conditions. The applicant has outlined a clear methodology for these surveys and for the translocation of turves under the supervision of an Ecological Clerk of Works and the future protection of this habitat from grazing. Subject to suitable conditions and the implementation of the measures identified in the updated Schedule of Mitigation, I am satisfied that the project development is not likely to have a significant residual impact on the identified area of Annex I habitat at XC212 Ballycoskery.

11.7.52. With regard to the Lowland Hay Meadows (6510) habitat at XC219 Buttevant, this relates to an area of disused land extending to c. 340 sq m, which is located adjacent to the railway embankment to the south of the existing level crossing. The majority (c. 300 sq m) of the habitat area would be lost as a result of the proposed development and a proposed receptor site has been identified further to the south,

along the railway line. The receptor site is larger than the donor site and it is proposed to include additional biodiversity enhancement at this location.

11.7.53. I consider that the same considerations arise in respect of this area of Annex I habitat as the abovementioned area at XC212. Subject to suitable conditions and the implementation of the measures identified in the updated Schedule of Mitigation, I am satisfied that the project development is not likely to have a significant residual impact on the identified area of Annex I habitat at XC219 Buttevant.

11.7.54. In conclusion, I recommend that a condition be included, requiring that a method statement for the translocation of the Annex I habitats at XC212 Ballycoskery and XC219 Buttevant be prepared by a suitably qualified ecologist and hydrologist, in consultation with the National Parks and Wildlife Service, to include site investigation, required site preparatory works, translocation methodology, monitoring protocols and on-going site management procedures.

11.7.55. Bats

11.7.56. The EIAR identified potential significant effects on bats at the local geographic scale, due to loss of foraging and commuting habitats at XC201, XC211, XC212, XC215 and XC219.

11.7.57. The potential impact of the proposed development on bats at XC212 Ballycoskery was also raised in a number of submissions, including those by the Trustees of the Diocese of Cloyne and Michael O'Kelly. The issues raised related to the proposed removal of trees and hedgerows and the impact on a bat colony in the Parochial House, which was not identified in the EIAR.

11.7.58. Dr Coyle, in her submission at the oral hearing, stated that the desk-based review found no records of bat roosts within 5km of XC212 and that no information on bat roosts was highlighted during the consultation process. She stated that one tree and one building was assessed as requiring further survey for roost potential, but that no roosts were recorded in these or in nearby trees during the dawn/dusk surveys near Beechwood Drive on the L1533 road. Figure 7.1 of the EIAR indicates the locations where the bat surveys were undertaken and it can be seen that the three surveyor locations were in the vicinity of the treeline/hedgerow opposite Beechwood Drive and the gatekeeper house which it is proposed to demolish. Dr Coyle contended that the activity surveys of bats along this treeline, which is well-lit by street lighting, did not

record high levels of activity. She stated that this street lighting may be contributing to the low numbers of bats recorded and that the loss of trees and hedgerows will be mitigated through replanting, as outlined in the EIAR.

11.7.59. A report relating to bats, prepared by Denis McNamara, was submitted at the oral hearing on behalf of the Trustees of the Diocese of Cloyne (Ref. 20). Mr McNamara was unable to attend the hearing, so I read his report for the record and the applicant was subsequently invited to respond. Mr McNamara's report contends that there has been little research on bat presence and distribution in Ballyhea and that the combined effects of the proposed development and the M20 project is difficult to assess. He stated that there is no scientific evidence available to exclude the presence of horseshoe bats. Mr McNamara's report contends that the bat surveys undertaken by the applicant are inadequate, were limited in duration and extent given the extent of treeline and hedgerow to be removed, and did not involve, it would appear, the use of passive detectors. The report noted the presence of bat activity in the Parochial House, which is within the applicant's study area, but which was not identified in the EIAR as having roost potential. The report outlines the results of a passive bat detector survey undertaken over 6 nights in June 2021 at the Parochial House, which it is stated indicates a sizable maternity colony of bats in the roofspace. I note that this included almost 6,000 separate registrations of Soprano Pipistrelle.

11.7.60. The report concludes that, given the failure to record this obvious roost, there is reasonable concern that the surveyors may have also failed to record other potential roost features within the study area. It also states that the potential impacts on bats of removing hedgerows and trees has not been adequately considered and that the mitigation landscaping does not appear to have been designed to offset the loss of existing vegetation which has a function in maintaining habitat connectivity for foraging and commuting bats. Potential light and disturbance impacts were also identified.

11.7.61. With regard to the Parochial House and the roost therein, Dr Coyle stated that it is 44m from the proposed works and is surrounded by trees and is not directly affected by the proposed development and as such was not subject to survey. I note that this statement would contradict the use of a 100m study area referred to in the EIAR. She stated that the trees and hedgerows immediately surrounding the Parochial

House and to the north will be retained, ensuring existing foraging and commuting habitat for bats will remain unchanged. Conversely, the trees along the L1533 opposite Beechwood Drive were surveyed as these will be directly impacted and she noted that bats were recorded in low numbers and included more common species such as soprano pipistrelles and Leislers bat. With regard to the passive detector survey results included in Mr McNamara's submission, Dr Coyle noted that 6,000 registrations does not mean 6,000 bats but 6,000 movements, with bats entering and leaving a roost multiple times per night. She stated that soprano bats are tolerant to light and noise disturbance and that the standard mitigation for site works will prevent disturbance.

11.7.62. Brian McCutcheon, in his submission on behalf of the Trustees of the Diocese of Cloyne, referred to a Board decision in case ABP-312987-22, which he considered to be of relevance. In that case, the Board refused permission for a residential development in Co. Kerry on the basis that the site was in proximity to a SAC for which Lesser Horseshoe Bats were a qualifying interest and where the Board considered that there was insufficient scientific reasoning to eliminate the likelihood of significant adverse effects due to increased artificial lighting.

11.7.63. I do not consider that Kerry case referenced by Mr McCutcheon to be directly comparable to the case now before the Board, given the different site characteristics, the presence of existing lighting in the vicinity of the treeline to be affected by the proposed development and the lack of connection to a European site for which bats are a qualifying interest. In the Kerry case, it is also of note that the Department of Housing, Local Government and Heritage had recommended refusal due to the impacts on Lesser Horseshoe bats and other elements of biodiversity. That is not the case in this application.

11.7.64. I am satisfied that there will be no direct impact on the bat roost within the Parochial House given the separation distance. The bat surveys undertaken by the applicant found a low level of bat activity in the treeline that will be affected by the proposed development, indicating that bats may forage to the north, away from the noise and lighting of the L1533 and the adjacent Beechwood Drive estate.

11.7.65. The loss of part of this treeline and existing vegetation may have an indirect significant adverse impact on bat foraging and commuting activity at a local level,

however the proposal includes extensive replacement planting, including retention of part of the existing treeline, planting of semi-mature trees and native shrubs and hedgerow. I am satisfied that, as this mitigation planting becomes established, there will be an enhancement of habitats suitable for use by bats.

11.7.66. I note that the following additional mitigation measures for level crossing sites XC201, XC211, XC212, XC215 and XC219 were added to the updated Schedule of Mitigation submitted at the oral hearing:

> *"Pre-construction checks for bats will be carried out as required along with bat surveys as needed using standard survey methodology as detailed Chapter 7 of the EIAR."*

11.7.67. I am satisfied that there will be no direct impact on bat roosts as a result of the proposed development and subject to implementation of the identified mitigation measures and the monitoring of sites by the ECoW, I am satisfied that there will be no significant residual impact on bat activities such as commuting or foraging as a result of the proposed development.

11.7.68. Birds

11.7.69. The EIAR identified significant effects on breeding birds at XC201, XC211 & XC212, XC215 and XC219 due to the site clearance works in the construction phase and due to loss of foraging and nesting habitats in the operational phase. Significant effects were also identified on wintering birds at XC211 due to impacts on a pond and on a number of bird species at XC219 due to disturbance/displacement during construction (whooper swan, little egret, mallard and grey heron). The potential effects on Kilcolman Bog SPA, for which whooper swan are a qualifying interest, are addressed in Section 12 of this report.

11.7.70. At site clearance stage, the principal mitigation method is for vegetation not to be removed between 1st March and 31st August to avoid impacts on nesting birds. The EIAR states that where this restriction cannot be adhered to, then inspections will be undertaken prior to clearance. Where nests are present, an ecologist will make a decision as to whether a licence is required for vegetation removal or a buffer will be demarcated around the nest and clearance postponed within the area until the chicks have fledged.

11.7.71. Given that the amount of vegetation to be removed is not particularly extensive at any one site, I do not consider that there is any compelling reason why removal works need to be undertaken during the bird breeding season. If the Board is minded to grant the Railway Order, I recommend that a condition be included to require no removal of vegetation between 1st March and 31st August, in the interests of protection of biodiversity.

11.7.72. Other proposed mitigation measures for birds are primarily associated with the replacement habitat planting as detailed above. While some limited areas of hedgerow and trees will be removed to facilitate the proposed development, an extensive programme of landscaping is proposed, to include native scrub, hedgerow and tree species. Bird nest boxes are also proposed, with consideration given to placement to cater for different species, as outlined in the applicant's biodiversity mitigation strategy. Erection of the bird boxes will be supervised by the project ecologist.

11.7.73. With regard to the potential construction phase impacts on wintering birds at XC219, including whooper swan, mitigation proposals are provided to ensure that the works are screened from the areas utilised by the birds, with supervision and monitoring by the ECoW. I am satisfied that the proposed measures, which include various levels of safeguarding, are sufficiently detailed and essentially comprise to ensure that adequate visual screening is maintained to avoid disturbance effects on Whooper Swans that may be foraging in the vicinity. I am satisfied that these measures, to be supervised by an ECoW, will be sufficient to ensure no significant adverse effects on these birds.

11.7.74. Subject to compliance with the identified mitigation measures, supervision by the ECoW, and suitable conditions, I am satisfied that there will be no significant adverse residual impact on birds as a result of the proposed development.

11.7.75. <u>Aquatic Species</u>

11.7.76. Potential significant effects on aquatic species were identified in the EIAR due, primarily, to pollution of watercourses during construction at XC201, XC209, XC211, XC212 and XC219. The potential effects on the European Sites hydrologically connected to these watercourses are addressed in Section 12 of this report.

11.7.77. The submission from Cork County Council queried the design of the proposed box culverts for the Pepperhill stream and an unnamed watercourse at XC219 Buttevant, stating that it was the least desirable type of crossing from an ecological perspective, particularly with regard to aquatic biodiversity. They sought its redesign and that mammal ledges be incorporated, given the presence of otters and other mammals. They also noted the potential for contamination of the watercourses with silty run-off or sedimentation during construction.

11.7.78. Dr Coyle, in her submission to the oral hearing, stated that consultation was undertaken with IFI, who considered that a box culvert crossing was suitable for the location and that the sizing of the culvert is flood driven, ensuring that it is more than adequate for fish passage.

11.7.79. I note that the following mitigation measure was added to the updated Schedule of Mitigation submitted at the oral hearing in respect of the proposed culverts at XC219 Butevant:

> *"The culverts will be embedded and the natural beds of the waterbodies allowed to re-establish naturally following installation and the removal of the upstream dam. The culvert will be fitted with a mammal ledge, ledges shall be at least 500mm wide, constructed at least 150mm above the 1 in 5 year flood event, and allow at least 600mm headroom."*

11.7.80. The additional mitigation measure was also referenced in the agreement between Cork County Council and the applicant which was submitted at the oral hearing (Ref. 23). I would share the initial concerns raised by the Local Authority regarding these culverts, however given that they will be embedded enabling the riverbed to re-establish and fitted with mammal ledges, I do not consider that they will have a significant impact on aquatic species, noting that the applicant has provide adequate detail on the construction methodology, that the works will be supervised by the ECoW and that the applicant has engaged with Inland Fisheries Ireland with regard to the design of the culverts.

11.7.81. A comprehensive range of mitigation measures are proposed with regard to water pollution prevention and control, storage of chemicals/fuels etc. and control of silt-laden run-off. As detailed in the water section of this report, the proposed measures are relatively standard good practice construction methods for works in the vicinity of

watercourses and I am satisfied that they will generally be successful in mitigating impacts on aquatic species to a non-significant level. It is proposed that in-stream works will be supervised by the ECoW and will be carried out between July and September inclusive where the works location overlaps salmonid spawning habitat or where similar habitat is situated close to the works footprint, which has been agreed with IFI.

11.7.82. Mammals

11.7.83. Significant effects on mammals were identified due to disturbance during site clearance, loss of foraging and commuting habitats and impacts on prey availability due to water pollution events.

11.7.84. A series of mitigations are proposed for site clearance and construction stage, including covering of excavations at night, night working prohibition, turning off of lights after working hours and control of noise. The proposed habitat mitigation landscaping works will also mitigate impacts on mammals in the operational phase.

11.7.85. With regard to XC219 Buttevant, as noted above, the applicant has proposed to add mammal ledges to the proposed culverts, which will facilitate the commuting and foraging of various mammal species.

11.7.86. Additional standard mitigation measures for otters at XC219 Buttevant and badgers at XC215 Shinanagh are also proposed, which follow the recommendation of the NRA Guidelines for the Treatment of Badgers/Otters Prior to the Construction of National Road Schemes.

11.7.87. As noted above, comprehensive mitigation measures have been outlined for pollution control, and subject to compliance with these measures I am satisfied that there will be no significant impacts on prey availability for mammals.

11.7.88. I am satisfied that there will be no significant residual adverse effects on mammals as a result of the proposed development.

11.7.89. Conclusion

11.7.90. I have considered all of the written submissions made in relation to biodiversity and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on biodiversity can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed

mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on biodiversity.

11.8. **Land, Soil, Water, Air and Climate – <u>Land and Soil</u>**

11.8.1. Soils, Geology and Hydrogeology are addressed in Chapter 8 of the EIAR. Land use is addressed in Chapter 6 of the EIAR ('Population and Human Health') and is considered in Section 11.6 above.

11.8.2. Since the proposed development relates to 7 No. level crossing locations over a stretch of c.24 km, which are more than 2km apart (other than XC211 Newtown and XC212 Ballycoskery which are c. 360m apart), the EIAR uses a 500m study area for geology and contaminated land around each crossing. This was increased to 1km around each crossing for groundwater assessment.

11.8.3. The baseline soil, geological and hydrogeological environment at each level crossing site is described in Section 8.4 of the EIAR, including the results of ground investigation works at the sites where substantial construction work is proposed. It also identifies private water supplies and septic tanks within the study area for each site. I note that there are no identified geological sites of interest or active quarries/pits within the study area of any of the sites. Some areas of made ground were identified and with regard to contaminated land, the EIAR notes that existing rail lines and road infrastructure are the most likely local source of contamination due to potential minor leakage of hydrocarbons and heavy metals over time.

11.8.4. <u>Potential Impacts</u>

11.8.5. Potential impacts are outlined in Section 8.6 of the EIAR for both construction and operational phases for each of the 7 No. sites. The 'do nothing' scenario is also assessed. I note that the assessment methodology identifies the following lower thresholds which are considered to be potentially significant in the context of the EIA Regulations and the level at which mitigation would be proposed:

- Geology: Impact of Slight/ Moderate significance and above.
- Contaminated land: Impacts of Moderate/Low significance and above.
- Groundwater: Impacts of Slight/ Moderate significance and above.

11.8.6. In the ‘do nothing’ scenario, no significant impacts are identified for any of the sites.

11.8.7. The following significant impacts during construction and operational phases for each of the level crossing sites are identified:

- **XC187 Fantstown:**
    - Construction phase: No significant impacts due to minimal nature of works proposed.
    - Operational phase: No significant impacts due to minimal nature of works proposed.
- **XC201 Thomastown:**
    - Construction phase: Potential **moderate/low** (i.e. significant) contaminated land impacts as a result of accidental spillage of oils, fuels or chemicals during the construction phase migrating through to the superficial deposits of water-bearing Till and glaciofluvial sands and gravels.
    - Operational phase: No significant impacts.
- **XC209 Ballyhay:**
    - Construction phase: Potential **moderate/low** (i.e. significant) contaminated land impacts on workers interacting with potentially contaminated soils/groundwater during excavations and as a result of accidental spillage of oils, fuels or chemicals during the construction phase migrating through to the superficial deposits of water-bearing Till, Alluvium and Gravels and bedrock groundwater or creation of vertical pathways for contamination to migrate into bedrock.
    - Operational phase: Potential **slight/moderate** (i.e. significant) impact on groundwater dependent terrestrial ecosystem (wet grassland area which could have a groundwater component) due to potential for backfilled trench excavation to act as a preferential pathway for groundwater.
- **XC211 Newtown & XC212 Ballycoskery:**
    - Construction phase: Potential **moderate/low** (i.e. significant) contaminated land impacts on workers interacting with potentially contaminated soils/groundwater during excavations and as a result of accidental spillage

of oils, fuels or chemicals during the construction phase migrating through to the superficial deposits of water-bearing Till and glaciofluvial sands and gravels and bedrock groundwater.

- Operational phase: No significant impacts.

- **XC215 Shinanagh:**
  - Construction phase: Potential **moderate/low** (i.e. significant) contaminated land impacts as a result of accidental spillage of oils, fuels or chemicals during the construction phase migrating through to the superficial deposits of water-bearing Till and bedrock groundwater. Potential **moderate** impact on groundwater flow and quality at private water supply PWS215/2 (a shallow active abstraction used to supply a property and cattle), which is fed by groundwater flowing from the direction of the proposed new access road.
  - Operational phase: No significant impacts.
- **XC219 Buttevant:**
  - Construction phase: Potential **moderate** (i.e. significant) contaminated land impacts on workers interacting with potentially contaminated soils/groundwater during excavations and potential **moderate/low** (i.e. significant) impacts as a result of accidental spillage of oils, fuels or chemicals during the construction phase migrating through to the superficial deposits of water-bearing Till and bedrock groundwater. Potential **moderate** impact on water quality at private water supplies PWS219/2 and 219/3 due to accidental spillages.
  - Operational phase: No significant impacts.
- **Combined Effects of all Sites:**
  - Construction phase: Due to the relatively small-scale of construction proposals for each site and the distance between sites, no significant combined effects are predicted. With regard to accidental contaminant spillages which could potentially impact groundwater quality, these are unlikely to occur simultaneously at multiple sites, resulting in low significance.

- Operational phase: No combined significant impacts.

11.8.8. Mitigation Measures

11.8.9. No mitigation measures are proposed for geology and soils since no significant impacts were identified.

11.8.10. With regard to contaminated land, the following mitigation measures are proposed:

- Any contaminated groundwater intercepted during construction will be treated prior to being discharged or will be disposed of at an appropriate licensed facility.
- Prior to construction activities, appropriate H&S and waste management procedures for working with contaminated soils will be established, to take account of the principles of risk assessment and source-pathway-receptor linkages. Procedures will be implemented as appropriate during construction and will be developed in cognisance of the soil testing, soil leachability tests and groundwater testing results.
- Risks to construction and maintenance staff working with/near contaminated land will be mitigated by the implementation of the above in combination with the adoption of appropriate systems of work, including personal protective equipment. In the event that unrecorded contamination is encountered, works should be stopped, and the working procedures reassessed to confirm the working methods remain appropriate.
- Appropriate training of personnel involved in earthworks activities to implement a watching brief to identify potential presence of previously unidentified contamination.
- To maximise the reuse of site-won materials on-site and minimise waste disposal of waste, whilst ensuring that no risks are posed to human health or the water environment, a soil reuse assessment will be undertaken, which will identify any potential risks posed to both human health and the water environment from potentially contaminated soils reused throughout the proposed Project.
- If excavated soils are deemed unsuitable for reuse, they will be assessed in line with EPA ‘Guidance on Soil and Stone By-products’ prior to disposal to

determine whether they are hazardous or non-hazardous. This will establish the most appropriate and cost-effective waste stream for the waste materials.

- Where concrete materials are proposed to be used, appropriate guidance such as 'I.S. EN 206-1' should be followed to ensure that ground conditions are appropriate for the use of concrete at each given location.

11.8.11. With regard to hydrogeology, the following mitigation measures are proposed:

- Private water supplies PWS209/1, PWS215/2, PWS219/2 and PWS219/3 will be monitored for yield and quality before and during construction. Should any impact be recorded on any of these supplies, an alternative water supply will be provided to the property affected. A site visit will be undertaken to refine the location of PWS209/1. Following this survey, it will be determined whether the supply should be added to the list of private water supplies being monitored.
- Storage of excavated soils and made ground will be minimised on site and storage areas will be lined with adequate drainage management in place to ensure that no polluted water percolates into the ground and minimise run-off and suspended solids.
- Additional mitigation detailed within Chapter 9 of the EIAR ('Water') and the CEMP will offer additional protection. Mitigation measures designed to protect surface water environment will also protect groundwater receptors while air quality mitigation measures will avoid the creation of a statutory nuisance associated with dust and air pollution when working with contaminated land.
- Following ground investigation, a settlement analysis will be undertaken for XC209 Ballyhay. Should the settlement analysis raise any concerns additional mitigation measures will be implemented for existing rail and road infrastructure and nearby small buildings.
- Trenches in XC209 Ballyhay which fall within the wet grassland area should be backfilled with the material that was dug out to prevent any preferential pathways being created.

11.8.12. <u>Residual Impacts</u>

11.8.13. Following implementation of the mitigation measures, no significant residual impacts on soils, geology or hydrogeology are anticipated as a result of the construction and operation of the proposed development.

11.8.14. Cumulative Impacts

11.8.15. Given the low level of residual impacts associated with the proposed development, no cumulative impact of significance is expected with other proposed developments.

11.8.16. **Assessment**

11.8.17. No particular issues regarding soils, geology or hydrogeology were raised in the submissions made other than general points regarding the risk of contaminated land which were raised by Colm Moore.

11.8.18. Contaminated land

11.8.19. I concur with the EIAR that there is the potential for low to moderate impacts at each of the level crossing sites, with the exception of XC187 Fantstown, as a result of contamination of land and groundwater via spillages of oils, chemicals etc. or as a result of workers coming in contact with existing contamination during excavations. I note in this regard the long-established railway use which may have resulted in contamination with oils, heavy metals, hydraulic fluids etc. over time.

11.8.20. The proposed mitigation measures to address these impacts are relatively standard good practice construction methods and protocols. Where contaminated materials are encountered, the EIAR sets out the waste management protocols through which they will be addressed. The mitigation measures contained in the Water chapter of the EIAR, including the proper storage of potential pollutants and maintenance of machinery, will also serve to prevent soil/groundwater contamination.

11.8.21. Hydrogeology

11.8.22. The EIAR identifies the potential for significant impacts on a number of private water sources at XC215 Shinanagh and XC219 Buttevant as a result of contamination of groundwater or reduction in flow. It is proposed to monitor these supplies for yield and quality and to provide an alternative water supply, should any impacts occur. As with contaminated land impacts noted above, the additional water related mitigation measures will also mitigate potential impacts on private water supplies.

11.8.23. Subject to appropriate monitoring and the provision of alternative supplies should any significant issues arise, I am satisfied that there will be no residual impacts on hydrogeology.

11.8.24. With regard to the wet grassland habitat at XC209 Ballyhay, I consider that the proposed mitigation measure of backfilling trenches with the material dug out of them is an appropriate means of ensuring no significant risk of preferential pathways is created, which could impact on the habitat.

11.8.25. Conclusion

11.8.26. I have considered all of the submissions made in relation to soils and geology and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on soils and geology can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on soils and geology.

11.9. Land, Soil, Water, Air and Climate – Water

11.9.1. Water is addressed in Chapter 9 of the EIAR. A Flood Risk Assessment is contained in Appendix 9A and a Water Framework Directive assessment is contained in Appendix 9B.

11.9.2. Given the nature of the proposed project, the assessment carried out in the EIAR is stated as being in accordance with TII Guidelines on Procedures for Assessment and treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (2009). Consequently, in accordance with the Guidelines, the study area for direct effects is set at 250m beyond the land take boundary for each of the sites, while wider study areas of 1km and 10km have also been used to identify any water body that may be hydrologically connected to the sites and/or any site designated for biodiversity that may be hydrologically connected to these water bodies.

11.9.3. The 7 No. level crossing sites fall within two hydrological catchments, the Shannon South Estuary in Limerick flowing generally north and west and the Blackwater (Munster) in Cork, flowing generally south. Both catchments are predominantly flat

and underlain by Tournaisian and Visean limestones bedrock with the exception of a few isolated hills.

11.9.4. The Shannon Estuary South catchment drains a total area of 2,033km² and includes 18 sub-catchments and all streams entering the tidal water in the Shannon Estuary between Kilconly Point and Thomond Bridge, Limerick. The level crossings at XC187 Fantstown and XC201 Thomastown are within this catchment and are both located within the Maigue_SC_020 sub-catchment.

11.9.5. The Blackwater (Munster) Catchment drains a total area of 3,310km² and includes 28 sub-catchments, including the Blackwater (Munster) and Awbeg (Buttevant) sub-catchments and all water bodies between East Point and Knockaverry, Youghal, Co. Cork. The remaining five level crossings are within this catchment. XC215 Shinanagh and XC219 Buttevant are within the Awbeg [Buttevant]_SC_020 sub-catchment, while XC209 Ballyhay, XC211 Newtown and XC212 Ballycoskery are within the Awbeg [Buttevant]_SC_010 sub-catchment.

11.9.6. Table 9.2 of the EIAR outlines the baseline conditions of the relevant water bodies in the two catchments, which generally have a WFD status of Moderate or Good (with a number of smaller watercourses having unassigned WFD status), with some noted as being ‘At Risk’ from a WFD perspective. Sections 9.3.4 to 9.3.9 identify the waterbodies in the vicinity of each level crossing site and the results of site walkover surveys.

11.9.7. A summary of existing flood risk from the various sources of flooding at each of the level crossing sites is provided in Table 9.3 of the EIAR. I note that XC209 Ballyhay and XC219 Buttevant are identified as having a High fluvial flood risk, with XC211 Newtown and XC212 Ballycoskery having a Moderate fluvial flood risk. All other sources of flooding are identified as Low or Very Low risk. The EIAR notes that climate change will result in increased frequency and magnitude of fluvial flooding and potential increased pluvial flood risk.

11.9.8. <u>Potential Impacts</u>

11.9.9. Potential generic impacts are identified for XC201 Thomastown, XC211 Newtown, XC212 Ballycoskery and XC215 Shinanagh (noting the limited works at XC187 Fantstown and XC209 Ballyhay). These include:

- Surface water quality of local watercourses affected by silty water run-off.
- Groundwater contamination due to contamination of run-off by oils and fuels stored on site or direct from construction machinery.
- Surface water pollution due to increased run-off from embankments.
- Change in the natural hydrological regime due to an increase in discharge as a result of dewatering.
- Disruption to local drainage systems due to diversions required to accommodate the construction works.
- Temporary increased runoff rates to water features due to temporary increase in hardstanding areas and/or soil compaction during construction works.
- Modifications to the hydraulic characteristics of water features through modifications to the channel dimensions during construction of outfalls and culverts.
- Potential increase in flooding.

11.9.10. The identified potential effects of the proposed development are set out in Section 9.5 of the EIAR and the combined effects for the 7 No. level crossings are tabulated in Table 9.13. The following construction phase significant effects are identified:

- **XC187 Fantstown:** None.
- **XC201 Thomastown:**
    - <u>Bridge construction:</u>
        - Geomorphology: Moderate effect on Loobagh_030 as a result of construction activities in close proximity to the roadside ditch which outfalls to this watercourse and consequent risk of sediment input to the water feature causing smothering of the bed strata and increased turbidity.
        - Water quality: Moderate effect on Loobagh_030 as work near the ditch heightens the risks of hazardous material spillages and sediment input.
    - <u>Construction compound:</u>

- Geomorphology: Moderate effect on Loobagh_030 due to potential for silty water runoff during site clearance for the compound area, in close proximity to the drainage ditch, smother the bed strata in the ditch.
- Water Quality: Moderate effect on Loobagh_030 due to increased sediment delivery via the roadside ditch and potential for oil and chemical spills from material stored at the compound.

- **XC209 Ballyhay:**
  - Water Quality: Significant or very significant impact on Awbeg (Buttevant)(East)_020 due to dewatering of trenches for cable ducting.

- **XC211 Newtown & XC212 Ballycoskery:**
  - <u>Bridge construction:</u>
    - Geomorphology: Significant to Very Significant effect on Awbeg (Buttevant)(East)_020 as a result of construction activities in close proximity to the ditches and consequent risk of sediment input to the water feature causing smothering of the bed strata and turbidity.
    - Water Quality: Significant to Very Significant effect on Awbeg (Buttevant)(East)_020 as work near the ditches heightens the risks of hazardous material spillages and sediment input to the ditch.
  - <u>Construction of new culverts (XC212):</u>
    - Hydrology and Drainage: Slight to Moderate effect on Awbeg (Buttevant)(East)_020 as ditches will be temporarily disrupted as culverts are installed.
    - Geomorphology: Significant to Very Significant effects on Awbeg (Buttevant)(East)_020 as ditches will be affected by increased sediment load during the construction of the new culverts which could be transported to the water body.
    - Water Quality: Significant to Very Significant effects on Awbeg (Buttevant)(East)_020 as ditches are at risk of increased sediment and hazardous substances during the construction of the culverts which could potentially reach the water body.

- Construction of new access road (XC211):
  - Water Quality: Significant effect on Awbeg (Buttevant)(East)_020.
- Construction of new car park (XC212):
  - Hydrology and Drainage: Moderate to Significant effects on Awbeg (Buttevant)(East)_020 as existing road drains will be disrupted as the new drainage system is installed which could impact on flows to the water body via the road connection at Dooley's Bridge.
  - Water Quality: Significant to Very Significant effect on Awbeg (Buttevant)(East)_020 due to potential for increased sediment loading to the water body or spillages of oil during reaching the water body.

- **XC215 Shinanagh:**
  - Construction of new access road:
    - Hydrology and Drainage: Moderate to Significant effects on Awbeg (Buttevant)_010 and Awbeg (Buttevant)_020, as there are a number of local field ditches in close proximity to the site which could be disrupted during construction.
    - Geomorphology: Moderate to Significant effects on Awbeg (Buttevant)_010 and Significant effects on Awbeg (Buttevant)_020 due to increased runoff and high sediment load which would be transported into the nearby field ditch and from there to the water bodies potentially smothering the substrate and disturbing the natural sediment regime.
    - Water Quality: Significant to Very Significant effects on Awbeg (Buttevant)_010 and Awbeg (Buttevant)_020 due to plant and equipment in close proximity to the nearby ditch and risk of spillage and contamination which would adversely impact the Blackwater River (Cork/Waterford) SAC.
- **XC219 Buttevant:**
  - Construction of new road bridge:
    - Hydrology and Drainage: Significant to Very Significant effects on Awbeg (Buttevant)_020 due to potential disruption to drainage

pathways locally and potential for inundation of the site, as this is within a flood risk zone.

- Geomorphology: Significant to Very Significant effects on Awbeg (Buttevant)_020 due to construction activities in very close proximity to the ditch and water body which heightens the risk of increased sediment loads causing smothering of the bed strata and turbidity.
- Water Quality: Profound effects on Awbeg (Buttevant)_020 due to works in close proximity to the channel heightening the risks of hazardous material spillages and sediment input to the water body and ditch and possibly causing exceedances of environmental quality standards.

- Construction of new culverts:
  - Hydrology and Drainage: Profound effects on Awbeg (Buttevant)_020 as culvert and bridge works require activity directly in the channel which could cause temporary changes to flows and potential disruption of local drainage systems.
  - Geomorphology: Profound effects on Awbeg (Buttevant)_020 as construction of culverts would require working within the channel at water features that are in a natural state. Activities would likely cause modifications to the channel bed and substrate as well as potential changes to the immediate surrounding environment including the riparian zone and bank form. The river bridge would not require modification to the bed of the Pepperhill; the culvert for the ditch would be a pre-cast box culvert and so would result in changes to the ditch bed. Installation of both will require cutting into the riverbanks with potential for the release of substantial levels of sediment to the water bodies.
  - Water Quality: Profound effects on Awbeg (Buttevant)_020 due to works directly in the channel and an increased likelihood of contaminants such as oils, chemicals and sediment entering the water feature.

11.9.11. Following reinstatement and re-establishment of bankside vegetation, no significant effects are identified for the operational phase for any of the 7 No. level crossing sites.

11.9.12. Mitigation Measures

11.9.13. The proposed mitigation measures, which all relate to the construction phase, are set out in Section 9.6 of the EIAR. They include both generic project-wide mitigation measures, including the sequencing of construction works, and specific mitigation measures for a number of the level crossing sites.

- **Construction Sequencing:** Installation of permanent drainage elements prior to full site clearance to protect waterbodies from flood risk, increased runoff, silt, spills, etc. For new roadways, swales would be constructed to receive any runoff following the rest of the site clearance but would not be connected into local drainage systems to allow for visual inspection and either the controlled release of clean water to the local drainage system or pumping to a settlement tank/silt-buster before discharge.

11.9.14. The following generic project-wide mitigation measures are proposed, which are stated to have regard to CIRIA, IFI and other guidance for construction works:

- **Control of Silt Laden Runoff:** Treatment and control of discharge to watercourses in accordance with any conditions imposed by regulatory authorities; contractor will liaise with regulatory authorities at an early stage to determine the necessity for licences; erection of silt fences along boundaries of waterbodies/spoil heaps; reinstatement of any banks affected by silt laden run off.

- **Stockpiling of Materials:** Temporary stockpiles will be located away from drains and not within 5m of a watercourse; stockpiles will not be located anywhere within watercourse crossing working area; stockpile management to prevent siltation of watercourses through runoff, including: allowing vegetation of exposed soil; silt fences or straw barriers at the toe of the stockpile; cut-off ditches surrounding stockpiles; runoff directed to the site drainage system/filter drains/settlement pond/other treatment systems; and provision of bunds/other forms of diversion to keep runoff from entering the stockpile area.

- **Storage of Materials:** Oil and diesel storage facilities at least 30m from any watercourse; provision of spill kits and drip trays; design of storage areas for solid materials to prevent deterioration of the materials and their escape; storage areas kept secure to prevent vandalism that could result in leaks or spills; and labelling of all containers to indicate their contents and any hazard warning signs.
- **Fuel Tanks, Drums, Mobile Bowsers and Bunds:** Use of secondary containment and sealed impervious bunds; cover of storage areas to prevent rainwater filling the bunded areas; fuel fill pipes will not extend beyond the bund wall and will have a lockable cap; use of lockable manually operated pump or automatically closing valve on fuel pipes, with pipework passing over and not through bund walls; tanks and bunds will be protected from vehicle impact damage; tanks will be labelled with contents, capacity information and hazard warnings; and all items will be turned off and locked when not in use; each container or piece of equipment will be stored in its own drip tray; for deliveries/dispensing activities, contractor will ensure that site-specific procedures are in place, that delivery points and vehicle routes are clearly marked, and that emergency procedures are displayed, with spill kits at all delivery points and adequate staff training.
- **Vehicles and Plant:** Kept in good working order and regularly inspected; spill kits carried on all vehicles; no vehicle/plant parking near or over drains; and refuelling of vehicles/plant on hardstanding, using drip trays.
- **Working in or Near Watercourses:** Works conducted during forecast low flow periods where possible; no in-stream works in watercourses frequented by salmon or trout during the Annual Close Season; operation of machinery in-stream kept to an absolute minimum; machinery will be cleaned and checked prior to commencement of in-stream works; design of outfalls and settlement ponds and construction method statements will be agreed with IFI prior to construction; area of disturbance of the watercourse bed and bank will be the absolute minimum required for the installation of the outfall; any dewatering flows will be directed to the construction drainage system; sediment mat / silt trap will be located immediately downstream of the works within and adjacent to watercourses; diversion of water to and from a

temporary diversion channel will only take place during the period March to September or as agreed with the IFI; small check dams will be constructed in the cut-off watercourse to trap any sediment, and a sediment trap will be provided immediately downstream of the diversion to the existing watercourse; and where in-stream bed material is to be removed, coarse aggregates, if present, will be stockpiled at least 10m away from the watercourse for reinstatement.

- **Use of Concrete: U**se of concrete in or close to watercourses shall be controlled to avoid spillage. Where such use cannot be avoided, the following control measures will be employed: use of alternative materials such as biodegradable oils shall be used; no hosing of concrete, cement or similar material spills into surface water drains; spills and runoff contained and prevented from entering the watercourse; concrete waste and wash-down water will be contained and managed on-site; washout from concrete lorries will not be permitted on-site and will only take place at the batching plant.
- **Construction Compound Site Establishment Measures:** Topsoil and upper subsoil will be stripped and stockpiled over the Construction Working Width; any existing land drains crossing the works area will be culverted; temporary geogrid mattress overlain in stone for trafficking within the compound; laying of interceptor traps in demarcated area for refuelling; areas with impervious pavement will be graded to a fuel / oil separator for collection of any surface water runoff contaminants; bunded refuelling and plant servicing areas will incorporate a forecourt separator for any potential spillages; contents of the separators will be collected for disposal to a licensed waste disposal / recovery facility; construction compounds will be provided with a SuDS storage and soakaway system for storm water; storage compounds will have stoned areas for the clean storage of materials.
- **Construction Monitoring Measures:** Continuous water quality monitoring at the outlets from attenuation areas and surface water attenuation ponds and suspension of discharges if hydrocarbons are observed or other water quality parameters are exceeded; monitoring of Total Suspended Solids, turbidity, pH, temperature, Dissolved Oxygen and hydrocarbons at the same locations up and down stream of watercourses in close proximity to the works, or at

crossing points where relevant, once a week for the duration of site clearance works, earthworks movements, excavations and construction works within and adjacent to watercourses. Monitoring results will be compared with pre-construction monitoring results and in the event of elevated levels an investigation will be undertaken and remediation measures put in place. Daily visual inspections of surface drainage, sediment control measures and watercourses will be undertaken by the Contractor and where issues arise, works will cease and sampling will immediately be undertaken with an investigation of the potential cause. Where the works are identified as the cause, works capable of generating sediment and all discharges shall be stopped immediately and the Contractor will be required to take immediate action to implement measures to ensure that such discharges do not re-occur.

11.9.15. The following site-specific mitigation measures are also proposed:

- **XC201 Thomastown:** Hydraulic design of culvert will minimise risk of overtopping, backing up and increased flood levels and it will be able to convey 1% AEP flood event with an allowance for climate change and suitable freeboard.
- **XC209 Ballyhay:** Significant trench dewatering not anticipated but pre-construction samples will be taken to identify any issue with groundwater quality. Based on results, it may be possible to dewater and discharge to the Awbeg (Buttevant) (East)_020 following settlement; alternatively, if other contamination such as metals or hydrocarbons are detected, additional measures will be needed which could be additional treatment or disposal off site.
- **XC211 Newtown & XC212 Ballycoskery:** Specific measures for the installation of the proposed culvert to the west of the railway include: use of prefabricated and clean culvert so as to avoid concrete washings contamination; if ditch is flowing, it will be dammed and pumped over the installation area to avoid sediment transportation; additional in-stream measures (e.g. straw bales and oil booms) to ensure no downstream impact.
- **XC219 Buttevant:** Specific measures for the installation of the proposed culverts to the west of the railway include: use of prefabricated and clean

culverts so as to avoid concrete washings contamination; watercourses will be dammed and the water pumped over the installation area to avoid sediment transportation; additional in-stream measures (e.g. straw bales and oil booms) to ensure no downstream impact; culverts will be embedded with the natural beds of the watercourses allowed to re-establish naturally following installation and the removal of the upstream dam.

11.9.16. Cumulative Impacts

11.9.17. The EIAR considers that there is potential for cumulative impacts from five of the seven sites (XC209 to XC219) as they are all within the Awbeg catchment. However, following the mitigation and control measures proposed, the EIAR states that there will be no significant effects on water bodies from any of the sites and, as such, no combined significant impact is considered likely.

11.9.18. With respect to other projects, the only significant project identified in the EIAR is the N/M20 upgrade project. At the time the EIAR was prepared, it was stated that there will be no overlap with the M20 construction programme.

11.9.19. Residual Impacts

11.9.20. Following implementation of the mitigation measures, no significant residual impacts on the water environment are anticipated as a result of the construction and operation of the proposed development.

11.9.21. **Assessment**

11.9.22. The potential impacts of the proposed development on water were raised in a number of the written submissions and a response to the issues raised was made by Ms Heidi Sewnath (Jacobs) on behalf of the applicant at the oral hearing on 27th September 2022 (Ref. 6).

11.9.23. Construction Phase

11.9.24. With regard to the potential for significant impacts, I agree with the EIAR that no significant impacts are likely at XC187 Fantstown given the minimal nature of the construction works and the characteristics of the site.

11.9.25. I consider that works at each of the other six level crossing site have the potential to have a significant impact on hydrology, water quality or geomorphology given the proximity and potential pathways to watercourses. I consider that the greatest

potential for significant impacts arises during the construction phase and relates to the potential for suspended solids, sediment, pollutants, oils, cement, chemicals etc. to be released into nearby watercourses.

11.9.26. The EIAR and associated Outline CEMP set out a comprehensive range of mitigation measures and pollution prevention measures, as outlined above. The measures include both mitigation by design (including the phasing and sequencing of works, with permanent drainage installed at the outset of the construction phase) and other mitigation including provision of roadside swales, silt fences, straw barriers, buffer zones from watercourses, designated storage areas, spill kits, protocols for vehicle and plant fuelling and maintenance etc. Protocols for construction compound set-up and concrete works are also provided. The mitigation measures outlined generally comprise relatively standard good practice measures for works in the vicinity of watercourses and are consistent with applicable guidance such as the 'NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes' and the IFI 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters'.

11.9.27. I note that Sections 1.13 of the Outline CEMP also sets out incident response procedures, and states that a Pollution Incident Control Plan will be developed and implemented by the contractor. I also note that it is proposed to appoint an Environmental Clerk of Works to undertake monitoring and to manage implementation of the CEMP, with the Project Supervisor retaining overall responsibility.

11.9.28. The EIAR and CEMP outline the proposed water quality monitoring regime, which includes monitoring the levels of Total Suspended Solids, turbidity, pH, temperature, Dissolved Oxygen and hydrocarbons up and down stream of watercourses in close proximity to the works, or at crossing points where relevant, once a week for the duration of works with the potential to impact on water quality. Daily visual inspections of the surface drainage and sediment control measures and the watercourses is also proposed.

11.9.29. I consider that the greatest potential for significant adverse impacts on water quality and geomorphology is associated with the culverting works at XC219 Buttevant. The installation of the two substantial culverts will require in-stream works including the

local excavation of the riverbed and the removal of vegetation. The EIAR outlines the construction methodology for these works and I note that consultation has taken place with IFI and the local authority. The proposed construction methodology includes the temporary damming of the watercourse and the over pumping of water over the works area to maintain the flow. Electro-fishing is proposed prior to the draining of the working area, to remove fish from the worksite and the timing of the works is proposed outside of Annual Close Season for salmon and trout.

11.9.30. The proposed culverts will be clean precast concrete box culverts, which will facilitate swift installation and minimise the need for wet concrete/cement work in the vicinity of the watercourses and the associated risk of washout. Straw bales and oil booms are also proposed during this phase of works. The culverts are proposed to be embedded into the riverbed to allow the bed to re-establish following dam removal. I note that these proposed measures are consistent with good practice guidance such as the 'NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes' and the IFI 'Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters'.

11.9.31. Cork County Council, in their submission, noted that the installation of the proposed culverts has the potential for significant impacts on water quality and geomorphology. They indicated their preference for arched culverts and advised that the Board should require appropriate consultation with IFI in advance of any over pumping of the river, and that the Final CEMP should provide a method statement for same. They also advised that the applicant be required to consult with the Office of Public Works with regard to whether consent under section 50 of the Arterial Drainage Act 1945 is required.

11.9.32. In responding to these matters at the oral hearing, Ms Sewnath noted the consultation that had already occurred with IFI and stated that continued consultation would occur with IFI and the OPW as part of the measures required for in-stream works. She stated, with regard to over pumping, that a detailed method statement for this would be included in the final CEMP and that this would include detail of the rate at which pumping will be carried out to avoid the remobilisation of sediments from the bed of the receiving waters. She stated that, if the Board required this to be finalised in consultation with IFI and the OPW, then the applicant is happy to do so.

11.9.33. The Board will note Item 7 of the agreement between the applicant and Cork County Council which was submitted to the oral hearing (Ref. 23). This relates to the culverts at XC219 Buttevant and states that:

> *"In relation to the XC (Buttevant)*
>
> *a. Works shall take place outside fisheries sensitive months.*
>
> *b. A suitable box culvert has been agreed with the IFI and provision will be made for the inclusion of mammal ledges within the box subject to the requirement of the NPWS.*
>
> *c. The proposal includes the provision of a precast and clean box culvert. Detailed method statements and final CEMP will be agreed with the Cork County Council.*
>
> *d. Appropriate consultation will be carried out with the Office of Public Works in respect of the applicability of Section 50 of the Arterial Drainage Act 1945.*
>
> *e. A Dust Management Plan including a monitoring system shall be agreed in writing with the Cork County Council prior to the commencement of construction."*

11.9.34. As noted elsewhere in this report, I recommend that the agreement with Cork County Council be included as a Schedule to the Railway Order, if the Board is minded to grant it. The matters outlined in the agreement will therefore become matters that the applicant is required to comply with.

11.9.35. I recommend an additional condition that the applicant be required to prepare a detailed method statement for the culvert installation at XC219 Buttevant to include details of the damming and over pumping arrangement and flow calculations to ensure that the rate of pumping is appropriate and does not mobilise sediment in the receiving water. The method statement should be prepared in consultation with Inland Fisheries Ireland, the OPW and NPWS.

11.9.36. Subject to such conditions, I do not consider that the proposed works at XC219 Buttevant will have a significant residual impact on water quality or geomorphology. With regard to the Local Authority's preference for an arched culvert design, I note that the proposed culvert has been sized to accommodate flood flows, and I

therefore consider the box design to be appropriate, noting IFI guidance on this matter.

11.9.37. The potential effects on the Blackwater River (Cork/Waterford) SAC, which is hydrologically linked to the proposed development at XC219 and at a number of the other level crossing sites is addressed in the Appropriate Assessment section of this report (Section 12).

11.9.38. I consider the applicant's proposed approach of utilising good practice construction methods for works in the vicinity of watercourses and both generic and site-specific mitigation measures, including mitigation by design (such as the early installation of drainage systems) to be a reasonable approach to addressing potential impacts on water quality and geomorphology. I am satisfied that the applicant has proposed an appropriately comprehensive range of mitigation measures and subject to the implementation of these measures and an appropriately robust monitoring regime, I am satisfied that the potential impacts of the proposed development on water quality can be adequately mitigated and that the construction of the proposed development will not have a significant residual impact on water quality.

11.9.39. Water Framework Directive

11.9.40. I note the Water Framework Directive (WFD) Assessment contained in Appendix 9B of the EIAR. This includes scoping of the water bodies with the potential to be affected by the proposed development and an assessment of potential biological, physico-chemical and hydromorphological effects with regard to WFD objectives.

11.9.41. The assessment concluded that there would not be no discernible change to the surface water and groundwater WFD water bodies as a consequence of the proposed project, as there would be: no deterioration in the quality elements or status/potential of the WFD water bodies; no prevention of any WFD water body from achieving or continuing to achieve Good status; no compromising of the capacity of the WFD water bodies to deliver other EU legislation requirements.

11.9.42. As a consequence, the assessment concludes that the proposed project is considered to meet the WFD legislative requirements.

11.9.43. Having reviewed all of the submitted documentation and submissions and having conducted an oral hearing, I consider that, subject to compliance with the identified mitigation and monitoring measures and the implementation of the SuDS drainage

strategy, there will be no adverse effect on water bodies as a result of the proposed development and consequently no deterioration in the WFD status of said water bodies.

11.9.44. Operational Phase

11.9.45. The proposed drainage strategy follows standard TII guidance and specifications for road drainage, with over-the-edge drainage generally utilised, supplemented with additional measures at structures or where site constraints apply. New swales are generally proposed at the toe of the embankments leading up to the various overbridges, draining to low points for attenuation and pollution control purposes with outflow to existing drains/watercourses at greenfield run-off rates.

11.9.46. Having regard to the nature of the proposed development and the provision of SuDS drainage measures and implementation of standard TII specifications for road drainage, I do not consider that there is the potential for likely long-term or permanent significant effects during the operational phase at any of the level crossing sites.

11.9.47. The EIAR considers that there is, however, potential for short-term significant effects to arise at XC219 Buttevant due to the scale and nature of the works proposed in the period before the riverbed and bankside vegetation re-establishes following the construction phase.

11.9.48. No specific operational phase mitigation is proposed, on the basis that the impacts are short-term and the residual impacts will not be significant as vegetation and riverbed re-establishes itself via natural processes.

11.9.49. Given the sensitivity of the affected watercourses, I recommend that an extended monitoring regime be required at XC219 Buttevant for a period of 6 months following completion of the works to ensure that the natural re-establishment of the watercourse features is effective.

11.9.50. Flood Risk

11.9.51. A Flood Risk Assessment, prepared in accordance with the Planning System and Flood Risk Management Guidelines for Planning Authorities, was included in Appendix 9A of the EIAR.

11.9.52. A Stage 1 assessment was undertaken for XC187 Fantstown and XC201 Thomastown, given the minimal development at XC187 and the low risk and SuDS drainage design at XC201. A Stage 2 assessment was undertaken for the remaining sites. I note with regard to XC212 Ballycoskery, that it was partially located in an area indicated in Cork County Council mapping as being within Flood Zone A, however the new Development Plan, adopted since lodgement of the railway order, includes revised flood maps and the proposed development is no longer located in Flood Zones A or B. I therefore do not consider that any significant flood risk arises at XC212. The only site with a high flood risk is XC219 Buttevant, which is partially located within Flood Zone A. A Stage 3 FRA was undertaken for this site, informed by detailed hydraulic modelling, together with a Justification Test (see Table 1.13 of FRA). The assessment concluded that the proposed overbridge would be above the maximum flood level, providing increased resilience for the road infrastructure in the area from fluvial flooding with the proposed SuDS measures ensuring no increase in pluvial flooding. I am satisfied that the applicant has demonstrated compliance with the various criteria of the Justification Test. The sizing of the proposed culverts at XC219 have also been designed to carry the predicted flood flows on the basis of the hydraulic modelling undertaken.

11.9.53. Having reviewed the FRA and its appendices, I am satisfied that the proposed development is not likely to be at significant risk of flooding or that it will result in a significant risk of increased flooding to other lands.

11.9.54. Conclusion

11.9.55. I have considered all of the submissions made in relation to water and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on water can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on the water environment.

11.10. Land, Soil, Water, Air and Climate – Air and Climate

11.10.1. Air and Climate are addressed in Chapters 15 and 16[9], respectively, of the EIAR.

11.10.2. ***Air Quality***

11.10.3. The EIAR states that emissions of dust during construction were scoped out from the air quality assessment on the basis that the construction activities associated with each of the level crossings are relatively small-scale. Instead, Institute of Air Quality Management (IAQM) guidance was used to identify the likely dust risks for each of the level crossing sites. Given the resultant low to medium risks of dust impacts, the EIAR states that standard good practice mitigation measures and management techniques, as set out in the IAQM guidance would ensure significant effects from dust emissions would not occur. Similarly, the EIAR scopes out emissions from construction plant and machinery, given the relatively low number of such items anticipated to be in operation simultaneously on each of the construction sites and IAQM guidance on the matter. As with dust emissions, good practice mitigation measures are proposed in the EIAR.

11.10.4. The EIAR considers that the level crossing sites can be considered to come within Zone D under the EPA's Air Quality in Ireland Report 2018 (rural Ireland). As there are no national or local monitoring stations close to any of the level crossings, measurements at other rural locations in Ireland were assumed to be representative of the existing rural baseline conditions at all of the level crossings. These representative Zone D monitoring data for NO_2, PM_{10} and $PM_{2.5}$ pollutants are set out in Table 15.3 of the EIAR, as are the air quality emission limit values specified in the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). The EIAR considers that there is sufficient existing air quality data to demonstrate that air quality in the vicinity of the proposed level crossing sites is likely to be good, with concentrations of pollutants well within the relevant air quality standards, and that a specific baseline air quality survey is not required.

[9] Chapter 16, 'Cross-Cutting Themes', also addresses Risk of Major Accidents & Disasters and Material Assets. I have addressed these issues at Sections 11.4 and 11.12, respectively.

11.10.5. Section 15.3.1 – 15.3.6 of the EIAR outlines the baseline characteristics of each of the level crossing sites, including the number of receptors within the study area for each and existing traffic levels.

11.10.6. ***Climate***

11.10.7. Section 16.4 of the EIAR addresses 'climatic factors', including both the potential impact on greenhouse gas (GHG) emissions and the vulnerability of the proposed development to climate change.

11.10.8. With regard to determining the significance of GHG emissions, the EIAR notes the guidance of the IEMA and the UK's DMRB. IEMA guidance states that: "*under the principle that all GHG emissions might be considered significant, and the ongoing research of how to measure significance, it is down to the practitioner's professional judgement on how best to contextualise a project's GHG impact*." The UK DMRB Guidance identifies significance criteria by assessing the calculated GHGs for a project against the Overseeing Organisation Carbon Budget. The DMRB Guidance goes on to state that *"the assessment of projects on climate shall only report significant effects where increases in GHG emissions will have a material impact on the ability of Government to meet its carbon reduction targets*". The guidance does not provide thresholds in this regard, with the determination of material impact left to professional judgement. The EIAR methodology compares the total carbon emissions for the proposed project against Ireland's carbon budget using annualised emissions over a 100 year period, which is the predicted lifetime of the proposed project.

11.10.9. Potential Impacts

11.10.10. ***Air Quality***

11.10.11. In the 'do nothing' scenario, no significant impacts are identified for any of the sites.

11.10.12. No potential significant impacts on air quality are identified during construction and operational phases for each of the level crossing sites, for the following reasons:

- **XC187 Fantstown:**
    - Construction Phase: None, due to minimal construction works.
    - Operational Phase: None, due to low traffic flows.

- **XC201 Thomastown:**
    - Construction Phase: None, due to low construction traffic levels.
    - Operational Phase: None, due to low traffic flows.
- **XC209 Ballyhay:**
    - Construction Phase: None, due to minimal construction activities.
    - Operational Phase: None, as no change from the Do Nothing scenario.
- **XC211 Newtown & XC212 Ballycoskery:**
    - Construction Phase: None, due to low construction traffic levels.
    - Operational Phase: None, due to low traffic flows.
- **XC215 Shinanagh:**
    - Construction Phase: None, due to low construction traffic levels.
    - Operational Phase: None, due to negligible change in air quality at any receptors within 200m of the new route alignment.
- **XC219 Buttevant:**
    - Construction Phase: None, due to low construction traffic levels.
    - Operational Phase: None, as proposed project does not lead to road traffic emissions being any closer to receptors than the Do Nothing scenario.
- **Combined Effects of all Sites:**
    - Construction Phase: None, due to low level of combined traffic movements resulting in a negligible change in pollutant concentrations at receptor locations and insignificant combined air quality effects.
    - Operational Phase: None, as no material alteration in road traffic flows on a wider scale and therefore any combined effects would be negligible.

11.10.13. ***Climate***

11.10.14. The EIAR anticipates that the proposed project will help to improve the efficiency of the Dublin-Cork Railway Line and facilitate the eventual electrification of the line, however this is not taken into account in the predicted GHGs from the proposed project.

11.10.15. Table 16.18 of the EIAR compares the proposed project GHG emissions against the annual carbon budget for Ireland to 2030. The EIAR states that whilst all GHG emissions are potentially significant, as they add to the national emissions inventory, the impact of the proposed project on the national carbon budget is 0.07% of the annual ceiling, each year for the next 100 years which, it is contended, is not significant.

11.10.16. Potential impacts associated with the vulnerability of the project to climate change are identified, primarily associated with flood risk. It is stated that potential impacts have been designed out through the proposed drainage strategy.

11.10.17. Mitigation Measures

11.10.18. ***Air Quality***

11.10.19. Notwithstanding the lack of significant effects anticipated, the EIAR sets out a series of mitigation measures for the construction phase at Section 15.6. These generally comprise best practice methods for the control of dust and air pollutant emissions from construction sites. These include:

- Communication: Stakeholder communications plan to be developed before work commences; name and contact details of person(s) accountable for air quality and dust issues and head/regional office contact information to be displayed at site boundary.
- Dust Management Plan to be developed and implemented.
- Records: Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner and record the measures taken; make complaints log available to the local authority when asked; record any exceptional incidents that cause dust and/or air emissions and action taken to resolve the situation.
- Inspections: Regular site inspections to monitor compliance with the DMP; record inspection results and make log available to the local authority when asked; increased frequency of inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

- Monitoring: Where considered necessary, agree dust deposition/dust flux monitoring locations with the local authority.
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.
- Where practicable, erect solid screens or barriers around dusty activities or operations.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from the site as soon as possible, unless being re-used on site.
- Cover, seed or fence stockpiles to prevent wind whipping.
- Ensure all vehicles switch off engines when stationary.
- Avoid use of diesel/petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials where required.
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use covered skips for storage or dusty wastes or materials.
- Minimise drop heights from loading shovels and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
- Avoid dry sweeping of large areas.

- Inspect any on-site haul routes for integrity and instigate any necessary repairs to the surface as soon as reasonably practicable. Record all inspections of haul routes and any action in a log book.
- Avoid bonfires and burning of waste materials.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Use water-assisted dust sweepers on the access and local roads to remove, as necessary, any material tracked out of the sites.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Wheel washing system or other washing system prior to leaving the sites, where reasonably practicable.
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Where practicable, access gates to be located at least 10m from receptors where possible.

11.10.20. No mitigation is proposed for the operational phase.

11.10.21. ***Climate***

11.10.22. No mitigation measures are proposed as the GHG emissions are deemed not to be significant.

11.10.23. As noted above, potential impacts relating to the vulnerability of the project to climate impacts, i.e. flood risk, have been designed out through the proposed drainage strategy.

11.10.24. Cumulative Impacts

11.10.25. No significant cumulative impacts are identified in the EIAR.

11.10.26. Residual Impacts

11.10.27. Following implementation of the mitigation measures, no significant residual impacts on air quality or climate are anticipated as a result of the construction and operation of the proposed development.

11.10.28. **Assessment**

11.10.29. Having regard to the rural location of the majority of the sites and the limited scale and extent of construction works proposed and the associated relatively low level of construction traffic, I do not consider that significant construction phase air quality impacts are likely to occur as a result of vehicular/machinery emissions or dust generation.

11.10.30. Item 7(e) of the agreement between the applicant and Cork County Council, which was submitted at the oral hearing (Ref. 23), states that a Dust Management Plan including a monitoring system shall be agreed in writing with CCC prior to the commencement of construction. While this section of the agreement relates solely to XC219 Buttevant, I note that these measures were already included as mitigation measures.

11.10.31. With regard to XC212, I consider that the works at this location are most likely to result in negative impacts on local air quality, given the elevated nature of the works and the proximity to Ballyhea National School, which I consider to be a sensitive receptor. While I am satisfied that the proposed mitigation measures are suitably comprehensive and relatively standard measures for road construction projects and will be effective in reducing the significance of the impact to an acceptable level, I recommend that dust monitoring should be undertaken at this location during the construction phase.

11.10.32. In the operational phase, I do not consider that any significant adverse impacts on air quality are likely to arise, given the nature of the proposed development and the relatively low vehicle numbers at all crossings.

11.10.33. With regard to climate, I do not consider that the proposed development is likely to have a significant impact on climate as a result of GHG emissions. The removal of the level crossings will facilitate the efficient and reliable running of the Intercity rail service, and I consider this to be a positive impact from a climate perspective, albeit not significant.

11.10.34. **Conclusion**

11.10.35. I have considered all of the wsubmissions made in relation to air and climate and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on air and climate can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on air and climate.

11.11. Land, Soil, Water, Air and Climate – Noise and Vibration

11.11.1. Noise and Vibration are addressed in Chapter 10 of the EIAR.

11.11.2. Having regard to the nature of the proposed development, the EIAR assessment was undertaken in accordance with NRA Guidelines for the Treatment of Noise and Vibration in National Roads Schemes (2004) and the Good Practice for the Treatment of Noise during the Planning of National Road Schemes (2014).

11.11.3. Based on this guidance and given the low traffic volumes and predicted traffic impacts, a 300m study area from each of the level crossing sites was utilised for the noise assessment. The study area is in a predominantly rural area but is also immediately adjacent to the Dublin – Cork Railway Line and some of the level crossings are close to the N20. Therefore, the baseline includes noise from train movements and traffic noise from the N20.

11.11.4. Section 10.4 of the EIAR identifies the number of residential and other noise sensitive receptors within the study area at each level crossing site, in 50m bands, up to the 300m boundary. This ranges from 3 No. receptors in the case of XC209 Ballyhay to 73 No. receptors in the case of XC211 Newtown and XC212 Ballycoskery (considered together due to their proximity).

11.11.5. Site walkovers and baseline noise surveys were undertaken at the 5 No. level crossing sites where substantial construction work is proposed (i.e. XC201, XC211 & XC212, XC215, XC219). The locations of the receptors and the noise survey locations are indicated on Figures 10.1 – 10.6 of Volume 4 of the EIAR.

11.11.6. In accordance with TII guidance and BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (BSI 2014), the EIAR considers that construction phase noise is deemed to be potentially

significant if the total noise (i.e. pre-construction ambient + construction noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to lower cut-off values of 65 dB, 55 dB and 45 dB $L_{Aeq,T}$ from construction noise alone, for the day-time, evening and night time periods respectively and where such noise applies for a duration of one month or more, unless works for a shorter duration are likely to result in a significant effect.

11.11.7. With regard to construction vibration, Table 10.12 of the EIAR outlines the BS 5228-2 guidance for cosmetic building damage for various types of buildings. It notes that significant adverse effects are expected at levels where vibration can cause cosmetic damage to structures but that significant adverse effects on humans may occur at lower levels of vibration than this. With reference to BS 5228-2, the EIAR considers that at vibration levels above 1.0mm/s there is the potential for a significant effect to occur, although it states that the duration of the works, the number of receptors affected and the character of the impact should also be considered.

11.11.8. With regard to operational noise, the EIAR references the TII guidance, which sets a traffic noise design goal of day-evening-night 60dB(A) L_{den} (free field residential façade criterion. The TII guidance considers that noise mitigation measures are necessary whenever all three of the following conditions are satisfied:

- The combined expected maximum traffic noise level from the proposed road scheme together with other traffic in the vicinity is greater than the design goal of 60dB(A) L_{den}.
- The relevant noise level is at least 1dB more than the expected traffic noise level without the proposed road scheme in place.
- The contribution to the increase in the relevant noise level from the proposed road scheme is at least 1dB.

11.11.9. <u>Potential Impacts</u>

11.11.10. Construction of the proposed project is proposed to take place over c. 18 months and construction noise impacts are associated with various construction activities including earthworks, demolition, breakout of existing road surfaces, construction of new road surfaces and structures and increased traffic on local roads

during the construction period. Potential vibration effects are associated with demolition and ground compaction works.

11.11.11. In the operational phase, potential impacts are stated to be associated with changes in operational road traffic noise at local receptors due to either physical alterations to the carriageways' horizontal and/or vertical alignment, or changes in flow parameters of traffic (e.g. speed, daily traffic movements or percentage of HGVs, or changes in the road surface. The EIAR states that rail traffic will be unaffected regardless of whether or not the project proceeds.

11.11.12. In the 'do nothing' scenario, no significant impacts are identified for any of the sites.

11.11.13. The following significant impacts during construction and operational phases for each of the level crossing sites are identified:

- **XC187 Fantstown:**
    - Construction phase: No significant noise or vibration impacts due to minimal nature of works proposed.
    - Operational phase: No significant impacts due to minimal nature of works proposed and low levels of traffic diverted onto other roads.
- **XC201 Thomastown:**
    - Construction phase: Significant adverse noise effects predicted at three of the four modelled representative receptors (R01, R02, R04) during Phase 3 works only, as construction noise levels were above 65dB and total noise exceeds baseline noise levels by at least 5dB. Phase 3 is expected to last c. 27 weeks, i.e. longer than the one-month cut-off duration stated in BS 5228. No significant vibration impacts.
    - Operational phase: No significant impacts.
- **XC209 Ballyhay:**
    - Construction phase: No significant impacts due to minimal nature of works proposed.
    - Operational phase: No significant impacts.
- **XC211 Newtown & XC212 Ballycoskery:**

- Construction phase:
    - Significant adverse noise effects at one of the four modelled representative receptors (R05) during Phases 1 and 2 of the works at XC211 Newtown, but not Phase 3 due to its relatively short duration.
    - Significant adverse noise effects at the other three modelled receptors (R06, R07, R08) during all three phases of XC212 Ballycoskery due to the predicted noise levels being well above the baseline levels and the length of time of the construction works. The EIAR notes that receptor R08 is Ballyhea National School which it is stated would only be affected during school opening hours i.e. from 9.00 am to 3.00 pm Monday to Friday during term time.
    - No significant vibration impacts.
- Operational phase: No significant impacts. Decrease in noise levels in the opening year and design year at receptors R06 and R08 (Ballyhea National School) due to the realigned road moving traffic slightly further from these receptors. No change in noise levels at Receptors R05 and R07 in the opening year or design year.

- **XC215 Shinanagh:**
    - Construction phase: Significant adverse noise effects at three of the four modelled representative receptors at various phases of construction:
        - R09: Significant noise effects during Phase 2 only.
        - R10: Significant noise effects during Phase 1 only. Exceedance of noise limit in Phase 3 is not deemed significant due to the relatively short duration of this phase.
        - R11: Significant noise effects during Phases 1 and 2. Exceedance of noise limit in Phase 3 is not deemed significant due to the relatively short duration of this phase.
        - No significant vibration impacts.
    - Operational phase: No significant effects. Increase in noise levels at receptor R10 in the opening year and the design year due to the

redistribution of traffic increasing the traffic volumes on local roads, however the increase is not deemed significant.

- **XC219 Buttevant:**
  - Construction phase: Significant adverse noise effects at three of the four modelled representative receptors:
    - R15: Significant noise effects during Phase 2 and 3. Exceedance of noise limit in Phase 1 is not deemed significant due to the relatively short duration of this phase.
    - R13 and R14: Significant noise effects during Phase 3 only.
    - No significant vibration impacts.
  - Operational phase: No significant effects. Decrease at R14 and R15 due to the proposed crossing moving the traffic further away from these receptors.
- **Combined Effects of all Sites:**
  - No combined effects in relation to the 'Do Nothing' and operational phases, but potential for increase in combined noise effects during construction at XC211 Newtown and XC212 Ballycoskery due to their proximity to each other.

11.11.14. Mitigation Measures

11.11.15. The proposed mitigation measures for the construction phase include:

- All work undertaken in accordance with BS 5228-1 and BS 5228-2.
- Only plant conforming with or better than relevant national or international standards, directives or recommendations on noise or vibration emissions used.
- Contractor should obtain prior consent from the Environmental Departments at both Limerick and Cork County Councils prior to undertaking particularly noisy or high vibratory works.

- Contractor should communicate details of the construction programme to local residents, together with notice of any particularly noisy works, and liaison with Ballyhea National School due to predicted high construction noise levels.
- Plant operated and maintained appropriately, with due regard for manufacturer recommendations, and all vehicles, plant and equipment switched off when not in use.
- Use of appropriate noise abatement site hoardings/screens, where appropriate, particularly at XC212 Ballycoskery and XC219 Buttevant. Where noise screens are not practicable then noise insulation in the form of additional glazing at individual properties should be considered.
- Where practicable, gates to compounds and construction areas would not be located opposite noise sensitive receptors.
- Careful selection of routes and programming for the transport of construction materials, spoil and personnel so as to reduce the risk of increased noise and vibration impacts during construction.
- Vehicle and mechanical plant/equipment should be fitted with effective exhaust silencers, to be maintained in good working order and operated in such a manner so as to minimise noise emissions.
- Positioning of construction plant and activities to minimise noise at sensitive locations.
- Equipment that breaks concrete by pulverising, rather than percussion, used where practicable.
- Mufflers shall be used on pneumatic tools.
- Use, where necessary, of effective sound reducing enclosures.
- Agreement with the local authorities on appropriate controls for undertaking significantly noisy works or vibration-causing operations close to receptors.
- Construction works between 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays. Limited night-time/ weekend working may be required for activities such as tie-in works or structural works at the bridge structures but will be minimised. Where works during such periods are required, the

appointed contractor should consider obtaining prior consent from the local authorities prior to undertaking such works by demonstrating that BPM has been applied to the required works and potential significant effects have been mitigated as much as reasonably practicable.

- If feasible, the noisiest construction activities at XC212 Ballycoskery should be undertaken during school holidays due to the presence of Ballyhea N.S.

11.11.16. No mitigation measures are proposed for the operational phase, given the lack of predicted significant noise effects. Similarly, no mitigation is proposed for vibration, given the lack of predicted significant vibration effects during either the construction or operational phases.

11.11.17. Cumulative Impacts

11.11.18. The combined effects of works at all seven sites was considered in the assessment, as noted above. With regard to XC211 Newtown and XC212 Ballycoskery, these were considered as one site due to their close proximity.

11.11.19. With regard to other potential cumulative effects, the EIAR notes the M20 Cork to Limerick Road Improvement Scheme which, at the time of lodgement of this railway order application, was at the route selection stage. Subsequently a preferred route option for that project has been identified. The existing N20 is close to parts of this project (XC211, XC212, XC215), as is the proposed M20 project.

11.11.20. No significant cumulative noise or vibration impacts are identified in the EIAR.

11.11.21. Residual Impacts

11.11.22. Following implementation of the mitigation measures, no significant residual noise or vibration impacts are anticipated as a result of the construction and operation of the proposed development.

11.11.23. **Assessment**

11.11.24. The potential construction and operational noise impacts of the proposed development were raised in a number of the written submissions and a response to the issues raised was made by Mr Chris Conroy (Jacobs) on behalf of the applicant at the oral hearing on 27th September 2022 (Ref. 12).

11.11.25. The potential for significant construction phase noise impacts was identified for a number of receptors at XC201 Thomastown, XC211 Newtown, XC212 Ballycoskery, XC215 Shinanagh and XC219 Buttevant. These significant impacts only arise during certain phases of the construction works where elevated noise levels are likely to be generated.

11.11.26. Noise at XC211 Newtown & XC212 Ballycoskery

11.11.27. The Board of Management of Ballyhea National School contended that noise levels at the school will increase as a result of the proposed development at level crossing XC212 Ballycoskery (i.e. Ballyhea Village), with potentially negative effects on the school rooms facing south, towards the proposed road overbridge.

11.11.28. Mr Conroy noted that the noise assessment determined that operational road traffic noise levels at the school will decrease by 4dB as a result of the proposed development, due to the relocation of the road c. 30m to the south, further away from the school. This is above the perceptible limit, and thus he contended that the proposed development will noticeably reduce road traffic noise at the school in the operational phase, albeit that the reduction will not be significant. In the construction phase, there is clearly potential for adverse noise impacts, due to the substantial earthworks required to form the embankments, the sizable structural elements to be constructed at the overbridge, and the road surfacing works all of which are in relatively close proximity to the school. The EIAR acknowledges this potentially significant impact on the school and the need for mitigation measures, and Mr Conroy stated that construction works at this location would last c. 1 year, with noise levels varying at different stages of construction.

11.11.29. The proposed mitigation measures, as outlined above, generally comprise relatively standard measures for road construction works and can be considered to represent best practice construction methods and controls (e.g. use of noise abatement hoardings/screens, maintenance of plant and machinery, use of sound reducing enclosures for noisy works etc.).

11.11.30. With the mitigation measures in place, Mr Conroy stated that the noise level of 63dB at the school would be less than the 65dB threshold level. He also stated that the highest noise levels are expected to occur during the road surfacing phase, which is expected to last 8 weeks. He stated that this element should be

programmed to take place during the school holidays, with other noisy works undertaken outside school hours where feasible.

11.11.31. The Board will note, with reference to the proposed mitigation measures outlined above and in the associated Schedule of Mitigation, that there is a degree of uncertainty in the wording utilised, with references to actions that "should" be done by the contractor or that the contractor should consider "if feasible".

11.11.32. I consider that the potential for significant noise impacts at XC212 are limited to the construction phase and I am satisfied that the implementation of best practice noise mitigation measures, together with the limited duration of construction works will be sufficient to adequately mitigate the impacts. However, in the interests of clarity and in order to ensuring that the identified mitigation measures are implemented, I recommend that a condition should be included to clarify that all of the identified mitigation measures are to be fully implemented and included in the final CEMP. Such a condition should also require that the road surfacing works at XC212 shall be programmed to take place outside of the school term.

11.11.33. Similar issues with regard to noise impacts in the vicinity of XC212 were raised by various other parties, who are primarily residents of Beechwood Drive, the housing estate to the west of the existing level crossing. In responding to this issue, Mr Conroy again noted that the proposed road and overbridge will be c. 30m further away from the closest properties than the existing road and level crossing, resulting in operational road traffic noise levels being the same or lower. Subject to implementation of the identified construction phase noise mitigation measures, I am satisfied that there will be no significant residual effect on properties or other sensitive receptors at XC211 or XC212.

11.11.34. <u>Noise at Other Level Crossing Sites</u>

11.11.35. While a number of receptors are predicted to experience potential significant effects during certain parts of the construction phase, the EIAR sets out proposed construction phase noise mitigation measures which are relatively standard measures for road construction projects and are consistent with TII and other guidance on this matter. Having regard to the scale, extent and design of the proposed development, and subject to appropriate conditions and the finalisation

and implementation of the CEMP. I consider that the construction noise levels will be capable of being mitigated to an acceptable level for all receptors.

11.11.36. With regard to the operational phase, I do not consider that significant effects are likely to arise at any receptor noting that, in the majority of cases, the proposed roads will be similar or greater distance from existing roads and that the development, in itself, will not generate additional noise or significantly increased traffic movements.

11.11.37. Conclusion

11.11.38. I have considered all of the submissions made in relation to noise and vibration and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse noise and vibration impacts can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative noise and vibration impacts.

11.12. Material Assets, Cultural Heritage and the Landscape – Material Assets

11.12.1. Material Assets is addressed in Chapter 16[10] of the EIAR and Resource Use and Waste Management is addressed in Chapter 14.

11.12.2. With regard to material assets, Section 16.3.1 of the EIAR identifies other sections of the EIAR where some matters associated with this environmental topic are also addressed, such as water resources, soils and minerals, cultural heritage assets etc. Those issues are addressed in the relevant sections of this report.

11.12.3. The EIAR considers that no significant effects on material assets would arise in the 'do nothing' scenario. Tables 16.11 and 16.12 of the EIAR set out the potential impacts on material assets arising from the proposed development.

11.12.4. In the construction phase, temporary significant negative impacts on public utilities are identified, due to potential severing of existing utility networks. Significant short-

[10] Chapter 16, 'Cross-Cutting Themes', also addresses Risk of Major Accidents & Disasters and Climatic Factors. I have addressed these issues at Sections 11.4 and 11.10, respectively.

term temporary negative impacts on the road network are also identified, due to HGV traffic.

11.12.5. In the operational phase, no significant adverse impacts on material assets are identified.

11.12.6. The proposed construction phase mitigation measures include compliance with a Construction Traffic Management Plan, construction travel plan for staff and contractors. With regard to public utilities, the proposed mitigation measures include: communication and consultation with utility providers ahead of construction commencement; surveying to confirm the presence and location of utility services; development of method statements to ensure that all underground services are located manually and carefully protected in accordance with the CEMP; adoption of an avoidance policy where possible in relation to all services and provision of appropriate protection for all above and below ground services as necessary.

11.12.7. No specific mitigation measures for material assets are proposed for the operational phase, other than those identified under other related environmental topics.

11.12.8. With regard to resource use and waste management, the EIAR considers that no significant effects would arise in the 'do nothing' scenario. Table 14.7 of the EIAR sets out details and quantities of the various materials that would be required to construct the proposed development. No significant impact on waste arisings is anticipated given the ability to identify the design requirements. The use of SuDS drainage, including swales, is stated to have substantially reduced the resources used for drainage. Small, non-significant, quantities of hazardous substances will be utilised during construction, such as hydraulic and fuel oils. These will primarily be located within and stored within the construction compounds. Relatively small quantities of demolition material and road surfacing materials will also be generated, however these are not anticipated to be significant.

11.12.9. The greatest amount of resource use and potential for waste generation is associated with the cut and fill earthworks to construct road-over-rail bridges and ramps at a number of the level crossings (XC201 Thomastown, XC212 Ballycoskery and XC219 Buttevant). The cut and fill quantities for each level crossing site are set out in Table 14.8 of the EIAR and are not considered significant with respect to the

high level of reuse of excavated materials and the available capacity in landfills in the region for unacceptable material.

11.12.10. The EIAR considers that the significance of importing material to the sites where bridge works are proposed cannot be determined given the lack of regional or national targets for the use of recycled or secondary aggregates. Given the high percentage of imported material, it is therefore proposed to implement mitigation measures to minimise the significance of the impact.

11.12.11. In the operational phase no significant resource use or waste generation is anticipated.

11.12.12. The proposed mitigation measures include compliance with sustainable waste management principles, including the waste hierarchy, to minimise resource use and waste arising. It is proposed to develop Site Waste Management Plans (SWMPs) for each level crossing site to include:

- proposals for managing waste following the Waste Hierarchy to ensure that waste arisings are minimised, including ‘designing out waste’ and waste prevention measures;
- details of any decisions taken before the SWMP was drafted to minimise the quantity of waste produced on site;
- Description of each type of waste expected to be produced in the course of the project;
- Estimate of the quantity of each waste type that will be produced;
- Identification of the waste management action proposed for each waste type, including reusing, recycling, recovery and disposal;
- Detailed action plan for the management of the waste, including roles and responsibilities, data collection and reporting procedures;
- Details of any site waste storage facilities including the requirements of environmental permits and pollution control measures; and
- Declaration that material will be handled efficiently, and waste managed appropriately.

11.12.13. The EIAR also sets out relatively standard protocols for the storage of waste (buffer zones from watercourses, bunded zones, labelling etc). The measures outlined in the EIAR are also contained in the Outline Construction Environmental Management Plan submitted with the application.

11.12.14. Cumulative Impacts

11.12.15. With regard to potential cumulative impacts, the EIAR considers the impacts from all of the level crossing sites together. No significant cumulative impacts are identified in this regard.

11.12.16. With regard to other projects, the EIAR notes the M20 Limerick to Cork upgrade project and contends that while the project would be helpful in terms of providing a source of material for embankment construction, the construction phase of the two projects is unlikely to coincide.

11.12.17. Residual Impacts

11.12.18. Following implementation of the mitigation measures, no significant residual waste or resource use impacts or significant residual impacts on material assets are anticipated as a result of the construction and operation of the proposed development.

11.12.19. **Assessment**

11.12.20. The main material assets identified in the EIAR as being subject to potential significant impacts are public utilities and the road network during the construction phase. With regard to resource use and waste, no likely significant impacts are considered likely, although it is stated that the significance of importing material to the site where bridges are proposed cannot be determined.

11.12.21. With regard to utilities, there is the potential for construction phase disturbance or severance, however I am satisfied that such impacts can be readily mitigated through standard construction management methods and protocols, including liaison with utility providers, pre-commencement surveys to identify as-built utility locations and provision of protection to identified services. Even without mitigation, I do not consider that any effects on material assets are likely to be significant.

11.12.22. I note that no submissions were received from Irish Water or any other utility providers. The submission by Cork County Council included a report from their Environment Department, stating that "*the settlement East of the proposed road works at XC212 is currently unsewered. While capacity is currently an issue at Ballyhay wastewater works, consideration should be made for the laying of a (blanked off) sewer during these road works. Should capacity ever be provided, existing development such as the school (currently served by an onsite wastewater treatment system) and potential future development could be serviced. The Applicant should engage with Irish Water in this regard*".

11.12.23. Gerry Healy, in his submission to the oral hearing on behalf of the applicant, stated that "*the project team are continually liaising with all utility providers to finalise the utility designs. Discussions are ongoing for the identification of any betterment required/agreed by the utility provider to be incorporated within the project*". I note Item 5 of the agreement between the applicant and Cork County Council, which was subsequently submitted at the oral hearing (Ref. 23), which states that:

> *"In relation to XC212 (Ballycoskery) that Irish Rail will engage with Irish Water to determine the suitable provision for laying of a blanked off sewer within the works for potential future development."*

11.12.24. Given that the village of Ballyhea spans both sides of the railway line and noting the likely difficulty in crossing an operational railway line with utilities, I consider this to be a prudent and reasonable measure to cater for potential future development.

11.12.25. With regard to the road network, I do not consider that there will be a significant impact on the network during the construction phase, given the relatively limited scale, extent and duration of the works when viewed in the wider context of the road network and the likely material arisings and construction traffic generated. I note in this regard that it is proposed to undertake the development in accordance with both a CEMP and CTMP.

11.12.26. With regard to resource use and waste, procedures are set out in the Outline CEMP included in Appendix 1I the EIAR. Potential impacts arising from waste generation during the construction phase are likely to be short-term and not

significant and can be readily addressed through standard waste management protocols, as documented in the CEMP.

11.12.27. Conclusion

11.12.28. I have considered all of the submissions made in relation to material assets and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant impacts on material assets can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on material assets.

11.13. Material Assets, Cultural Heritage and the Landscape – Traffic and Transportation

11.13.1. Traffic and Transportation is addressed in Chapter 11 of the EIAR. Table 11.1 of the EIAR outlines the consultation held with prescribed bodies in relation to this topic and the applicant's response to issues arising. This included engagement with the two local authorities and TII.

11.13.2. Figure 11.1 of the EIAR indicates the study area for each of the level crossing sites and the locations where traffic surveys were undertaken. Section 11.5 outlines the baseline environment, including the current mode of operation of each level crossing, active travel and public transport provision, sensitive receptors and the results of the traffic surveys undertaken.

11.13.3. Potential Impacts

11.13.4. In the 'do nothing' scenario, no significant impacts are identified for any of the sites.

11.13.5. The following significant impacts during construction and operational phases for each of the level crossing sites are identified:

- **XC187 Fantstown:**
    - Construction phase: No significant impacts due to minimal nature of works proposed.

- Operational phase: No significant impacts due to low level of traffic flows that will be diverted.

- **XC201 Thomastown:**
  - Construction phase: Temporary adverse significant effects relating to severance and fear, intimidation and pedestrian amenity/delay due to HGV traffic moving to/from the site in platoons.
  - Operational phase: No significant impacts.
- **XC209 Ballyhay:**
  - Construction phase: No significant impacts due to minimal nature of works proposed.
  - Operational phase: No significant impacts.
- **XC211 Newtown & XC212 Ballycoskery:**
  - Construction phase: Temporary adverse significant effects relating to accidents and safety, severance and fear, intimidation and pedestrian amenity/delay. This is due to increases in traffic during the construction phase, including HGV traffic and due to the potential for HGV moving to/from the site in platoons.
  - Operational phase: No significant impacts.
- **XC215 Shinanagh:**
  - Construction phase: Temporary adverse significant effects on accidents and safety and driver delay due to increases in traffic, including HGV traffic, during the construction phase. Temporary adverse significant effects relating to severance and fear, intimidation and pedestrian amenity/delay due to the potential for HGV moving to/from the site in platoons.
  - Operational phase: Permanent positive significant effects on accidents and safety due to improvements to L5507 and diversionary route and on severance due to removal of the level crossing.
- **XC219 Buttevant:**

- Construction phase: Temporary adverse significant effects relating to accidents and safety and fear, intimidation and pedestrian amenity/delay due to increases in traffic during the construction phase, including GHV traffic. Temporary adverse significant effects relating to severance, due to HGV traffic moving to/from the site in platoons.
- Operational phase: No significant effects.

- **Combined Effects of all Sites:**

11.13.6. No significant combined effects are anticipated given the distance between each of the level crossing sites.

11.13.7. Mitigation Measures

11.13.8. Mitigation measures are addressed in Section 11.7 of the EIAR. With regard to the construction phase, it is proposed to prepare a Construction Traffic Management Plan (CTMP) prior to commencement of development, to include:

- Regulated site working hours.
- Identifying the appropriate and safe routes to and from the proposed project, following consultation with Cork County Council and Limerick City and County Council.
- Confirmation of routing for HGV traffic.
- Timing of HGV movements outside of peak flow hours, where practicable, in order to minimise disruption to general traffic flows on the road network.
- Erection of appropriate warning signs to warn other road users of the presence of HGVs and general construction traffic.
- Provision of wheel wash facility and road sweeper to minimise any mud and debris on the surrounding public road network.
- Temporary closure of public rights of way to facilitate construction will be discussed with local council Access Officers at an early stage and suitable diversions agreed. Reinstatement/improvement of all rights of way and given the long-term nature of some closures, consideration will be given to providing alternatives.

- Mitigating the potential for conflict on the road by the stationing of a “Stop-Go” banksman with appropriate communications between the two and the construction vehicle drivers.

11.13.9. A Traffic Management Plan (TMP) is also proposed, detailing ways to reduce the construction traffic effect, including:

- Avoiding transit at school arrival and departure times.
- A communications protocol to avoid delays with emergency vehicle traffic.
- A diary of proposed delivery movements to liaise with the communities to avoid key dates such as festivals etc.
- Notices will be published, and advice given to the public and employers in the area of the likely increased driver delay as a result of the works. Drivers will be encouraged to reduce their need to travel where possible, particularly during the peak periods when delays will be most pronounced.
- Working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic.

11.13.10. In addition to the CTMP, a Travel Plan is also proposed to support and promote sustainable travel for staff and contractors travelling to the construction sites.

11.13.11. No mitigation measures are proposed for the operational phase, since no significant adverse impacts on traffic and transportation were identified.

11.13.12. <u>Cumulative Impacts</u>

11.13.13. With regard to potential cumulative impacts, the EIAR states that, even if the construction phases at each crossing site overlap, they are far enough apart to not have a significant impact on each other with the exception of XC211 Newtown and XC212 Ballycoskery which have been considered together as a result. No significant cumulative impacts are identified in this regard.

11.13.14. With regard to other projects, the EIAR notes the M20 Limerick to Cork upgrade project and contends with regard to timeframes in place at the time of lodgement, that the two projects will not overlap.

11.13.15. <u>Residual Impacts</u>

11.13.16. Following implementation of the mitigation measures, no significant adverse residual traffic and transportation impacts are anticipated as a result of the construction and operation of the proposed development. The EIAR states that the proposed development will improve the safety and reliability of the Dublin to Cork rail line and the relevant road interfaces.

11.13.17. **Assessment**

11.13.18. A number of the submissions raised issues with regard to traffic and transportation and the applicant's response to these was provided at the oral hearing on 27th September 2022 by Colin Wyllie (Jacobs) (Ref. 10). I have addressed particular traffic and transportation related issues at individual level crossing sites in the planning assessment above (Section 9) and that section should be read in conjunction with this section.

11.13.19. **Construction Phase**

11.13.20. I concur with the EIAR that the greatest potential for significant adverse effects arises during the construction phase. The nature of these potential effects varies from site to site, but they are generally associated with the increase in HGV traffic associated with the construction works. These effects are, by their nature, temporary and lend themselves to effective mitigation through good practice construction management methods and protocols, noting that the works at any individual level crossing site are not particularly extensive in terms of HGV trip generation (see the tables contained in Section 11.6 of the EIAR) or the duration of works.

11.13.21. While a number of local roads will experience a very substantial percentage increase in HGV traffic during peak construction periods, the actual vehicle numbers involved are low, due to the current very low baseline usage of these roads by HGV traffic. For example, at XC201 Thomastown, Table 11.23 indicates a 3,200% increase in HGV traffic on the unnamed local road at traffic counter ATC3. However, this arises from an increase from 1 HGV movement in the baseline to 32 HGV movements per day at the peak construction phase. These are two-way movements (i.e. 16 arrivals, 16 departures) and are well within the carrying capacity of the local road. Similar situations arise at a number of the other level crossing sites.

11.13.22. I do not consider that construction traffic will have a significant impact on traffic congestion or journey times.

11.13.23. The significant effects identified in the EIAR area are generally related to fear, intimidation and pedestrian amenity/delay as a result of traffic volumes, speed or composition as well as severance, due to a perceived division caused to a community when it becomes separated by a major traffic artery. Perceived increase in risk of road accidents due to the additional HGV traffic was also noted as a significant effect at XC212 Balycoskery, XC215 Shinanagh and XC219 Buttevant.

11.13.24. The applicant has proposed the preparation of a Construction Traffic Management Plan for the construction phase, the proposed contents of which, as outlined above, represent standard good practice measures for the control and management of construction traffic. The identified construction phase impacts are generally associated with HGV traffic, and the proposed CTMP will include measures to control the numbers and timing of HGV traffic movement to mitigate the potential impacts.

11.13.25. I note that neither of the two local authorities raised particular issues with regard to construction traffic, while the agreements reached with both local authorities were submitted at the oral hearing. Subject to a condition requiring the preparation and implementation of a CTMP, to be developed in consultation with the two local authorities, I am satisfied that the proposed development will have any significant residual traffic or transportation impacts during the construction phase.

11.13.26. **Operational Phase**

11.13.27. In the operational phase, I agree that the proposed development will not generate any significant additional traffic, given the nature of the development, but instead will result in a localised redistribution of traffic, due to the level crossing closures and the resultant diversions via existing or new roads. Given the relatively low levels of traffic and the capacity of the affected roads, I do not consider that significant adverse impacts will arise as a result of this traffic redistribution.

11.13.28. Instead, I consider that the proposed development will have a positive impact on traffic and transportation, due to the removal of existing road safety risks at the level crossings and the removal of restrictions on vehicle movements due to the current mode of operation of a number of the level crossings, which are either closed

in normal operation or closed at nigh-time. The proposed junction improvements, such as at XC201 Thomastown and XC215 Shinanagh will also have a positive impact.

11.13.29. I note that the two planning authorities have not raised any substantial issues regarding operational phase traffic impacts. Both authorities did, however, raise matters relevant to operational traffic at particular level crossing sites, and I have addressed these in the planning assessment at Section 9 above. Traffic related issues particular to a number of the level crossings that arose in the submissions are also addressed in the planning assessment.

11.13.30. Given that the proposed development entails works to public roads and that the proposed new roads will be taken in charge in due course by the local authorities, I recommend that a condition be included, as sought by Limerick County Council, that the two local authorities be kept appraised of the scheme progression with quarterly updates by the applicant.

11.13.31. Conclusion

11.13.32. I have considered all of the submissions made in relation to traffic and transportation and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on traffic and transportation can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on traffic and transportation.

11.14. Material Assets, Cultural Heritage and the Landscape – Cultural Heritage

11.14.1. Cultural Heritage is addressed in Chapter 12 of the EIAR.

11.14.2. A desk-based baseline assessment was undertaken utilising a study area of 2km around the Dublin–Cork Railway Line between Knocklong West and Ballybeg to the south of Buttevant in order to gain an understanding of the archaeological and historical context of the proposed project. For the impact assessments of each level crossing site, individual study areas were defined, extending c.500m beyond the footprint of the proposed project.

11.14.3. Following the desk-based study, field surveys were undertaken and geophysical surveys to investigate for potential unrecorded subsurface archaeology were carried out at XC201 Thomastown, XC211 Newtown, XC212 Ballycoskery, XC215 Shinanagh, XC219 Buttevant and along an alternative route for XC215 Shinanagh.

11.14.4. Archaeological test excavations were also carried out at XC211 Newtown and XC215 Shinanagh to determine the nature of identified geophysical anomalies. A Topographical Survey was also carried out at XC215 Shinanagh surrounding Imphrick Church and graveyard as part of this work. In addition, archaeological monitoring of geotechnical investigations at a number of the crossings was carried out.

11.14.5. Details of the baseline cultural heritage within the study area for each of the level crossing sites, identified through the desktop study and survey work, are set out in Sections 12.5.4 – 12.5.9 of the EIAR. This includes a considerable number of archaeological, architectural heritage and cultural heritage (e.g. level crossings, railway infrastructure and townland boundaries) features and sites.

11.14.6. Potential Impacts

11.14.7. In the 'do nothing' scenario, no significant impacts on cultural heritage are identified for any of the sites.

11.14.8. The following significant impacts during construction and operational phases for each of the level crossing sites are identified:

- **XC187 Fantstown:**
    - Construction phase: Moderate negative impact on level crossing (IH-2), due to elimination of a feature of local cultural heritage importance.
    - Operational phase: No significant effects.
- **XC201 Thomastown:**
    - Construction phase: Moderate negative impact on level crossing (IH-3), due to elimination of a feature of local cultural heritage importance.
    - Operational phase: No significant effects.
- **XC209 Ballyhay:**
    - Construction phase: No significant effects, as level crossing retained.

- Operational phase: No significant effects.

- **XC211 Newtown & XC212 Ballycoskery:**
  - Construction phase:
    - Significant negative impact on former gatekeeper's lodge (AH013/IH-7), due to demolition of a structure of local cultural heritage importance.
    - Moderate negative impact on level crossings (IH-5 and IH-6), due to elimination of features of local cultural heritage importance.
    - Unknown impacts on possible enclosure (AY026) and possible former road and field boundaries (AY044) identified during walkover and geophysical survey. Test-trenching required to evaluate the nature and significance of impact on these features. Potential for impacts on currently unidentified subsurface archaeological remains within the remaining footprint of the proposed project.
  - Operational phase: No significant effects.

- **XC215 Shinanagh:**
  - Construction phase:
    - Moderate – Potentially Significant negative impacts on possible field system and possible burnt spread (AY035) and possible subsurface features (AY036) identified during walkover and geophysical survey. Potential for impacts on currently unidentified subsurface archaeological remains within the footprint of the proposed project.
    - Moderate negative impact on level crossing (IH-8), due to elimination of feature of local cultural heritage importance.
  - Operational phase: No significant effects.

- **XC219 Buttevant:**
  - Construction phase:
    - Significant negative impact on former Buttevant Station (AH020), due to impact on the remains of the western goods shed, boundary walls, platforms and sidings.

        - Moderate negative impact on level crossing (IH-9), due to elimination of feature of local cultural heritage importance.
        - Moderate negative impact on former store/warehouse (AH019).
        - Unknown impacts on possible ditch (AY046) and areas of potential (AY043, AY047 and AY048) identified during walkover and geophysical survey. Further archaeological investigation pre-construction is needed to evaluate the nature and significance of these features. Potential for impacts on currently unidentified subsurface archaeological remains within the remaining footprint of the proposed project.
    - Operational phase: Moderate negative impact on former Buttevant Station (AH020), due to effect on its setting as a result of the R522 road being realigned through the station site via the new overbridge.
- **Combined Effects of all Sites:**
    - No additional impacts identified.

11.14.9. Mitigation Measures

11.14.10. Mitigation measures are addressed in Section 12.7 of the EIAR, where it is stated that measures to avoid, prevent, reduce or offset significant adverse effects have been considered and incorporated into the detailed design. The following additional mitigation measures are proposed:

- Archaeological testing at XC201 Thomastown to establish whether any subsurface archaeological features survive based on the results of the geophysical survey.
- Archaeological monitoring of groundworks at XC211 Newtown. Should significant archaeological features be identified during monitoring, all works which might affect elements of the archaeological heritage shall stop on the advice of the monitoring archaeologist. The exposed archaeological material shall be recorded, and further mitigation will be undertaken as required.
- Archaeological test excavations at XC212 Ballycoskery to investigate the potential archaeological features identified through field walking and

geophysical. Should significant archaeological features be recorded during testing, further mitigation will be required.

- Two areas of archaeology identified at XC215 Shinanagh to the north of Imphrick Church (AY036 and AY045) shall be subject to full open-area excavation. A programme of more intensive archaeological testing shall also be carried out along the rest of the route between the two areas designated for excavation.
- Additional archaeological test excavations at XC215 Shinanagh to the east, southeast and south of Imphrick Church and graveyard to investigate the archaeology in this area (AY035). Where significant archaeological features are recorded during testing, further mitigation will be undertaken as required.
- Archaeological test excavations at XC219 Buttevant to investigate the potential archaeological features identified through geophysical survey (AY047 and AY048) and monitoring of geotechnical investigations (AY046). Test excavations shall also be carried out at Buttevant station (AH020) to identify and record any remnants of former railway infrastructure surviving below the ground surface. Should significant archaeological features be recorded during testing, further mitigation will be required.
- Standard test excavations over c.12% of testable greenfield areas shall also be undertaken in the remaining portions of the development where there is a potential for currently unrecorded subsurface archaeology.
- Underwater archaeological assessment at the stream crossings at XC219 Buttevant (AY043) prior to construction to ascertain the existence, location, extent and condition of any water-related archaeological features/deposits or objects within the stream crossings and to appropriately mitigate the impact on such remains.
- Archaeological monitoring shall be carried out where there is still a potential for construction to impact archaeology and/or upstanding built heritage (e.g. burial ground at Ballyhay Church (AY025) where there is a potential for skeletal material to be encountered).

- Vibration monitoring undertaken for any vulnerable built heritage assets (e.g. the goods shed at Buttevant). Periodic monitoring post-construction to verify that the residual impacts have been accurately assessed and reported and that mitigation measures have been adequately employed.
- Potential accidental impacts on known cultural heritage sites during construction (e.g. moated site at Ballycoskery (AY020), Imphrick church and graveyard (AY029 & AY030) and potential earthworks at Buttevant (AY041 & AY042)) shall be avoided through the erection of construction barriers.
- Detailed building recording shall be carried out on all architectural heritage features that are to be removed or otherwise impacted by the development, including: former gatekeeper's house at Ballycoskery (AH013/IH-7); all built heritage features impacted at Buttevant including the former train station (AH020), 'Bregoge New Bridge' (AH022) and kerbstones (AH021); Shinanagh railway bridge (AH015) and associated walling; and any curtilage features impacted at Ballyhay Church (AH010/AY025), Ballyhay parochial house (AH011) and farmhouse (AH012). This building recording shall include, but not be limited to, written descriptions, measured drawings and the compilation of photographic and documentary archives as necessary and oral history where possible. In the case of the gatekeeper's house (AH013), building recording shall include the interior of the building.
- Detailed recording shall also be carried out on the level crossings to be closed and removed and adjoining sections of the Cork–Dublin rail line, to compile a comprehensive written, drawn and photographic record of these crossings before their closure, including the collection and recording of oral history specific to these crossings. The information gathered shall be compiled into an archive or suitable publication that shall be accessible to the community and others with an interest in the history of the railway.
- Townland boundary surveys shall be carried out in relation to those sections of townland boundaries impacted by the development, to compile a comprehensive written and illustrated record of those historic boundaries which are within the lands acquired for construction of the project and which are being directly impacted.

- Operational impacts on the setting of identified cultural heritage assets shall be mitigated through screening and landscaping as appropriate.

11.14.11. Cumulative Impacts

11.14.12. The EIAR states that the M20 upgrade project is the main project with the potential to result in cumulative impacts on cultural heritage. It states that, based on available information, it is not considered that significant adverse cumulative effects will be generated.

11.14.13. Residual Impacts

11.14.14. The predicted residual impacts of the construction of the proposed project are summarised in Tables 12.22 – 12.24 of the EIAR.

11.14.15. With regard to archaeological heritage sites, it is stated that, for 5 No. sites (AY026, AY043, AY044, AY047, AY048), the residual significance of construction impact cannot be determined until further archaeological excavations are conducted.

11.14.16. With regard to architectural heritage sites, moderate residual impacts are identified in the case of demolition of the gatekeepers house at XC212 (AH013) and some upstanding elements of Buttevant Station (AH020).

11.14.17. No significant residual impacts are predicted on other cultural heritage assets (i.e. the level crossings themselves and townland boundaries).

11.14.18. **Assessment**

11.14.19. Bryn Coldrick (Archaeological Management Solutions), acting on behalf of the applicant, provided a response to the cultural heritage issues raised in the submissions at the oral hearing on the 27th September 2022 (Ref. 13).

11.14.20. Archaeology

11.14.21. I note that no submissions were made by the Development Applications Unit of the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media or any other cultural heritage-related prescribed bodies with an archaeological/ architectural/ cultural heritage remit, other than the two local authorities. The applicant did, however, consult with the Department in the course of preparing the EIAR. Details of this consultation are set out in the EIAR and I refer the Board to the Department's letter to the applicant (dated 02/02/2021), which is included in Appendix 12C of the

EIAR. The letter confirms that the National Monuments Service (NMS) met with the applicant to discuss and agree an archaeological mitigation strategy for the project. The NMS did not raise any objection to the proposed development and outline recommended conditions for archaeological testing and monitoring. It is stated by the applicant that the mitigation proposed by the NMS has been incorporated.

11.14.22. Limerick City and County Council, in their submission, did not raise any particular cultural heritage concerns, other than noting the loss of traditional level crossing infrastructure and the need to notify the NMS due to the proximity of the XC201 Thomastown level crossing to a recorded monument.

11.14.23. Cork County Council's (CCC) Archaeological Officer stated that she was satisfied that the archaeological issues have been satisfactorily and comprehensively addressed and that she has no archaeological issues, provided the mitigation measures proposed in the EIAR and by the NMS are adhered to.

11.14.24. It is clear from the EIAR that extensive desk-based and field research has been undertaken to identify archaeological sites and features that could be affected by the proposed development and to ascertain the magnitude and significance of those impacts. In addition to recorded sites, a number of sites are identified where the potential impacts on newly identified potential archaeological features are unknown, pending further excavations and testing. The applicant has proposed a comprehensive pre-construction programme of excavations/testing and has liaised with the National Monuments Service in this regard.

11.14.25. Having reviewed the archaeological testing and monitoring proposals and noting that the NMS has no objection to the proposed development, I am satisfied that, subject to implementation of the archaeological testing and monitoring mitigation measures, the proposed development will not have unacceptable adverse impacts on archaeological heritage.

11.14.26. <u>Architectural and Cultural Heritage</u>

11.14.27. The CCC Conservation Officer noted that the project entails the loss or alteration of several architectural historic features, which examined in isolation would not be considered of high value, but which constitute a system of diffuse heritage which has relevance and significance as part of the industrial archaeology heritage of the County. She stated that the project appears mindful in attempting to limit the

impact and damage to historic features when considering the scale and scope of the intervention proposed.

11.14.28. In relation to XC212 Ballycoskery, the Conservation Officer stated that the entrance gate and piers of the Parochial House are of high architectural value and should be retained and protected during the works. She also stated that the boundary walls of the Parochial House and the farm opposite the Church and Parochial House should be retained if possible, or mitigated by way of record if not possible, with the stone re-used to clad any necessary retaining wall. With regard to the proposed demolition of the Gatekeeper's House, she considered this to be an unfortunate aspect of the project and asked that consideration be given to amending the adjacent proposed roundabout and parking area to ensure its retention if possible.

11.14.29. In relation to XC215 Shinanagh, the Conservation Officer noted that it was her understanding that the historic railway stone bridge at this location is to be retained however the photomontages appear to show a concrete bridge. She also recommended that further consideration should be given to the retention of the historic stone walls leading to the bridge, if possible, or mitigated by way of record with reuse of the stone for cladding of walls/guarding, if possible.

11.14.30. In relation to XC219 Buttevant, the Conservation Officer stated that the loss of the integrity of the railway station complex is an unfortunate aspect of the project and that consideration should be given to redesign to avoid encroaching on the station's enclosure. If this is not possible, she recommended that consideration be given to the design of guarding to the new bridge to match surviving historic railing on site.

11.14.31. The Trustees of the Diocese of Cloyne also raised concerns regarding the potential impacts of the proposed development at XC212 Ballycoskery on architectural heritage, including the Parochial House and the village setting and character.

11.14.32. There will be a loss of cultural heritage at all of the seven sites, due to the removal of the level crossings which have social, cultural and historical interest as part of the 19th century Cork – Dublin railway line. Given that the crossings themselves are the features of interest, with the associated fences, barriers, signage, warning lights etc. generally being non-original, I would agree with the classification

of the levels crossings as being of local cultural heritage importance, with their removal representing an impact of moderate significance. The exception to this is XC209 Ballyhay, where the level crossing will be retained and converted to a CCTV controlled crossing, reducing the significance of the impact.

11.14.33. The proposed mitigation measures include written, drawn and photographic recording of the level crossings to be closed and the recording of oral history specific to the crossings. It is proposed to compile these records and make them accessible to the community or others with an interest in the railway's history. I consider this to be an appropriate means of mitigating the impacts on what are modest but undoubtedly locally important features of cultural heritage. I concur with the applicant's assessment that no significant residual impacts will remain post-mitigation. I also consider that the public safety benefits of the proposed development outweigh the loss of these modest elements of railway infrastructure.

11.14.34. In addition to the level crossings themselves, other more substantial elements of historic railway infrastructure will also be affected at XC212 Ballycoskery and XC219 Buttevant.

11.14.35. The demolition of the former gatekeeper's lodge at XC212 is classified as a significant negative impact. The building is located within the footprint of the proposed development and would be demolished to accommodate the proposed car park and turning area at Ballyhea National School. The CCC Conservation Officer has sought that consideration be given to amending the proposed development in order to retain the structure if possible.

11.14.36. The building, which is not a protected structure, is a simple structure with vernacular characteristics and a lack of notable decoration or detail and it is currently boarded up and in relatively poor condition. While the building is not of any particular architectural heritage merit, in my opinion, it does have historic, social and cultural value as a former dwelling which was associated with the operation of the level crossing and railway line. Despite its current poor condition, it has a strong presence within Ballyhea village due to its roadside setting and slightly elevated positioning. It is proposed to mitigate the loss of this structure through detailed internal and external building recording, to include written descriptions, measured drawings, compilation of photographic and documentary archives and oral history where

possible. The loss of this cultural heritage feature would be a regrettable aspect of the proposed development. However, with the removal of the level crossing and the repositioning of the road to the south, the context of the building, if retained, would be lost and its retention would undermine the provision of the car park and circulation area at Ballyhea National School. I consider that the proposed mitigation measures would be sufficient to lessen the significance of the impacts on this structure to an acceptable level and would provide for the appropriate recording of this and the other historic railway elements to be removed.

11.14.37. The potential impact of the proposed development at XC212 Ballycoskery on the Parochial House in Ballyhea village and its gated entrance, piers and boundary walls was raised by the Trustees of the Diocese of Cloyne. This is a reasonable concern, given that the submitted drawings are not entirely clear in respect of this matter. Mr Coldrick, in his submission to the oral hearing, noted that the Parochial House is included in the NIAH but is not a protected structure. He confirmed that there will be no direct impact on the entrance and its associated gates and piers. A boundary wall to the right of the entrance to the Parochial House is proposed to be removed, after being recorded. The stone from the wall is to be used to clad any required retaining wall, as requested by the CCC Conservation Officer. I consider this to be a reasonable mitigation measure, given the low historical value of the wall in question.

11.14.38. The submission made on behalf of the Trustees of the Diocese of Cloyne also raised the issue of potential significant cumulative impacts at Ballyhea village arising from the proposed development in conjunction with the M20 upgrade project. In response to this, Mr Coldrick contended that the 500m wide notional corridor identified in the public consultation brochure for the M20 project does not provide sufficient detail to assess potential impacts at Ballyhea village. He also noted that the proposed development is likely to have commenced development prior to the M20 scheme of works. The M20 project is not at a sufficiently advanced level of design to ascertain any potential cumulative impacts and the proposed development is likely, if granted, to be completed before the M20 project.

11.14.39. With regard to the existing railway bridge at XC215 Shinanagh, the CCC Architectural Conservation Officer queried the applicant's intentions for this structure. She stated that while the bridge at this location is to be retained, the photomontages

appear to show a concrete bridge and she recommended that the historic stone bridge and stone walls leading to it be retained, if possible. Mr Coldrick advised that the stone bridge has been largely replaced with a concrete structure in recent years. My site inspection confirmed this (I note that Google Streetview images show the previous stone bridge) and I consider that the concrete bridge as it currently exists is of no particular value from a cultural or architectural heritage perspective, notwithstanding that there will be no direct impact on the structure.

11.14.40. With regard to XC219 Buttevant, the proposed development entails the realignment of the R522 regional road to the south, with a new overbridge over the railway line. This realignment will impact on the integrity of the former Buttevant Train Station complex, which is in poor condition but remains relatively coherent. I note that there are no protected structures within Buttevant Station, while the goods shed (AH019) is the only structure in the former station which is listed on the National Inventory of Architectural Heritage (Regional interest).

11.14.41. The station site will be bisected by the proposed road realignment, its associated embankment and the proposed overbridge which will have a negative impact on its coherence and setting. Nevertheless, the main notable feature within the station, i.e. the goods shed, will be retained as will many elements to the north of the proposed overbridge.

11.14.42. I note that a number of drawings feature a note pointing at the goods shed and stating ‘existing Buttevant railway station to be demolished’ (see for example Figure 8L ‘Drainage Location Map’ and Figure 8O ‘Sightline Map’, both of which are in Volume 4) of the EIAR. This would appear to be an error on the relevant drawings, with reference to the statements in the EIAR and at the oral hearing regarding this structure. For the avoidance of doubt, the proposed development does not include the demolition of this structure and Mr Coldrick, in his submission to the oral hearing, stated that there will be no direct impact on this structure.

11.14.43. On foot of the CCC submission, an additional commitment was added to the updated Schedule of Mitigation at the oral hearing, which states that:

> *“Consideration shall be given to the design of guarding to the new bridge to match the surviving historic railing site.*

Stone removed from any historic boundary walls will be reused in the proposed Project for the cladding of any necessary retaining walls where possible. Works to historic structures within the area of intervention shall be specified and supervised by a suitably qualified conservation architect/engineer."

11.14.44. I consider that these additional measures are appropriate to mitigate the impact on the integrity of the railway station to an acceptable level.

11.14.45. With regard to the future of the disused Butevant station, I note the agreement between the applicant and CCC submitted at the oral hearing (Ref. 23), which states that "*the scheme does not preclude the future use of Buttevant Station as a commuter rail station*". Having reviewed the drawings submitted, I would concur with this position. The proposed development retains vehicular access to the former train station and the potential for a pedestrian link to the town and there is no reason to believe that the proposed development would preclude any potential future reopening of Buttevant train station.

11.14.46. In addition to the former train station, another feature of cultural, social and historical importance at XC219 is the memorial to the Buttevant train crash, which is located on the southern side of the R522, immediately to the east of the existing level crossing. This memorial commemorates a train derailment in 1980 in which 18 people died and many were injured. Given that this event occurred within living memory there are still regular memorial services as detailed in the EIAR. Preservation of this memorial, its setting and its accessibility from the town is therefore important. I note that there will be no direct impact on the memorial which will be located on the cul de sac that results from the closure of the level crossing and the realignment of the R522 to the south. The proposed development incorporates a footpath and spur road which will maintain access between the town and the memorial and I am satisfied that there will be no significant indirect impact on this memorial or its accessibility.

11.14.47. <u>Conclusion</u>

11.14.48. I have considered all of the submissions made in relation to archaeology, architectural and cultural heritage and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on archaeology,

architectural and cultural heritage can be avoided, managed and/or mitigated to an acceptable level by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on archaeology, architectural and cultural heritage.

11.15. **Material Assets, Cultural Heritage and the Landscape – <u>Landscape and Visual</u>**

11.15.1. Landscape and Visual impacts are addressed in Chapter 13 of the EIAR with landscape plans and photomontages included in Appendices 13A and 13B, respectively.

11.15.2. The EIAR assessment utilises a 2km radius study area, on the basis that the proposed crossings are likely to be difficult to discern beyond 1km due to their modest scale and the heavily vegetated low rolling landscape setting. It is stated, however, that there will be a particular focus on receptors within 1km of the proposed project.

11.15.3. Section 13.4 of the EIAR sets out an overview of the baseline environment at each level crossing site, with regard to planning policy (including landscape character assessment and designated views), landform, vegetation, landuse, residential and other receptors and the results of fieldwork. With regard to XC187 Fantstown, as no additional infrastructure is proposed at that crossing, it was screened out from landscape and visual impact assessment.

11.15.4. The impact significance matrix utilised in the EIAR assessment (see Table 13.4 of EIAR) ranges from ‘Imperceptible’ to ‘Profound’, with judgments of ‘Substantial’ and above considered to be ‘significant impacts’ in EIA terms.

11.15.5. <u>Potential Impacts</u>

11.15.6. In the ‘do nothing’ scenario, no significant landscape or visual impacts are identified for any of the sites.

11.15.7. The following significant landscape and visual impacts during construction and operational phases for each of the level crossing sites are identified:

- **XC201 Thomastown:**
    - <u>Construction phase:</u> None.

- Operational phase: None.

- **XC209 Ballyhay:**
  - Construction phase: None.
  - Operational phase: None.
- **XC211 Newtown & XC212 Ballycoskery:**
  - Construction phase: None.
  - Operational phase: None.
- **XC215 Shinanagh:**
  - Construction phase: None.
  - Operational phase: None.
- **XC219 Buttevant:**
  - Construction phase: None.
  - Operational phase: None.
- **Combined Effects of all Sites:**
  - Construction phase: None.
  - Operational phase: None.

11.15.8. Mitigation Measures

11.15.9. Notwithstanding the lack of significant effects identified, the EIAR sets out a series of proposed mitigation measures in Section 13.7. It is stated that the main mitigation by avoidance measure is the minimisation of elevated, engineered structures and embankments insofar as possible. It is proposed to retain and enhance areas of existing vegetation insofar as possible, including retention of existing hedgerow boundaries to aid visual screening and maintain existing fields patterns. Where hedgerows or trees need to be removed to facilitate the footprint of the proposed project, it is proposed to offset these with areas of additional planting.

11.15.10. It is also proposed to bolster existing hedgerows with under-planting and inter-planting of whip transplants to ensure dense and consistent screening of the proposed structures and traffic. Advanced nursery stock will be used to fill any

noticeable gaps and plant species will be selected to complement the existing broadleaf hedgerow species mix around the site and will be of local provenance.

11.15.11. Cumulative Impacts

11.15.12. The combined effects of development at all seven sites was considered in the assessment, as noted above. With regard to other potential cumulative effects, the EIAR notes the M20 Cork to Limerick Road Improvement Scheme which, at the time of lodgement of this railway order application, was at the route selection stage. Subsequently a preferred route option for that project has been identified. The existing N20 is close to parts of this project (XC211, XC212, XC215), as is the proposed M20 project. No significant cumulative landscape or visual impacts are identified in the EIAR.

11.15.13. Residual Impacts

11.15.14. No significant residual landscape or visual impacts are anticipated as a result of the construction and operation of the proposed development.

11.15.15. **Assessment**

11.15.16. The potential landscape and visual impacts of the proposed development were raised in a number of the written submissions and a response to the issues raised was made by Mr Richard Barker (Macro Works) on behalf of the applicant at the oral hearing on 27th September 2022 (Ref. 14).

11.15.17. XC187 Fantstown & XC209 Ballyhay: With regard to XC187 Fantstown and XC209 Ballyhay I consider that no significant landscape or visual impacts are likely to occur during either construction or operation, given the minor nature of the proposed development at those two level crossings (i.e. straight closure of XC187 and conversion of XC209 to an automated crossing).

11.15.18. During the construction phase for the remaining level crossings, I do not consider that significant landscape or visual impacts are likely to arise, given the short-term duration of the construction works and the fact that the extent and nature of the construction works at each of the individual level crossing sites is relatively limited.

11.15.19. With regard to the operational phase, I comment as follows:

11.15.20. XC201 Thomastown: I do not consider that any significant landscape or visual impacts are likely to arise, given the modest single lane nature of the proposed road and the positioning of the proposed overbridge in a location where it is not clearly visible from any existing public road and where it is at a remove from the nearest sensitive receptors. I also note that the local roads and fields in the vicinity are generally bounded by dense hedgerows which serve to heavily contain the views available. While there will be some non-significant impacts, a comprehensive landscaping plan has been proposed, which includes dense planting which will become increasingly effective at providing visual screening as it matures. The submitted photomontages, which I consider to be an accurate representation of the proposed development demonstrate this. This issue was raised in the submission by Joseph and Anne Clifford, who sought screening to protect their privacy from cars on the elevated road and bridge. I am satisfied that the planting proposed will provide a dense screening effect as it matures.

11.15.21. XC211 Newtown: It is proposed to retain the existing hedgerow vegetation along the L5535 local road at the northern end of the proposed roadway, which will assist in softening the impact that is created by cutting the new road into the terrain at this location. As can be seen from the submitted photomontage VP2, the initial impact of the road is somewhat stark pre-mitigation, given the change from an enclosed local road to a more open setting, but once the proposed mitigation planting becomes established, the impacts will lessen. The submission by Aidan O'Connor, who lives immediately east of the proposed junction of the new road and the L5535, raised concerns regarding visual impacts and loss of privacy. Given that there is existing boundary planting along the edge of Mr O'Connor's property and that the road is in cut at this location with additional mitigation planting, I am satisfied that there will be no significant residual visual impact on this property. At the southern end of the proposed road, the impact will be similar with the removal of sections of hedgerows creating an increased sense of openness, which again will be softened by the proposed mitigation planting. The photomontage VP3 provides a view from a local road to the west of the railway line, running parallel to the proposed road. This is a more open view than the views available from the east, but the proposed development is barely visible due to the intervening topography. I am

satisfied that the proposed development at XC211 will not have a significant visual impact.

11.15.22. With regard to potential landscape impacts, I note the presence of existing roads, railway line and rail overbridges as existing features in the surrounding landscape. Noting this and the fact that the proposed road at XC211 is primarily in cut, I am satisfied that the proposed development will not, therefore, significantly impact on landscape character.

11.15.23. XC212 Ballycoskery: The visual impact of the proposed development on the village of Ballyhea, and in particular on residents of the Beechwood Drive estate and on Ballyhea National School, were raised in a number of written submissions and at the oral hearing. The principle issues raised were the scale of the proposal, its design and its suitability to a rural village setting. The photomontage from VP1 is a southward view from the public open space at Beechwood Drive, to the north of the proposed development. The existing view is an attractive short-range contained view of mature trees, on both sides of the road, with a low stone boundary wall. The proposed development will include an embankment at this location, carrying the road up to the level of the overbridge. This will entail the loss of some existing trees and hedgerow. The view will remain contained, but will be a clear view of the engineered embankment and the pedestrian ramps, handrails and crash barriers. In the absence of mitigation, I would agree that the visual impact will be moderate, given that the trees and stone wall within the public open space will be retained. As the mitigation planting, which includes some semi-mature tree planting, becomes established, the visual impact will be lessened as the engineering works become softened and the nature and scale of the structure becomes less readily discernible.

11.15.24. Viewpoint VP2 is a southward view from Ballyhea National School across the L1533. The existing view is across a neighbouring field and is terminated by a distant hedgerow. The proposed development will be highly visible at a close range from this location, with the most notable elements being the embankment and the precast concrete retaining wall at the proposed car park and the associated railings, crash barriers etc. In the absence of mitigation, I would agree with the applicant's assessment of a high magnitude impact from this utilitarian and somewhat bleak insertion, but I consider the sensitivity of the receptor in this instance to be high (rather than the medium-low sensitivity assigned by the applicant). This would

equate to a substantial visual impact, i.e. a significant visual impacts for the purposes of EIA. The most significant element of the proposed development that creates this negative visual impact is the proposed retaining wall facing the school, in my opinion. The need for a retaining wall at this location arises from the proposed car park area in front of the school, with an embankment instead utilised in other parts of the XC212 development. While such an embankment with screening planting would lessen the impact on the school, I consider that, as addressed elsewhere in this report, the proposed car park area is justified. The design of the bridge and retaining walls was described as being typical of a motorway and I would concur with this assessment. It is a generic design, of a type commonly found along motorways or in rural areas. Given the village context of the bridge and the positioning of the retaining wall facing the school, I consider that a more visually sensitive and appropriate design response, such as the use of natural stone cladding to the retaining wall and bridge parapets should have been considered.

11.15.25. With regard to the proposed mitigation measures, I consider that the proposed mitigation planting at this location is well-considered, with the applicant proposing a more ornamental approach in order to provide year-round visual interest. Semi-mature street tree planting is also proposed, along with native ivy planting to the base of the retaining walls. Notwithstanding the proposal to plant ivy, the retaining wall is a sizable element in close proximity to the school and should the Board be minded to grant the railway order, I recommend that a condition should be included requiring that the retaining wall be clad in natural stone in the interests of visual amenity and reducing the significant visual impact on the school. Subject to this additional mitigation, and as the landscape planting becomes established, I am satisfied that the residual visual impact will be reduced to an acceptable, non-significant, level.

11.15.26. Viewpoint VP3 is a view from the eastern end of the proposed development on the L1533, to the east of Dooley's Crossroad. The existing view from this location is of a nearby pastoral field, with dense roadside hedgerows and layers of hedgerows and treelines limiting views of the rolling hills in the distance. The proposed removal of a section of hedgerow and the reconfiguration of the crossroad will alter the view, with portions of the overbridge and retaining walls also visible in the distance. As mitigation planting becomes established, the majority of the

development will be screened, and the views over neighbouring fields will be retained. I am satisfied that the residual visual impact from this location will not be significant.

11.15.27. The potential visual impact on Ballyhea Church and Parochial House was also raised. With regard to the church, existing planting outside the development site will serve to substantially screen the proposed development from the church grounds. With regard to the Parochial House, this will be adjacent to the proposed development but the house is set back from the road and its boundary wall and entrance piers will be unaffected. I am satisfied that there will be no significant visual impact on this structure or its setting.

11.15.28. With regard to potential landscape impacts, the site is within a very high landscape sensitivity area, which the EIAR notes is one of the largest landscape character types in Cork, encompassing many different landscape features. I note the submission made by Hegsons Design Consultancy, on behalf of the Ballyhea Community Hall Committee, however I would agree with the EIAR classification of the local landscape as being highly anthropogenic, and not particularly rare or distinctive. The form of the proposed development will not be a new feature within the landscape, with existing infrastructure including roads, the railway line and overbridges in the area. The proposed development will, however, introduce a new landform into the landscape with the sizable embankment and overbridge, which allied with the lighting, car park and ancillary development will change the character of the local landscape from rural to somewhat more urban, albeit that the planting will soften and mitigate this impact. Given the gently undulating landscape and dense hedgerow and treeline boundary planting that is common in this area, views are relatively limited and I do not consider that the proposed development at XC212 will have a significant impact on the landscape.

11.15.29. <u>XC215 Shinanagh:</u> The photomontage from viewpoint VP1 is taken from an existing local road looking southward towards the northern end of the proposed road diversion and the bend towards the existing Shinanagh Bridge, which will be retained. This is a constrained view, due to the gradient of the road as it rises to meet the bridge, and the screening effect of the bridge parapet. Having reviewed the drawings and photomontage, I am satisfied that the visual impact will not be

significant, with the proposed development creating a slightly more utilitarian effect due to the proposed metal crash barriers on the embankment towards the bridge.

11.15.30. The photomontage from viewpoint VP2 is taken from an elevated position on a local road to the west of the proposed roadway. The view from this location is an expansive view of the rolling terrain and the patchwork of fields and hedgerows/treelines, with scattered dwellings and farm buildings. The proposed development, even without the proposed mitigation planting, is barely visible from this location, with glimpsed views of elements of the development seen through intervening layers of vegetation. With mitigation planting in place, there will no noticeable alteration to the character of the view or the landscape more broadly.

11.15.31. The view from VP3 is a northward view from the southern end of the L1320 local road which will be diverted. The view looks towards the current level crossing, with Imphrick Church and cemetery to the left of the view. This is a typical open rural view of rolling hills, fields, wooded areas and well-maintained hedgerows. There will be slight impacts in the short-medium due to the removal of hedgerow to facilitate the road diversion, but there will no material change in the quality or characteristics of the view, given that it is already an open expansive view. As the mitigation planting becomes established, I agree with the applicant's assessment that the residual impact will be slight-imperceptible.

11.15.32. With regard to potential landscape impacts, while the new road will introduce additional structures and traffic into a rural landscape, I consider that the proposed development will represent an intensification of existing road infrastructure, with the N20 running parallel to the proposed roadway. The existing landscape is gently rolling and the embankments associated with the proposed development will be seen in that context. Once screening vegetation becomes established I am satisfied that no significant impacts on landscape will occur.

11.15.33. XC219 Buttevant: The photomontage from viewpoint VP1 is a view eastward along the R522 towards the proposed road realignment from a point to the west of the level crossing. The existing view is heavily contained due to dense boundary hedgerow planting along the R522 which prevents any wider view of the landscape. The removal of a section of this hedgerow will slightly alter the channelled nature of this view, however the proposed development will remain framed by the existing

planting, which combined with the proposed mitigation planting will serve to lessen the visual impact. I am satisfied that there will be no significant visual impact from this viewpoint.

11.15.34. Viewpoint VP2 is a view southward from the R522, immediately west of the railway line. This portion of road will remain as a cul de sac for local access. The existing view, which is split in two in the submitted photomontages (south east and south west) is relatively contained due to mature tall hedgerows, but a gap in the hedgerow opposite an existing dwelling provides a relatively open view of fields and layers of hedgerows/treelines. This view will become entirely enclosed by the proposed embankments which will run broadly parallel to the existing road, with metal crash barriers visible along the top of the embankment and a view of the sizable concrete box culvert for the Awbeg River. I would agree with the assessment of this being a High magnitude impact, which allied with the medium-low sensitivity of the receptor results in a substantial-moderate visual impact prior to mitigation. The proposed mitigation planting will not lessen the sense of enclosure at this location but will serve to soften the engineered nature of the structure and provide screening of vehicles on the elevated roadway. I would agree that the residual visual impact at this location will be moderate (i.e. not significant).

11.15.35. Viewpoint VP3 is a view westward along the R522 towards the proposed road realignment from a point to the east of the level crossing. This is a partially contained view, with a wider view across the pastoral landscape available through gaps in the hedgerow at field entrances. The removal of portions of hedgerow to facilitate the proposed road realignment will render the view more open from this location, albeit that the embankment and road gradient will serve to limit the depth of the views. The works, fencing and metal crash barriers will lend a more utilitarian character to the view, however this will be softened to an extent by the proposed mitigation planting. I am satisfied that the residual visual impact will not be significant. Finally, as addressed in Section 9.12 above, I note that the applicant committed at the oral hearing to provide additional semi-mature planting at a dwelling located to the east of the railway line at the location where the proposed road diversion commences (Drs Kennedy and O'Reilly dwelling). While I do not consider that the visual impacts on this property would be significant, I consider that the increased use of semi-mature planting will be effective in providing a quicker screening effect.

11.15.36. With regard to landscape impacts, while area is within an LCA of very high sensitivity, it comprises a typical productive agricultural landscape, with scattered residential and agricultural development. The proposed development will represent an intensification of existing transport infrastructure in the area, while the embankments for the overbridge forming a sizable insertion in the landscape. The combination of existing layers of hedgerow boundary planting and the proposed mitigation planting will be effective, in my opinion, in ensuring that there is no significant impact on landscape as a result of the proposed development.

11.15.37. Cumulative Impacts

11.15.38. With regard to potential cumulative impacts, there is no potential for inter-visibility between the various level crossing works sites, with the possible exception of XC211 and XC212, where no significant cumulative impact is likely to occur. With regard to the M20 Cork to Limerick Motorway project, no final route (other than a 500m wide corridor) or design has been chosen for that project yet and, should both projects be granted, their construction phases are not likely to coincide. Given the likely lengthy construction period for any future M20 project, the proposed mitigation planting and landscaping for this level crossing project will have substantially matured. I am satisfied that the proposed development would not result in a significant cumulative landscape or visual impact.

11.15.39. Conclusion

11.15.40. I have considered all of the submissions made in relation to landscape and visual impacts and the relevant contents of the file including the EIAR. I am satisfied that the potential for landscape and visual impacts can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative landscape and visual impacts.

11.16. The Interaction between the Above Factors

11.16.1. The interactions between the above factors is addressed in Chapter 17 of the EIAR. Generally, the interactions relate to construction phase effects, although some

operational phase interactions are identified. No significant residual impacts associated with the interactions of environmental factors are identified.

11.16.2. Having regard to the nature of the proposed development, the receiving environment and the foregoing chapters of the EIAR, I am satisfied that the summary of the potential for interactions between environmental factors is reasonable.

11.17. Reasoned Conclusion

11.17.1. Having regard to the examination of environmental information contained above, and to the written submissions made and the submissions made at the oral hearing, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- **Population and Human Health:** Potential significant construction phase noise and traffic effects on human health will be mitigated through compliance with a Construction Environmental Management Plan, Construction Traffic Management Plan and best practice construction methods.
- **Biodiversity:** Potential significant effects during the construction phase on mammals, amphibians, birds, bats, aquatic species and habitats (including Annex I habitat at XC212 Ballycoskery and XC219 Buttevant) due, primarily, to disturbance, displacement, loss of foraging/commuting/roosting/breeding habitats, surface water pollution, introduction of disease or spread of invasive species. Potential continued significant effects on birds and bats during the operational phase due to loss of foraging and commuting habitats and permanent loss of Annex I habitats. These potential effects will be mitigated through standard good practice construction measures, timing of vegetation removal, water pollution prevention measures, provision of bird nest boxes, replacement habitat planting, translocation of Annex I habitats, biosecurity measures and the implementation of a Construction Environmental Management Plan overseen by an Ecological Clerk of Works. Further pre-commencement otter, badger and bat surveys are also proposed and in the operational phase, a SuDS drainage system is proposed to mitigate potential water pollution impacts.

- **Land, Soils, Water, Air and Climate:** Potential significant effects on soils, private groundwater-fed water supplies and groundwater due to accidental spillages of pollutants or excavation of existing contaminated land. Potential significant effects on water due to increased sediment loading of watercourses, surface water pollution due to accidental spillages, geomorphological impacts, increased run-off and requirement for in-stream works. Potential significant noise effects on a number of receptors during certain phases of construction. These effects will be mitigated by a series of best practice construction management, waste management and pollution prevention measures, noise management and other specific measures outlined in the EIAR and Construction Environmental Management Plan.
- **Material Assets, Cultural Heritage and the Landscape:** Potential temporary significant effects on traffic and transportation during the construction phase due to HGV traffic and associated severance, delay and safety issues which will be mitigated through the use of best practice construction traffic management measures, including the implementation of a Construction Traffic Management Plan. Moderate to significant effects on features of local cultural heritage importance associated with the railway and potential unknown impacts on possible subsurface archaeological remains. This will be mitigated through archaeological testing and monitoring during the construction phase and detailed recording of features to be removed. Potential significant visual impacts which will be mitigated through landscaping planting and use of appropriate materials.

11.17.2. The EIAR has considered that the main direct and indirect effects of any significance arising from the proposed development on the environment would be primarily mitigated by environmental management measures, as appropriate. I am satisfied on the basis of the submitted information that impacts can be adequately mitigated and that no residual significant negative impacts on the environment would remain as a result of the proposed scheme. I am, therefore, of the view that the potential for unacceptable direct or indirect effects on the environment can be excluded on the basis of the submitted information.

12.0 Appropriate Assessment

12.1. Introduction

12.1.1. The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177U and 177V of the Planning and Development Act 2000, as amended, are considered fully in this section[11]. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive.
- The Natura Impact Statement.
- Screening the need for Appropriate Assessment.
- Appropriate Assessment.

12.2. Compliance with Article 6(3) of the EU Habitats Directive

12.2.1. Article 6(3) of the Habitats Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent can be given.

12.3. The Natura Impact Statement

12.3.1. The application included a Natura Impact Statement (Jacobs, March 2021), which describes the proposed development, the project site and the surrounding area. Section 4 of the NIS comprises Screening for Appropriate Assessment, which concludes that significant adverse impacts to the Blackwater River (Cork/Waterford) SAC (Site Code 002170) and Kilcolman Bog SPA (Site Code 004095) cannot be ruled out and that it is necessary to proceed to Appropriate Assessment. The NIS

[11] Section 177U(8) states that "*in this section "consent for proposed development" means, as appropriate […] approval for development under section 43 of the Act of 2001"* (i.e. the Transport (Railway Infrastructure) Act 2001).

outlines the methodology used for assessing potential impacts on the habitats and species within these European Sites that have the potential to be affected by the proposed development. It predicts the potential impacts for these sites and their conservation objectives, it suggests mitigation measures, assesses in-combination effects with other plans and projects and it identifies any residual effects on the European sites and their conservation objectives.

12.3.2. The NIS was informed by the following studies and surveys:

- A desk-based study, including review of available information sources such as NPWS website, National Biodiversity Data Centre (NBDC) website, OSI mapping and aerial photography, Birdwatch Ireland data, EPA river and water quality data, and various NPWS reports.
- Ecological field surveys of the sites and surroundings from 23 - 25 July 2019, 14 August 2019 and 11 February 2020. Surveys included:
    - Non-invasive environmental DNA surveys to detect the presence/probable absence of white-clawed crayfish from the Pepperhill River at XC219 Buttevant.
    - Wintering bird surveys: Dedicated whooper swan surveys undertaken in 2020 to determine the current usage (if any) of habitats surrounding the level crossings. Kilcolman Bog SPA was also surveyed during each visit. Surveys were undertaken on 15/16 January, 11/12 February and 3/4 March 2020 encompassing an area out to 500m from each of the level crossings sites.
- Relevant European and Irish guidance on matters relating to Appropriate Assessment, Natura 2000 sites and the Habitats Directive.

12.3.3. It is stated that consultation was undertaken with NPWS, Inland Fisheries Ireland (IFI), Birdwatch Ireland and the EPA at the project scoping stage. The NPWS was consulted regarding the proposed project and the scope of the NIS with reference to white-clawed crayfish and whooper swan. The NIS states that NPWS indicated that the current state of knowledge regarding whooper swan is not sufficient to rule out impacts to this species (which is a qualifying interest of Kilcolman Bog SPA) at the rail crossings (in particular XC219 Buttevant and XC215 Shinanagh crossing) and

that it was agreed that wintering bird surveys were necessary to inform the NIS. IFI was consulted on the project with particular reference to the proposed box culvert at XC219 Buttevant and potential implications for fish passage. It is stated that, following discussions, IFI was satisfied that fish passage will not be significantly affected by the proposed culvert.

12.3.4. The predominant habitat recorded surrounding all of the crossing sites is improved agricultural grassland, delineated by hedgerow and scrub, with most of the sites also featuring field edges delineated by treelines. Areas of wet grassland were also recorded at some sites, such as Ballyhay, which also featured pockets of broadleaved or mixed broadleaved/conifer woodland. At the XC212 Ballycoskery crossing a short stretch of tall herb swamp runs adjacent to the railway line. Hardstanding and buildings such as residential housing developments make up a proportion of the remainder of land use around the crossings.

12.3.5. A number of the sites feature ditches or watercourses running in close proximity to the level crossings which provide hydrological links to the Blackwater River (Cork/Waterford) SAC:

- XC219 Buttevant: Both the Pepperhill River and a ditch immediately west of this river will be crossed as part of the proposed development. The Pepperhill River flows into the Awbeg River 240m downstream and the Awbeg River is within the SAC. The NIS states that the Pepperhill River is ephemeral and heavily choked with terrestrial vegetation at the crossing location, while the main Awbeg channel also supports abundant riverbank vegetation. Both the Pepperhill River and Awbeg River (Buttevant) are stated to have a current WFD status of Moderate and a risk rating of ‘At risk’.
- XC212 Ballycoskery: Located 250m north of the Newton River which flows directly into the Awbeg (Buttevant East) River c. 450m downstream, which also forms part of the SAC. A ditch within the study area at Ballycoskery is hydrologically linked to the Newton River providing a direct link to the SAC.
- XC209 Ballyhay: c. 19m from the Awbeg (Buttevant East) River, which joins the SAC c. 1.5km downstream. The Newton River and the Awbeg (Buttevant East) River have a WFD status of Good and a risk rating of ‘At risk’.

12.3.6. There is no hydrological link to any SAC from the other level crossing locations.

12.3.7. Species identified in the desktop study included Atlantic salmon, white-clawed crayfish and otter, all of which are listed as QIs for the Blackwater River (Cork/Waterford) SAC. Field surveys identified otter prints under the existing road bridge over the Pepperhill River. While the stream is not considered suitable to support significant fish populations, due to its ephemeral nature, IFI confirmed the presence of small pockets of salmonid spawning in the stream, well upstream of the study area. The stream had suitable habitat to support white-clawed crayfish and while non-invasive eDNA surveys for white-clawed crayfish did not detect the species' presence, the NIS notes that it was collected outside of the optimal survey window and that a negative result does not necessarily mean that they are absent from this location.

12.3.8. The Awbeg (Buttevant East) River has the potential to support salmonids, crayfish and lamprey spp. all of which are listed as QIs for the Blackwater River (Cork/Waterford) SAC. Juvenile lamprey silt beds were recorded within Awbeg (Buttevant East) River during field surveys. Water-crowfoot (Ranunculus sp.) was recorded downstream of the railway bridge at the Ballyhay site and is stated to likely be consistent with the QI habitat Water courses of plain to montane levels (with Ranunculion fluitantis and Callitricho-Batrachion vegetation).

12.3.9. With regard to bird species, NBDC records did not identify any QI bird species within the footprint of any proposed works. However, there were several records of QI bird species within 2km of a number of level crossing sites/ including Teal (recorded within 2km from XC219 Buttevant and XC212 Ballycoskery), Shoveler (recorded within 2km from XC219 Buttevant) and Whooper Swan (recorded within 2km from XC215 Shinanagh and XC219 Buttevant). Whooper Swan have also been previously recorded in fields immediately west of XC215 Shinanagh, however it is stated that there have been no recent records of birds in this location, reflecting the declining population of swans utilising Kilcolman Bog since the late 1990s. Given the potential 5 - 10km foraging range of birds from Kilcolman Bog SPA, suitable foraging habitat was identified around the proposed project sites and surveyed. No suitable wintering bird foraging or roosting habitat was recorded at XC187 Fantstown or XC209 Ballyhay.

12.3.10. No Whooper Swans or any other QI species were recorded during surveys in January or February 2020 at any of the level crossing sites, however 16 Whooper

Swans (representing 12% of the SPA population, based on I-WeBS baseline population) were recorded c. 300m north of XC219 Buttevant in March 2020. The birds were foraging in a flooded grassland field north of the Awbeg River. This was the only record of Whooper Swan in close proximity to any of the proposed level crossings sites. No other swans were recorded within the 500m buffer of any other site and no Whooper Swans were recorded at Kilcolman Bog SPA during any of the surveys.

12.3.11. With regard to invasive species, the desk study found records for Japanese Knotweed within 2km of the project (towards the southern end). One of these records falls within the footprint of the proposed works at the XC215 Shinanagh crossing and the walkover survey at that site confirmed the presence of Japanese Knotweed stands that are undergoing treatment, however new growth was observed.

12.3.12. The NIS concludes that, provided the recommended mitigation measures are implemented in full, there will be no adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC and Kilcolman Bog SPA, either alone or in-combination with other plans or projects in light of the sites' Conservation Objectives.

12.3.13. Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge. Details of mitigation measures are provided and they are summarised in Section 5 of the NIS. I am satisfied that the information is sufficient to allow for appropriate assessment of the proposed development.

12.4. Screening the Need for Appropriate Assessment

12.4.1. The proposed development is not directly connected to or necessary to the management of any European Site and therefore is subject to the provisions of Article 6(3).

12.4.2. The screening contained within the NIS identifies 2 No. European Sites within the potential Zone of Influence, having regard to the nature and description of the proposed development, the receiving environment and the source-pathway-receptor model. There are a further 3 No. European Sites within the vicinity considered for

screening purposes, where the applicant concludes that there is no potential pathways for effects to arise.

12.4.3. Table 12.1 below lists the qualifying interests of all five European Sites, their conservation objectives and identifies possible connections between the proposed development (source) and the European Sites (receptors).

12.4.4. Having regard to: the information and submissions available; the nature, size and location of the proposed development; its likely direct, indirect and cumulative effects; the source-pathway-receptor model; and the sensitivities of the ecological receptors, I consider that the 5 No. identified sites are relevant to include for the purposes of initial screening for the requirement for Stage 2 appropriate assessment on the basis of likely significant effects.

Table 12.1: Table of European Sites Within a Possible Zone of Influence of the Proposed Development				
European Site Distance to Level Crossing Sites	**Qualifying Interest(s)**	**Conservation Objectives**	**Connections (Source-Pathway-Receptor)**	**Likely Significant Effects**
Blackwater River (Cork/ Waterford) SAC (002170) 240m: XC219 240m: XC215 330m: XC212 650m: XC211 1.2km: XC209 6.2km: XC201 13.2km: XC187	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected, as defined by a list of specific attributes and targets.	Yes Hydrological connection between the project and the SAC via the Pepperhill River and a ditch at XC219 Buttevant and by a ditch draining into the Newton Stream at XC212 Ballycoskery. All flow directly into the Awbeg River which forms part of the SAC. XC209 Ballyhay is also 19m from the Awbeg River. The proposed works include the construction of a box culvert across the Pepperhill River and ditch at XC219 Buttevant, and a new road-over rail bridge at XC212 Ballycoskery. No hydrological connection to the SAC from the remaining level crossing sites. See Section 12.4.5 below.	**Yes** Construction works or earthworks in-stream or in the vicinity of watercourses at XC209, XC212 or XC219 could result in suspended solids, pollutants, hydrocarbons etc. entering the watercourse resulting in surface water pollution that could directly or indirectly impact on the aquatic species and habitats for which the site is designated. There is no potential pathway for direct or indirect impacts on the terrestrial QIs.

	Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaite Shad) [1103] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] Trichomanes speciosum (Killarney Fern) [1421]			
Kilcolman Bog SPA (004095) 4.3km: XC219 5.5km: XC215 7km: XC212 7.5km: XC211 1.2km: XC209 12.9km: XC201 18.1km: XC187	Whooper Swan (Cygnus cygnus) [A038] Teal (Anas crecca) [A052] Shoveler (Anas clypeata) [A056] Wetland and Waterbirds [A999]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. To maintain or restore the favourable conservation condition of the wetland habitat at Kilcolman Bog SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	Yes Suitable supporting habitat for Whooper Swan is present adjacent to XC215 Shinanagh and XC219 Buttevant sites. NBDC historic records of Whooper Swan in fields immediately west of XC215 to the north and east of XC219. Wintering bird surveys recorded Whooper Swans foraging c. 300m north of XC219. See Section 12.4.5 below.	**Yes** Potential for disturbance/displacement impacts to whooper swan at XC219 and subsequent reduction in fitness through increased energy expenditure/ stress leading to increased mortality, No other QI species or their supporting habitat have the potential to be impacted by the proposed project.

Ballyhoura Mountains SAC (002036) 9.3km: XC219 5.8km: XC215 4.4km: XC212 4.5km: XC211 5.2km: XC209 6.7km: XC201 9km: XC187	Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Blanket bogs (* if active bog) [7130]	To restore the favourable conservation condition of the Annex I habitats for which the SAC has been selected, as defined by a list of specific attributes and targets.	No SAC is designated for terrestrial habitats. No hydrological connection or other pathway by which the proposed project could have direct or indirect effects upon this site.	**No** Due to lack of pathway.
Carrigeen-amronety Hill SAC (002037) 17.1km: XC219 15.8km: XC215 14.6km: XC212 14.6km: XC211 14.2km: XC209 12.9km: XC201 12.8km: XC187	European dry heaths [4030] Trichomanes speciosum (Killarney Fern) [1421]	To maintain the favourable conservation condition of the Annex I habitats for which the SAC has been selected, as defined by a list of specific attributes and targets.	No SAC is designated for several terrestrial habitats. No hydrological connection or other pathway by which the proposed project could have direct or indirect effects upon this site.	**No** Due to lack of pathway.
Glen Bog SAC (001430) 30.7km: XC219 25.1km: XC215	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]	To maintain the favourable conservation condition of the Annex I habitat for which the SAC has been selected, as defined by a list of	No SAC is designated for a terrestrial habitat. No hydrological connection or other pathway by which the proposed	**No** Due to lack of pathway.

22.7km: XC212 22km: XC211 20.4km: XC209 15.3km: XC201 9.5km: XC187		specific attributes and targets.	project could have direct or indirect effects upon this site.	

12.4.5. **Potential Significant Effects**

12.4.6. The potential effects on the Blackwater River (Cork/ Waterford) SAC are associated with potential surface water impacts during the construction phase as a result of pollution events such as hydrocarbon/oil/chemical spills, cementitious spills, sediment laden runoff etc.

12.4.7. The only QI habitat with potential to be impacted is Water courses of plain to montane levels [3260], as this is the only freshwater QI habitat listed for this SAC. Reductions in water quality may impact on species composition or habitat condition of this QI. All other QI habitats within this SAC are associated with coastal and marine habitats too distant for a viable pathway (at least 75km downstream) or are terrestrial woodland habitats with no pathway for potential effects.

12.4.8. There is also potential for impacts to the QI aquatic species as a result of construction phase surface water pollution/sedimentation resulting in direct mortality, reduction in reproductive success or by acting as a barrier to migration. Other potential impacts for aquatic QI species include through habitat fragmentation during culvert construction.

12.4.9. With regard to the potential spread of invasive non-native species, the NIS states that this was considered as a potential pathway for habitat degradation through increased sedimentation of watercourses following die-back of bankside plants. Japanese knotweed was recorded at the site at XC215 Shinanagh, however the proposed works at that location do not have the potential to spread the species to the SAC, which is 1.1km at its nearest point. The NIS therefore excludes impacts upon QI habitats/species from the spread of Japanese knotweed. Given that instream works are proposed, I consider that there remains a risk of the introduction or spread of other invasive species/biosecurity risks, such as crayfish plague[12], which could impact upon QI species.

12.4.10. The potential effects on Kilcolman Bog SPA are associated with potential disturbance/disturbance impacts to whooper swan foraging in the vicinity of XC219 Buttevant during the construction phase and a subsequent reduction in fitness through increased energy expenditure and stress leading to increased mortality.

[12] The NIS notes that crayfish plague has not been recorded within the Blackwater catchment but has been recorded in neighbouring catchments.

None of the other QI species or their supporting habitat at this SPA have the potential to be impacted by the proposed project.

12.4.11. Based on my examination of the NIS and supporting information, the NPWS website, aerial and satellite imagery, the scale of the proposed development and likely effects, separation distance and functional relationship between the proposed works and the European Sites, their Conservation Objectives and taken in conjunction with my assessment of the subject site and the surrounding area, I would conclude that a Stage 2 Appropriate Assessment is required for 2 No. European Sites, namely the Blackwater River (Cork/ Waterford) SAC and Kilcolman Bog SPA.

12.4.12. The remaining sites can be screened out from further assessment because of the scale of the proposed development, the nature of the Conservation Objectives and Qualifying Interests, the separation distances and in particular the lack of a substantive linkage between the proposed development and the European sites.

12.4.13. **Screening Determination**

12.4.14. Following the screening process, it has been determined that Appropriate Assessment is required as it cannot be excluded on the basis of objective information that the proposed development individually or in-combination with other plans or projects will have a significant effect on the following European sites (i.e. there is the possibility of significant effect):

- Blackwater River (Cork/ Waterford) SAC (Site Code 002170).
- Kilcolman Bog SPA (Site Code 004095).

12.4.15. The possibility of significant effects on other European sites has been excluded on the basis of objective information. The following European sites have been screened out for the need for appropriate assessment.

- Ballyhoura Mountains SAC (Site Code 002036).
- Carrigeenamronety Hill SAC (Site Code 002037).
- Glen Bog SAC (Site Code 001430).

12.4.16. Measures intended to reduce or avoid significant effects have not been considered in the screening process.

12.5. Appropriate Assessment of Implications of the Proposed Development

12.5.1. The following is a summary of the objective scientific assessment of the implications of the project on the qualifying interest features of the abovementioned European sites using the best scientific knowledge in the field. All aspects of the project which could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are considered and assessed.

12.5.2. The following sites are subject to Appropriate Assessment:

- Blackwater River (Cork/ Waterford) SAC (Site Code 002170).
- Kilcolman Bog SPA (Site Code 004095).

12.5.3. A description of the sites, their Conservation Objectives and Qualifying Interests/Special Conservation Interests, including any relevant attributes and targets for the sites, are set out in the NIS and summarised in Tables 12.2 and 12.3 of this report as part of my assessment. I have also examined the Natura 2000 data forms, the Conservation Objectives and supporting documents for the site, where relevant, from the NPWS website (www.npws.ie).

12.5.4. **Aspects of the Proposed Development**

12.5.5. In my opinion, having reviewed the development proposals, the main aspects of the proposed development that could adversely affect the conservation objectives of the abovementioned European Sites arise during the construction phase and include:

- Impacts as a result of reduction of water quality through construction related pollution events (e.g. chemicals, oil/fuel, cementitious materials etc.) or sediments/silt run-off.
- Impacts on prey sources for otter.
- Disturbance and or displacement of QI species due to potential water quality impacts during construction or disturbance of foraging/breeding habitats.
- Habitat loss, fragmentation or alteration.
- Introduction of invasive species or biosecurity issues during construction.

12.5.6. Tables 12.2 and 12.3 summarises the Appropriate Assessment and site integrity test. The conservation objectives for the European Sites have been examined and

assessed with regard to the identified potential significant effects and all aspects of the project (alone and in combination with other plans and projects). Mitigation measures proposed to avoid and reduce impacts to a non-significant level have been assessed, and clear, precise and definitive conclusions reached in terms of adverse effects on the integrity of the European sites.

12.5.7. With regard to the operational phase, considering the nature and scale of the proposed development and the distance from the abovementioned European Sites, I do not consider that the proposed development – once operational – is likely to adversely affect the integrity of the European Sites in light of their conservation objectives. In light of this, no mitigation measures are therefore considered necessary during the operational phase.

12.5.8. **In-Combination Effects**

12.5.9. With regard to the potential for in-combination effects to arise, the NIS outlines the results of a desktop review of planning and other policy resources and a search of planning applications within 1km of the proposed project was also undertaken.

12.5.10. The review of national, regional and local policy did not identify any potential significant in-combination effects.

12.5.11. A review of planning applications within the study area identified 29 No. valid planning applications within the last five years, of which 7 No. were deemed to have the potential for in-combination effects, as follows:

- XC211 Newtown and XC212 Ballycoskery: 1 No. application
    - **Reg. Ref 195964:** Retention of alterations and variations to existing service station building. This development is within c. 150m of the proposed project. However, given the retention nature of these works there is no potential for in-combination effects.
- XC215 Shinanagh - 3 No. applications
    - **Planning Ref 185185:** Construction of a dwelling, septic tank and percolation area. This development is c. 60m from the works at XC215. However, given that there is no pathway from XC215 to any European site there is no potential for in-combination effects.

- **Planning Ref 185941:** Demolition, alteration and extension works at an existing dwelling and installation of a new septic tank and percolation area. This development is within 20m of the works at XC215. However, given that there is no pathway from XC215 to any European site there is no potential for in-combination effects.
- **Planning Ref 204041:** Solar PV farm in the townlands of Ballyroe and Dromin, Ballyhea, Charleville, County Cork, 3.4 km underground grid connection and associated development. This development is c. 650m from the works at XC215 and is adjacent to the Awbeg river and within the boundaries of the River Blackwater SAC, c. 8km upstream of the works at Buttevant. Mitigation measures will be put in place which will avoid any adverse effects on the conservation objectives of QI habitats and species. Therefore, there will be no in-combination effects from this development with the proposed project.

- <u>XC219 Buttevant - 3 No. applications</u>
  - **Planning Ref 204179:** Construction of a 20 space drop off area, associated access road, footpath and associated development, c. 150m from XC219. Storm water discharge will be managed and monitored in accordance with SUDs guidance and the AA Screening Report therefore screened out potential for significant effects on the qualifying interests of the River Blackwater SAC. Construction stage impacts are ruled out given that works will take place within the school grounds within an area separated from the Awbeg River by existing infrastructure and development and as there will be no direct discharges to the Awbeg or any watercourses.
  - **Planning Ref 196223:** Provision of 4 No. classrooms in temporary cabins located to the north of the existing school building and associated site works, c. 150m from XC219. An ecologist's report stated that no surface water impacts would arise as a result of the separation distance and lack of hydrological connection between the development and the river and the connection to the existing surface water drainage system. The Buttevant WWTP, which discharges into the Awbeg River, was noted to be in breach

of Emission Limit Values in 2017 and 2019. This was due to exceedance of phosphorous because of a mechanical failure which has been rectified. The additional loading to the WWTP from the school development was within the design capacity of the plant. Given that the proposed railway order development will have no impact on the WWTP there is no potential for in-combination effects from this development.

  - **Planning Ref 195081:** Development of 6 No. dwellings and all associated works, c. 500m from XC219. Given that there is no pathway for impact from this development to any European site there is no potential for in-combination effects.

- N/M20 Cork to Limerick Road Improvement Scheme: Review of options continuing and no potential for in-combination effects given that construction of the scheme will not take place simultaneously with the proposed project.

Table 12.2: Blackwater River (Cork/Waterford) SAC (002170)					
Summary of Key issues that could give rise to adverse effects: • **Impacts as a result of reduction of water quality through construction related pollution events (e.g. chemicals, oil/fuel, cementitious materials etc.) or sediments/silt run-off.** • **Impacts on prey sources for otter.** • **Disturbance and/or displacement of QI species due to potential water quality impacts during construction or disturbance of foraging/breeding habitats.** • **Habitat loss, fragmentation or alteration.** • **Introduction of invasive species or biosecurity issues during construction.** **Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002170.pdf**					
Summary of Appropriate Assessment					
Qualifying Interest feature	**Conservation Objectives Targets and attributes**	**Potential adverse effects**	**Mitigation measures**	**In-combination effects**	**Can adverse effects on integrity be excluded?**
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	**Restore favourable conservation condition.** Maintain distribution at 161km; Restore population size to 35,000 adult mussels; Restore to least 20% of population no more than 65mm in length and at least 5% of population no more than 30mm in length; No more than 5% decline in adult mortality from previous number of live adults counted and dead shells less than 1% of the adult population and scattered in distribution; Restore suitable habitat in more than 35km and any additional stretches necessary for salmonid spawning; Restore water quality-	Yes Species is highly susceptible to sedimentation and pollution. Any deterioration in water quality resulting from construction works, involving either sediments or chemical/ hydrocarbon/ concrete washout pollution, could undermine the conservation objectives for the species by affecting a range of targets and attributes including population size, population structure, water quality, substratum quality. Potential for indirect effects from pollution impacts	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention methods are set out in the NIS and include detailed measures to mitigate impacts to water quality. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed to prevent direct or indirect effects on integrity.

	macroinvertebrates: EQR greater than 0.90, phytobenthos: EQR greater than 0.93; Restore substratum quality-filamentous algae: absent or trace (<5%), macrophytes: absent or trace (<5%); Restore substratum quality-stable cobble and gravel substrate with very little fine material, no artificially elevated levels of fine sediment; Restore oxygen availability to no more than 20% decline from water column to 5cm depth in substrate; Restore appropriate hydrological regimes; Maintain sufficient juvenile salmonids to host glochidial larvae.	on salmon, as freshwater pearl mussel are reliant on salmonids as host fish during their reproductive cycle, resulting in the undermining of conservation objectives for population structure by a reduction in recruitment of juveniles due to a reduction in the availability of salmon and trout hosts in the same watercourses.			
Austropotamobius pallipes (White-clawed Crayfish) [1092]	**<u>Maintain</u> favourable conservation condition.** No reduction in distribution from baseline; Juveniles and/or females with eggs in at least 50% of positive samples; No alien crayfish species; No instances of disease; Water quality at least Q3-4 at all sampled sites; No decline in heterogeneity or habitat quality.	<u>Yes</u> Reduction in water quality as a result of a construction phase pollution incident involving suspended sediments or oil/ chemicals/ concrete washout water could result in a failure to meet the water quality conservation objective target for this species and undermine the conservation objective targets for population structure and distribution. Due to the proximity of catchments infected by crayfish plague there is a high risk of spreading the disease on wet/muddy	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention methods are set out in the NIS and include detailed measures to mitigate impacts to water quality. Specific measures to protect this species at Buttevant are set out. While Section 5.3.5 of the NIS identifies the need for mitigation measures to prevent	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed (including additional measures to prevent introduction of crayfish plague) to prevent direct or indirect effects on integrity.

		footwear or equipment from other sites. The conservation objective target in relation to disease is that of no incidence.	the introduction of crayfish plague, these are not contained in the NIS. Additional biosecurity mitigation measures are therefore recommended, as outlined in Section 12.5.18 below. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.		
Petromyzon marinus (Sea Lamprey) [1095]	**Restore favourable conservation condition.** Greater than 75% of main stem length of rivers accessible from estuary; At least three age/size groups present; Juvenile density at least 1/m²; No decline in extent and distribution of spawning beds; More than 50% of sample sites positive for juvenile habitat.	Yes Potential impact due to watercourse pollution events during construction or operation, despite closest known spawning sites being 28km downstream. Sediment could have a smothering effect and impact availability of spawning bed habitat, limiting the ability of sea lamprey to reproduce. Both the population structure of juveniles and juvenile density in fine sediments could be impacted by smothering of silt beds. Watercourse pollution can act as a barrier to migration, potentially undermining the	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention methods are set out in the NIS and include detailed measures to mitigate impacts to water quality. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed to prevent direct or indirect effects on integrity

		conservation objective target for distribution. Oil/chemical/concrete washout water pollution may result in failure to meet the conservation objectives relating to population structure of juveniles. A pollution incident during the lamprey migration season could kill or injure migrating adults and prevent successful spawning in a given year, thereby undermining the juvenile population structure conservation objective.			
Lampetra planeri (Brook Lamprey) [1096]	**<u>Maintain</u> favourable conservation condition.** Access to all watercourses down to first order streams; At least three age/size groups of brook/river lamprey present; Mean catchment juvenile density of brook/river lamprey at least 2/m²; No decline in extent and distribution of spawning beds; More than 50% of sample sites positive for juvenile habitat.	<u>Yes</u> Potential adverse effects could result from changes to their habitat associated with increased sediments, oils/chemicals/concrete washout water during construction phase. The NIS notes, however, that there are no known Lampetra sp. spawning grounds in the downstream pollution pathway from the proposed project site. Potential for direct toxic effects and smothering of both spawning gravels and nursery silts and prevention of upstream migration.	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention methods are set out in the NIS and include detailed measures to mitigate impacts to water quality. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed to prevent direct or indirect effects on integrity.
Lampetra fluviatilis (River Lamprey) [1099]	**<u>Restore</u> favourable conservation condition.** Access to all watercourses down to first order streams; At least three age/size groups of river/brook lamprey present; Mean catchment				

	juvenile density of brook/river lamprey at least 2/m²; No decline in extent and distribution of spawning beds; More than 50% of sample sites positive for juvenile habitat.	Watercourse pollution can act as a barrier to migration, undermining the conservation objective target for distribution. Both the population structure of juveniles and juvenile density in fine sediments could be impacted by smothering of silt beds. A pollution incident during the lamprey migration season could kill or injure adult lamprey and prevent successful spawning in a given year, thereby undermining the population structure conservation objective.			
Alosa fallax fallax (Twaite Shad) [1103]	**Restore favourable conservation condition.** Greater than 75% of main stem length of rivers accessible from estuary; More than one age class present; No decline in extent and distribution of spawning habitats; Water oxygen levels no lower than 5mg/l; Maintain stable gravel substrate with very little fine material, free of filamentous algal growth and macrophyte growth	No Range of this species is limited to coastal and estuarine waters within the SAC which will not be impacted.	No mitigation required.	None.	**Yes** Species not within ZoI.
Salmo salar (Salmon) [1106]	**Maintain favourable conservation condition.** 100% of river channels down to second order accessible from estuary; Conservation Limit for each	Yes Potential impacts due to construction phase degradation of water quality, such as surface water pollution	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures

	system consistently exceeded; Maintain or exceed 0+ fry mean catchment-wide abundance threshold value - currently set at 17 salmon fry/5 min sampling; No significant decline in out-migrating smolt abundance; No decline in no. and distribution of spawning redds due to anthropogenic causes; Water quality at least Q4 at all sampled sites.	events, though mechanisms such as the clogging of gills or smothering of spawning redds with sediment. in the Awbeg River or poisoning. Potential for a decline in number undermining the conservation objective target of no significant decline or for reduction in the abundance of salmon fry to below the defined conservation limit.	methods are set out in the NIS and include detailed measures to mitigate impacts to water quality and timing constraints to avoid sensitive periods. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.		proposed to prevent direct or indirect effects on integrity.
Lutra lutra (Otter) [1355]	**Restore favourable conservation condition.** No significant decline in distribution; No significant decline in terrestrial habitat (103ha above high water mark; 1165.7ha along river banks / around ponds); No significant decline in marine habitat (647.2ha); No significant decline in river habitat (599.54km); No significant decline in lake habitat (25.06ha); No significant decline in couching sites and holts; No significant decline in fish biomass; No significant increase in barriers to connectivity.	Yes Otter prey upon fish as their main source of food and are therefore ultimately dependant on water quality. Surface water pollution and consequent reduction of fish stocks could present a threat to the local otter population, potentially undermining the conservation objective targets for distribution of otter and available fish biomass.	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention methods are set out in the NIS and include detailed measures to mitigate impacts to water quality. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed to prevent direct or indirect effects on integrity.
Trichomanes speciosum (Killarney Fern) [1421]	**Maintain favourable conservation condition**. No decline in distribution; Maintain size and extent of existing colonies	No Terrestrial QI habitat with no potential to be affected.	No mitigation required.	None	**Yes** Terrestrial habitat, not within ZoI

	including sporophyte frond counts and number of gametophyte types; No loss of suitable habitat, such as shaded rock crevices, caves or gullies in or near to, known colonies. No loss of woodland canopy at or near to known locations; Maintain hydrological conditions at the locations so that all colonies are in dripping or damp seeping habitats and water is visible at all locations; No increase in no. of dessicated sporophyte fronds or gametophyte mats; No changes in shading due to anthropogenic impacts; Invasive species absent or under control.				
Estuaries [1130]	**<u>Maintain</u> favourable conservation condition**. The permanent habitat area is stable or increasing, subject to natural processes; Maintain the extent of the Mytilus edulis-dominated community, subject to natural processes; Conserve the high quality of the Mytilus edulis-dominated community, subject to natural processes; Conserve the following community types in a natural condition: Intertidal estuarine sandy mud community complex, Subtidal estuarine fine sand with Bathyporeia spp. community complex, Sand and mixed sediment with polychaetes and crustaceans	<u>No</u> Coastal habitat, not located within likely Zone of Influence of proposed development.	No mitigation required.	None	**Yes** Habitat not within ZoI

	community complex, Coarse sediment community complex.				
Mudflats and sandflats not covered by seawater at low tide [1140]	**Maintain favourable conservation condition**. The permanent habitat area is stable or increasing, subject to natural processes; Maintain the extent of the Zostera- and Mytilus edulis-dominated communities, subject to natural processes; Conserve the high quality of the Zostera-dominated community, subject to natural processes; Conserve the high quality of the Mytilus edulis-dominated community, subject to natural processes; The following community types should be conserved in a natural condition: Intertidal estuarine sandy mud community complex and Sand and mixed sediment with polychaetes and crustaceans community complex.	No Coastal habitat, not located within likely Zone of Influence of proposed development.	No mitigation required.	None	**Yes** Habitat not within ZoI
Salicornia and other annuals colonising mud and sand [1310]	**Maintain favourable conservation condition**. Area stable or increasing, subject to natural processes, including erosion and succession; No decline or change in habitat distribution, subject to natural processes; Maintain natural circulation of sediments and organic matter, without any physical obstructions; Maintain natural tidal	No Coastal habitat, not located within likely Zone of Influence of proposed development.	No mitigation required.	None	**Yes** Habitat not within ZoI

	regime; Maintain creek and pan structure, subject to natural processes, including erosion and succession; Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Maintain structural variation within sward; Maintain more than 90% of area outside creeks vegetated; Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009).; No significant expansion of common cordgrass with an annual spread of less than 1%.				
Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	**Restore favourable conservation condition.** Area stable or increasing, subject to natural processes, including erosion and succession; No decline in habitat distribution, subject to natural processes; Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions; Maintain natural tidal regime; Maintain creek and pan structure, subject to natural processes, including erosion and succession; Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Maintain	No Coastal habitat, not located within likely Zone of Influence of proposed development.	No mitigation required.	None	**Yes** Habitat not within ZoI

	structural variation within sward; Maintain more than 90% of area outside creeks vegetated; Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009; No significant expansion of common cordgrass with an annual spread of less than 1%.				
Mediterranean salt meadows (Juncetalia maritimi) [1410]	**Maintain favourable conservation condition.** Area stable or increasing, subject to natural processes, including erosion and succession; No decline in habitat distribution, subject to natural processes; Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions; Maintain creek and pan structure, subject to natural processes including erosion and succession; Maintain natural tidal regime; Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Maintain structural variation within sward; Maintain more than 90% of area outside creeks vegetated; Maintain range of sub-communities with typical species listed in Saltmarsh Monitoring Project (McCorry & Ryle, 2009; No significant expansion of	No Coastal habitat, not located within likely Zone of Influence of proposed development.	No mitigation required.	None	**Yes** Habitat not within ZoI

	common cordgrass with an annual spread of less than 1%.				
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	**Maintain favourable conservation condition**. No decline in occurrence, subject to natural processes; Area stable or increasing, subject to natural processes; Maintain appropriate hydrological regimes; Maintain natural tidal regime; The substratum should be dominated by the particle size ranges appropriate to the habitat sub-type; The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition; Typical species of the relevant habitat sub-type should be present and in good condition; The area of active floodplain at and upstream of the habitat should be maintained.	Yes Construction activities may result in release of sediments into the Awbeg River which could settle out within this QI habitat, smothering the substratum and rendering it unsuitable for the macrophyte species that make up this the habitat type, thus undermining the conservation objective for substratum composition. Potential for construction phase pollution event to result in elevated nutrient levels, leading to increased filamentous algal biomass and changes to vegetation species composition, undermining the conservation objective for water quality.	See Section 12.5.12 below. Best practice construction management, drainage and pollution prevention methods are set out in the NIS and include detailed measures to mitigate impacts to water quality. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed to prevent direct or indirect effects.
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	**Restore favourable conservation condition**. Area stable or increasing, subject to natural processes (263.7ha); No decline in occurrence; Woodland area stable or increasing; Woodland to have diverse structure with a relatively closed canopy containing mature trees, subcanopy layer with semi-mature trees and shrubs and	No Terrestrial QI habitat with no potential to be affected.	No mitigation required.	None	**Yes** Terrestrial habitat, not within ZoI

	well-developed herb layer; Maintain diversity and extent of Woodland community types; Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy; Ensure at least 30m³/ha of fallen timber greater than 10cm dia., 30 snags/ha, both categories should include stems greater than 40cm dia.; No decline in veteran trees per hectare; No decline in occurrence of indicators of local distinctiveness; No decline in native tree cover (not less than 95%); A variety of typical native species present; Negative indicator species, particularly non-native invasive species, absent or under control.				
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]	**Restore favourable conservation condition**. Area stable or increasing, subject to natural processes (19.2ha); No decline in occurrence; Woodland area stable or increasing; Woodland to have diverse structure with a relatively closed canopy containing mature trees, subcanopy layer with semi-mature trees and shrubs and well-developed herb layer; Maintain diversity and extent of Woodland community types; Seedlings, saplings and pole age-classes occur in adequate proportions to ensure	No Terrestrial QI habitat with no potential to be affected.	No mitigation required.	None	**Yes** Terrestrial habitat, not within ZoI

	survival of woodland canopy; Appropriate hydrological regime necessary for maintenance of alluvial vegetation; Ensure at least 30m³/ha of fallen timber greater than 10cm dia., 30 snags/ha, both categories should include stems greater than 40cm dia. (greater than 20cm dia. in the case of alder); No decline in veteran trees per hectare; No decline in occurrence of indicators of local distinctiveness; No decline in native tree cover (not less than 95%); A variety of typical native species present; Negative indicator species, particularly non-native, invasive species, absent or under control.				
Perennial vegetation of stony banks [1220]	**Maintain favourable conservation condition**. Area stable or increasing, subject to natural processes including erosion and succession; No decline or change in habitat distribution, subject to natural processes; Maintain the natural circulation of sediment and organic matter, without physical obstructions; Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession; Maintain the typical vegetated shingle flora including the range of sub-communities within the different	No Terrestrial QI habitat with no potential to be affected.	No mitigation required.	None	**Yes** Terrestrial habitat, not within ZoI

	zones; Negative indicator species (including non-natives) to represent less than 5% cover				
Taxus baccata woods of the British Isles [91J0]	The status of this habitat as a qualifying Annex I habitat for the SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this habitat.	No Terrestrial QI habitat with no potential to be affected.	No mitigation required.	None	**Yes** Terrestrial habitat, not within ZoI
Overall conclusion: Integrity test Following the implementation of mitigation, the construction and operation of the proposed development will not adversely affect the integrity of the Blackwater River (Cork/Waterford) SAC in light of the site's Conservation Objectives. No reasonable scientific doubt remains as to the absence of such effects.					

Table 12.3: Kilcolman Bog SPA (004095)					
Summary of Key issues that could give rise to adverse effects: • **Disturbance of species during the construction or operational phases at XC219 Buttevant, leading to potential displacement from foraging habitats or increased mortality.** **Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004095.pdf**					
Summary of Appropriate Assessment					
Qualifying Interest feature	**Conservation Objectives Targets and attributes**	**Potential adverse effects**	**Mitigation measures**	**In-combination effects**	**Can adverse effects on integrity be excluded?**
Whooper Swan (Cygnus cygnus) [A038]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (no specific targets and attributes are identified).	Yes Potential disturbance/ displacement effects from construction works at XC219 Buttevant, due to machinery operation/ operator movement in proximity to foraging site. Potential for decreased body condition and reduction in reproductive success and individual survival and potential population level consequences. Other displacement effects such as increased competition for a common food source. Noise impacts are not predicted to be significant, given background levels of disturbance. Existing vegetation along the R522 provides visual screening and given the 300m distance (across the Awbeg River) and the existing noisy environment, impacts as a result of disturbance leading to displacement are considered low. However, potential	See Section 12.5.12 below. Best practice construction management and pollution prevention methods are set out in the NIS. Detailed measures to address potential disturbance impacts on whooper swan, including screening (should the field boundary be removed), are set out in Section 5.4.1.2 of the NIS. Ecological Clerk of Works to be appointed to monitor compliance with mitigation measures and conditions.	No likely significant in-combination effects.	**Yes** No doubt as to the effectiveness or implementation of mitigation measures proposed to prevent direct or indirect effects on integrity

		displacement effects could arise if the field boundary was removed and if works were undertaken within the critical period (October – March).			
Teal (Anas crecca) [A052]		No No mechanism for direct or indirect significant adverse effects on this species.	No mitigation required.	None	**Yes** No pathway for adverse effects.
Shoveler (Anas clypeata) [A056]		No No mechanism for direct or indirect significant adverse effects on this species.	No mitigation required.	None	**Yes** No pathway for adverse effects.
Wetland and Waterbirds [A999]	To maintain or restore the favourable conservation condition of the wetland habitat at Kilcolman Bog SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	No potential pathway for adverse effects on wetland habitat at Kilcolman Bog SPA.	No mitigation required.	None	**Yes** No pathway for adverse effects.
Overall conclusion: Integrity test Following the implementation of mitigation, the construction and operation of the proposed development will not adversely affect the integrity of the Kilcolman Bog SPA (004095) in light of the site's Conservation Objectives. No reasonable scientific doubt remains as to the absence of such effects.					

12.5.12. **Mitigation Measures**

12.5.13. The proposed mitigation measures are set out in Sections 5.3.8 and 5.4.1 of the NIS to mitigate the potential effects on the Blackwater River (Cork/Waterford) SAC and Kilcolman Bog SPA, respectively.

12.5.14. The measures associated with the Blackwater River (Cork/Waterford) SAC include both generic mitigation measures which will be applied across the proposed project to avoid the impacts associated with pollution of watercourses and specific mitigation measures for various elements of the proposed project at each of the level crossing sites.

12.5.15. The generic mitigation measures, which are stated to have been designed with reference to relevant CIRIA and IFI guidance, include:

- Toolbox talks to highlight environmental sensitivities and boundaries of sensitive habitats.
- Supervision of sensitive works (e.g. instream works) by an Ecological Clerk of Works (ECoW).
- **Control of silt laden runoff:**
    - Surface water runoff will be managed to prevent flow of silt laden surface water flowing into surface water receptors.
    - The contractor shall be obliged to ensure no deleterious discharges are released to nearby waterbodies during construction. If a discharge to a watercourse is necessary, the water will pass through a swale or silt buster prior to discharge. Levels of suspended solids in any discharge will be not greater than 25mg/l as per IFI guidance (2016) and flows will be controlled to levels appropriate to the receiving water. The Contractor will liaise with the regulatory authorities to determine the necessity for a licence under the Water Pollution or Arterial Drainage Acts.
    - Silt fences will be erected along the boundary of water bodies to prevent any silt laden runoff.
    - Reinstatement of any banks affected as a result of silt laden run off during construction will be reinstated back to pre-development conditions.

- **Stockpiling of materials:**
    - During site set up, sites would be either cleared in stages to prevent bare earth being exposed for prolonged periods, or the bare earth would be immediately covered in a gravel/plastic covering to reduce the likelihood of sediment laden run-off following rainfall events.
    - Temporary stockpiles will be located away from drains and watercourses. Stockpiles will be located more than 10m from a watercourse.
    - Stockpiles will not be located anywhere within the crossing working area at watercourse crossings.
    - Management of stockpiles to prevent siltation of watercourses through runoff during rainstorms to include: allowing the establishment of vegetation on exposed soil; providing silt fences/straw barriers at the toe of the stockpile; surrounding stockpiles with cut-off ditches to contain runoff; directing any runoff to the site drainage system or filter drains along the Construction Working Width and to the settlement pond (or other) treatment systems; and providing bunds/other form of diversion to keep runoff from entering the stockpile area.
- **Storage of materials:**
    - Oil and diesel storage facilities will be at least 30m from any watercourse including surface water drains.
    - Spill kits and drip trays will be provided for all equipment and at locations where any liquids are stored and dispensed.
    - Storage areas for solid materials, including waste soils, will be designed and managed to prevent deterioration of the materials and their escape via surface runoff or wind blow.
    - Storage areas will be kept secure to prevent acts of vandalism that could result in leaks or spills.
    - Containers will be correctly labelled indicating their contents and any hazard warning signs.
- **Spill Prevention:**

- Secondary containment (e.g. double skinned tanks) for all fuel tanks, drums, bowsers and other equipment that contains oil/ other fuels. All tanks, drums and bowsers will be located in sealed impervious bunds.
- Storage areas will be covered, wherever possible, to prevent rainwater filling the bunded areas.
- Fuel fill pipes will not extend beyond the bund wall and will have a lockable cap secured with a chain and will be locked when not in use.
- Where fuel is delivered through a pipe permanently attached to a tank/ bowser: the pipe will be fitted with a manually operated pump or a valve at the delivery end which closes automatically when not in use; the pipe will be fitted with a lockable valve at the end where it leaves the tank/bowser; pipework will pass over and not through bund walls; tanks and bunds will be protected from vehicle impact damage; tanks will be labelled with contents, capacity information and hazard warnings; and all valves, pumps and trigger guns will be turned off and locked when not in use.
- Precautions to prevent spillages from equipment containing small quantities of hazardous substances (e.g. chainsaws and jerry cans) includes: each container/piece of equipment will be stored in its own drip tray made of a material suitable for the substance being handled; and containers and equipment will be stored on a firm, level surface.
- Contractor will ensure that: site-specific procedures are in place for bulk deliveries and dispensing activities; delivery points and vehicle routes are clearly marked; and emergency procedures are displayed, and availability of spill kits is available at delivery points.

- **Vehicles and Plant:**
  - Vehicles and plant will be in good working order to ensure optimum fuel efficiency and regularly inspected, maintained and repaired to ensure they are free from leaks.
  - Spill kits will be carried on all vehicles.
  - Vehicles and plant will not park near or over drains.
  - Refuelling will be carried out on hardstanding, using drip trays.

- **Working in or near watercourses:**
    - Works will be conducted during forecast low flow periods where possible.
    - In-stream works will not be carried out in watercourses frequented by salmon or trout during the Annual Close Season (season varies regionally from the beginning of October to the end of February inclusive. River and brook lamprey spawn during the period March-April).
    - Translocation and instream works should be undertaken outside of the spawning season. The timing of works will be considered on a site-specific basis and in agreement with the IFI;
    - Operation of machinery in-stream will be kept to an absolute minimum. All construction machinery operating in-stream will be mechanically sound to avoid leaks of oils, hydraulic fluid, etc. Machinery will be cleaned and checked prior to commencement of in-stream works.
    - Design of temporary settlement ponds and outfalls and the construction method statements for their installation will be agreed with IFI prior to construction.
    - Area of disturbance of watercourse bed and bank will be the absolute minimum required for the installation of outfalls/ culverts.
    - Dewatering flows will be directed to the construction drainage system and to the settlement pond (or other) treatment system.
    - Sediment mats/ silt traps or similar will be located immediately downstream of the works within and adjacent to the watercourses and will be inspected daily, maintained and cleaned regularly during the course of site works. Diversion of water to and from a temporary diversion channel will only take place during the period March to September or as agreed with the IFI.
    - Small check dams will be constructed in the cut-off watercourse to trap any sediment, and a sediment trap will be provided immediately downstream of the diversion to the existing watercourse.

- Where in-stream bed material is to be removed, coarse aggregates, if present, will be stockpiled at least 10m away from the watercourse for replacement following reinstatement of a watercourse channel.
- Reinstatement of any banks affected during construction works near a watercourse will be reinstated back to pre-development conditions.

- **Use of Concrete:**
  - The use and management of concrete in or close to watercourses shall be carefully controlled to avoid spillage.
  - When working in or near the surface water and the application of in-situ materials cannot be avoided, the use of alternative materials such as biodegradable oils shall be used.
  - Placing of concrete in or near watercourses will be carried out only under the supervision of the ECoW.
  - No hosing of concrete, cement, grout or similar material spills into surface water drains. Such spills shall be contained immediately and prevented from entering the watercourse.
  - Concrete waste and wash-down water will be contained and managed on-site to prevent pollution of all surface watercourses.
  - Concrete lorry washout will not be permitted onsite and will only take place at the batching plant (or other appropriate facility designated by the manufacturer).

12.5.16. In addition to the site-wide generic mitigation set out above, specific mitigation measures are also proposed, as follows:

- **XC209 Ballyhay:** In order to avoid a reduction in water quality in the Awbeg (Buttevant East), it is proposed to take groundwater samples during the additional pre-construction ground investigation in order to identify if there is any issue with groundwater quality. Based on the results, it may be possible to dewater and discharge to the Awbeg (Buttevant East) River following settlement or, alternatively, if contamination such as metals or hydrocarbons are detected, additional measures will be needed which could include additional treatment or disposal off site.

- **XC212 Ballycoskery:** The proposed culvert to the west of the railway will be prefabricated and clean to avoid concrete washings contamination. If the ditch is flowing, it will be dammed and pumped over the installation area to avoid sediment transportation downstream. Additional in-stream measures such as straw bales and oil booms will be used to ensure there is no downstream impact as a result of the installation process.
- **Drainage:** No drainage works are proposed at XC187 Fantstown or XC209 Ballyhay due to the limited construction proposed at those locations. For the other sites, over-the-edge drainage is proposed in accordance with NRA road drainage standards, supplemented with additional features:
    - XC201 Thomastown: No new outfall to the stream. Swales will discharge into the existing open ditch at the point of tie-in on the R515 at existing runoff rates. The open ditch at the tie-in will be culverted.
    - XC211 Newtown: Swales will discharge into the existing road drainage at existing runoff rates. There will be no pathway to the pond from the road.
    - XC212 Ballycoskery: Swales will discharge into the existing road drainage at existing runoff rates.
    - XC215 Shinanagh: Swales will discharge to an outfall into the existing road drainage at existing runoff rates. There will be no discharge to the ditches and no proposed works to the ditches. There is no new outfall proposed.
    - XC219 Buttevant: Swales will discharge to the existing road drainage to the west of the bridge at existing runoff rates.

    Swales will be grassed, with shallow side slopes and a long-wetted perimeter to reduce flow rates and velocities. They will be underlain by a filter material and perforated pipe to provide a second stage of treatment. The swale ditches will outfall directly or indirectly into water bodies within the River Maigue (XC187 Fantstown and XC201 Thomastown) or River Awbeg (all other crossings) sub-catchments respectively. The maximum outflow of the swales will be capped at greenfield runoff rates.

- **XC219 Buttevant:** Additional measures to protect fish species and white-clawed crayfish include:
    - Where culverts are to be installed, the area will be dewatered to provide a dry working area. The Pepperhill River and the ditch at Buttevant will have culverts installed at separate times so that flows can be maintained downstream during the installation.
    - Culverts will be pre-fabricated and clean, so as to avoid concrete washings contamination.
    - Netting, sandbags and/or dumpy-bags filled with rock will be installed upstream to prevent fish travelling downstream into the working area.
    - Fish will be removed from the working area through electrofishing and moved upstream of the dammed area.
    - Hand searches will be conducted and any crayfish found will be removed and moved upstream of the dammed area.
    - Water will then be over-pumped continually to ensure a dry working area with use of a silt buster to avoid sediment from becoming suspended within the watercourse.
    - Additional in-stream measures, such as straw bales and oil booms to ensure there is no downstream impact as a result of the installation process.
    - Once construction is completed, the watercourse will be re-wetted under the direction of an ECoW with water released slowly and silt mats, sediment traps and haybales used to avoid a sudden influx of sediment to the system. A silt buster will be used where required.

12.5.17. With regard to Kilcolman Bog, no generic project-wide mitigation measures are proposed. Specific mitigation measures are proposed as XC219 Buttevant, as follows:

- **XC219 Buttevant:** Where timing of works cannot be completed outside the critical period (October – March), the following measures to mitigate the disturbance impacts to whooper swan foraging in the vicinity of the site will be required:

- The existing treeline along the R522 road must be retained in order to act as natural visual screen along the works area.
- If the treeline cannot be retained, then non-transparent visual screening will be erected along the north of the works area to hide the construction works and the movement of machinery/workforce to minimise disturbance to whooper swan.
- Screening must be installed in early September to ensure the site/works are screened before the main migration period (October).
- Fencing should be of adequate height to screen the works area (2 – 3m) or as advised by an experienced ecologist.
- Screening will remain in place for the duration of the works.
- EcoW will supervise the erection of the screening (if natural screening cannot be retained) and provide guidance to the appointed contractor(s) through a toolbox talk ensuring these measures are effective. ECoW will make regular checks of the screening throughout the works to ensure it is maintained in good condition and working order.

12.5.18. While Section 5.3.5 of the NIS identifies the need for mitigation measures to address the risk of introducing or spreading crayfish plague during construction, no such specific measures are set out in the NIS or the CEMP[13]. The biosecurity measures required to mitigate this potential effect are well understood, and primarily comprise the prior cleaning and disinfection of construction equipment that will be used in the vicinity of watercourses. Should the Board be minded to grant the Railway Order, I recommend that a condition be included requiring that the CEMP be updated to include such biosecurity measures. The required measures comprise good practice construction methods for works in the vicinity of watercourse and the implementation of these measures, in conjunction with the proposed supervision of works by an ECoW, would be sufficient to ensure no reasonable doubt as to the effectiveness or implementation of said measures to mitigate this potential effect on white-clawed crayfish.

[13] Biosecurity is addressed in Chapter 16 of the EIAR, 'Cross-Cutting Themes', but primarily in the context of livestock diseases.

12.5.19. A number of submissions noted the proximity of European Sites to Ballyhea village (i.e. XC212 Ballycoskery) and contended that there would be a gross intrusion on this landscape. The sites in question are the Blackwater River (Cork/Waterford) SAC and the Ballyhoura Mountains SAC, with observers querying potential impacts on hen harriers. As noted by Dr Coyle in her submission at the oral hearing (Ref. 8), both sites were considered within the AA Screening, with the Ballyhoura Mountains SAC screened out due to the lack of hydrological link. The qualifying interests of that SAC are terrestrial habitats, not hen harrier. Regardless, as noted by Dr Coyle, there is a lack of suitable habitat within or in proximity to XC212 Ballycoskery to support hen harrier.

12.5.20. Limerick County Council did not raise any issues with regard to Appropriate Assessment, while Cork County Council recommended that the identified mitigation measures be incorporated into the CEMP and adhered to in full. The applicant's response at the oral hearing was that all mitigation measures contained in both the EIAR and NIS would be incorporated into the final CEMP and adhered to in full.

12.5.21. With regard to the design of the proposed box culverts at XC219, Cork County Council contended that these culverts should be redesigned as arched culverts with mammal ledges as per NRA Guidelines for the Crossing of Watercourses During Construction of National Road Schemes, in order to protect and enhance local biodiversity. This matter was also raised at the oral hearing, and the applicant submitted a copy of an agreement with Cork County Council (Ref. 23) and an updated schedule of mitigation measures, (Ref. 31A) which I consider adequately addresses the matters raised by the local authority:

> *"In addition, specific control measures are required for the installation of the proposed culverts to the west of the railway. The culverts will be pre-fabricated and clean, so as to avoid concrete washings contamination. The water bodies will be dammed and the water pumped over the installation area to avoid the transportation sediment downstream. Additional in-stream measures will also be deployed, such as straw bales and oil booms to ensure there is no downstream impact as a result of the installation process.* ***The culverts will be embedded and the natural beds of the waterbodies allowed to re-establish naturally following installation and the removal of the upstream dam. The culvert will be fitted with a mammal ledge,***

ledges shall be at least 500mm wide, constructed at least 150mm above the 1 in 5 year flood event, and allow at least 600mm headroom*."*
[Additional text in bold].

12.5.22. Finally, with regard to the areas of identified Annex I habitat that it is proposed to translocate, I note that these areas are not within or in the vicinity of a European Site for which those habitats are a qualifying interest and therefore this matter is addressed in the EIA section of this report, under the heading of biodiversity.

12.5.23. In conclusion, I consider that the proposed measures outlined in the NIS to mitigate the potential effects on the Blackwater River (Cork/Waterford) SAC primarily comprise relatively standard good practice measures for construction works, and in particular for such works in the vicinity of watercourses. I consider that the proposed measures, as expanded upon at the oral hearing, as well as the construction methodology outlined in the application and CEMP are suitably detailed to remove any lack of clarity regarding potential adverse effects and that they are capable of being successfully implemented. As noted above, I consider that additional mitigation measures are required to prevent the introduction of crayfish plague, and I recommend that this be addressed by way of condition. Finally, I note that it is also proposed to appoint an Ecological Clerk of Works to ensure that the mitigation measures and best practice measures are fully implemented.

12.5.24. Similarly, with regard to the proposed measures outlined in the NIS to mitigate the potential effects on Kilcolman Bog SPA, these are sufficiently detailed and essentially comprise various levels of safeguarding to ensure that adequate visual screening is maintained to avoid disturbance effects on Whooper Swans that may be foraging in the vicinity. I am satisfied that these measures, to be supervised by an ECoW, will be sufficient to ensure no adverse effects on this QI bird species.

12.5.25. **Integrity test**

12.5.26. Following the appropriate assessment and the consideration of mitigation measures, I am able to ascertain with confidence that the project would not adversely affect the integrity of the Blackwater River (Cork/Waterford) SAC (002170) or Kilcolman Bog SPA (Site Code 004095) in view of the Conservation Objectives of those sites.

12.5.27. This conclusion has been based on a complete assessment of all implications of the project alone and in combination with plans and projects.

12.6. Appropriate Assessment Conclusion

12.6.1. The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000, as amended.

12.6.2. Having carried out screening for Appropriate Assessment of the project, it was concluded that it may have a significant effect on the Blackwater River (Cork/Waterford) SAC (002170) or the Kilcolman Bog SPA (Site Code 004095). Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of those sites in light of their conservation objectives.

12.6.3. Following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of European site Nos. 002170, 004095, or any other European site, in view of the sites' Conservation Objectives.

12.6.4. This conclusion is based on a full and detailed assessment of all aspects of the proposed development including proposed mitigation measures in relation to the Conservation Objectives of Blackwater River (Cork/Waterford) SAC (002170) and the Kilcolman Bog SPA (Site Code 004095) and an assessment of likely in-combination effects with other plans and projects. No reasonable scientific doubt as to the absence of adverse effects on the integrity of the Blackwater River (Cork/Waterford) SAC (002170) or the Kilcolman Bog SPA (Site Code 004095).

13.0 Recommendation

13.1. I recommend that the Railway Order be granted, subject to conditions, for the reasons and considerations set out below.

14.0 Reasons and Considerations

In coming to its decision, the Board had regard to:

(a) the nature, scale and extent of the proposed development,

(b) the characteristics of the sites and of the general vicinity,

(c) national, regional and local policy support for improvements to railway and road safety and regional accessibility and connectivity, including:

- National Planning Framework, 2018,
- National Development Plan 2021 – 2030,
- National Investment Framework for Transport in Ireland,
- Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009 – 2020,
- Climate Action Plan, 2023
- Regional Spatial and Economic Strategy for the Southern Region
- Limerick City and County Development Plan, 2022 – 2028,
- Cork County Development Plan 2022 – 2028,

(d) The Draft Railway Order and supporting documents and drawings submitted with the application, including the Environmental Impact Assessment Report and the Natura Impact Statement, and the documentation submitted at the oral hearing,

(e) the submissions on file including those from prescribed bodies, the relevant local authorities, the observers and persons affected by the proposed land acquisition, and the submissions made at the oral hearing,

(f) the report of the Inspector.

Environmental Impact Assessment

The Board completed an Environmental Impact Assessment of the proposed development taking into account:

(i) the nature, scale and extent of the proposed development,

(ii) the Environmental Impact Assessment Report and associated documentation submitted in support of the application,

(iii) the submissions made in the course of the application and at the oral hearing; and

(iv) the Inspector's report.

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment.

The Board agreed with the examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the applicant and submissions made in the course of the application.

The Board considered, and agreed with the Inspector's reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- **Population and Human Health:** Potential significant construction phase noise and traffic effects on human health will be mitigated through compliance with a Construction Environmental Management Plan, Construction Traffic Management Plan and best practice construction methods.
- **Biodiversity:** Potential significant effects during the construction phase on mammals, amphibians, birds, bats, aquatic species and habitats (including Annex I habitat at XC212 Ballycoskery and XC219 Buttevant) due, primarily, to disturbance, displacement, loss of foraging/commuting/roosting/breeding habitats, surface water pollution, introduction of disease or spread of invasive species. Potential continued significant effects on birds and bats during the operational phase due to loss of foraging and commuting habitats and

permanent loss of Annex I habitats. These potential effects will be mitigated through standard good practice construction measures, timing of vegetation removal, water pollution prevention measures, provision of bird nest boxes, replacement habitat planting, translocation of Annex I habitats, biosecurity measures and the implementation of a Construction Environmental Management Plan overseen by an Ecological Clerk of Works. Further pre-commencement otter, badger and bat surveys are also proposed and in the operational phase, a SuDS drainage system is proposed to mitigate potential water pollution impacts.

- **Land, Soils, Water, Air and Climate:** Potential significant effects on soils, private groundwater-fed water supplies and groundwater due to accidental spillages of pollutants or excavation of existing contaminated land. Potential significant effects on water due to increased sediment loading of watercourses, surface water pollution due to accidental spillages, geomorphological impacts, increased run-off and requirement for in-stream works. Potential significant noise effects on a number of receptors during certain phases of construction. These effects will be mitigated by a series of best practice construction management, waste management and pollution prevention measures, noise management and other specific measures outlined in the EIAR and Construction Environmental Management Plan.
- **Material Assets, Cultural Heritage and the Landscape:** Potential temporary significant effects on traffic and transportation during the construction phase due to HGV traffic and associated severance, delay and safety issues which will be mitigated through the use of best practice construction traffic management measures, including the implementation of a Construction Traffic Management Plan. Moderate to significant effects on features of local cultural heritage importance associated with the railway and potential unknown impacts on possible subsurface archaeological remains. This will be mitigated through archaeological testing and monitoring during the construction phase and detailed recording of features to be removed. Potential significant visual impacts which will be mitigated through landscaping planting and use of appropriate materials.

The Board completed an environmental impact assessment in relation to the proposed development and concluded that, subject to the implementation of the mitigation measures set out in the Environmental Impact Assessment Report, and subject to compliance with the conditions set out below, the effects on the environment of the proposed development, by itself and in combination with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

Appropriate Assessment - Stage 1

The Board considered the Natura Impact Statement and all the other relevant submissions and carried out both an Appropriate Assessment screening exercise and an Appropriate Assessment in relation to the potential effects of the proposed development on designated European Sites. The Board agreed with and adopted the screening assessment and conclusion carried out in the Inspector's report that the only European sites in respect of which the proposed development has the potential to have a significant effect are the Blackwater River (Cork/Waterford) SAC (Site Code 002170) and the Kilcolman Bog SPA (Site Code 004095).

Appropriate Assessment – Stage 2

The Board considered the Natura Impact Statement and associated documentation submitted with the application, the mitigation measures contained therein, the submissions on file, and the Inspector's assessment. The Board completed an Appropriate Assessment of the implications of the proposed development for the two European Sites, namely, the Blackwater River (Cork/Waterford) SAC (Site Code 002170) and the Kilcolman Bog SPA (Site Code 004095), in view of the sites' conservation objectives. The Board considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment. In completing the Appropriate Assessment, the Board considered, in particular, the following:

(i) the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,

(ii) the mitigation measures which are included as part of the current proposal, and

(iii) the conservation objectives for the European Sites.

In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites, having regard to the sites' Conservation Objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the sites' Conservation Objectives.

Proper Planning and Sustainable Development

It is considered that, subject to compliance with the conditions set out below, the proposed development would accord with national, regional and local planning and related transport policy, would not have an unacceptable impact on the landscape or biodiversity of the area, would not seriously injure the visual or residential amenities of the area or of property in the vicinity, and would result in improvements to road traffic and railway safety, reliability and efficiency. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

15.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars received by An Bord Pleanála on the 31st day of March 2022, except as may otherwise be required in order to comply with the following conditions.

   Reason: In the interest of clarity.

2. The following modifications are made to the Railway Order:

   (i) The agreements reached between Iarnród Éireann and Limerick City and County Council and between Iarnród Éireann and Cork County Council, which were submitted at the oral hearing on the 27th September 2022 and on the 28th September 2022, respectively, shall be included in the Seventh Schedule of the Railway Order.

(ii) The Book of Reference and the Second and Third Schedules of the Railway Order shall be updated to reflect the changes in the corrigenda list contained in Appendix 1 of the submission entitled 'Property Referencing' which was submitted at the oral hearing on the 27th September 2022.

(iii) An Eighth Schedule, entitled 'Conditions, Modifications, Restrictions and Requirements' shall be added to the Railway Order and shall consist of the Board's reasoned conclusion and the conditions hereby attached to the grant of the Railway Order.

Reason: In the interests of clarity and the proper planning and sustainable of the area.

3. All of the environmental, construction and ecological mitigation and monitoring measures set out in the Environmental Impact Assessment Report, the Natura Impact Statement and other particulars submitted with the application, as amended by the revised Schedule of Mitigation submitted at the oral hearing on the 28th September 2022, shall be implemented by the developer in conjunction with the timelines set out therein, except as may otherwise be required in order to comply with the conditions of this order.

   Reason: In the interest of clarity and the protection of the environment during the construction and operational phases of the development.

4. The proposed retaining wall facing Ballyhea National School and the parapets to the proposed overbridge at XC212 Ballycoskery shall be finished with natural stone cladding.

   Reason: In the interest of visual amenity.

5. Road surfacing works associated with the proposed development at XC212 Ballycoskery shall take place during school holidays.

   Reason: In the interest of proper planning and sustainable development.

6. The proposed development at XC212 Ballycoskery, including corner radii and pedestrian infrastructure, shall be compliant with the relevant provisions of the Design Manual for Urban Roads and Streets (DMURS). A report and

drawings demonstrating compliance shall be placed on the file and retained as part of the public record.

Reason: In the interest of traffic safety and proper planning and sustainable development.

7. At XC219 Buttevant, a gated agricultural entrance shall be provided for the residual plot of land which is located to the north of the proposed realigned R522 and east of the railway line, which would be severed from the main landholding as a result of the permanent acquisition of plot XC219.P.03 as identified on the Railway Order maps.

   Reason: In the interests of orderly development.

8. A condition survey and road safety audit of Ballinscaula Bridge and its approaches shall be undertaken by the developer prior to the commencement of development and the developer shall make a financial contribution to the planning authority towards the costs of any remedial works identified, in accordance with section 44(2)(g) of the Transport (Railway Infrastructure) Act 2001, as amended. In the absence of agreement on any required contribution, the matter shall be referred to An Bord Pleanála to determine. A copy of the condition survey and road safety audit shall be placed on the file and retained as part of the public record.

   Reason: In the interest of traffic safety.

9. Drainage arrangements, including the attenuation and disposal of surface water, shall comply with the requirements of the planning authorities for such works in respect of both the construction and operation phases of the proposed development.

   Reason: In the interest of environmental protection and public health.

10. The construction of the development shall be managed in accordance with a Construction Environmental Management Plan, which shall be prepared in consultation with the two planning authorities, National Parks and Wildlife Service, Inland Fisheries Ireland and the Office of Public Works. This plan shall provide details of intended construction practice for the development

with measures to reflect mitigation described in the submitted EIAR and NIS for the application, in addition to the following:

(a) A detailed method statement for the translocation of the Annex I habitats at XC212 Ballycoskery and XC219 Buttevant prepared by a suitably qualified ecologist and hydrologist, to include site investigation, required site preparatory works, translocation methodology, monitoring protocols and on-going site management procedures and shall be implemented.

(b) A detailed method statement for culvert installation at XC219 Buttevant to include details of the damming and over pumping arrangement and flow calculations to ensure that the rate of pumping is appropriate and does not result in the mobilisation of sediment in the receiving water.

(c) An extended surface water monitoring regime shall be put in place at XC219 Buttevant for a period of 6 months following completion of the works to ensure that the natural re-establishment of the watercourse features is effective.

(d) No removal of vegetation shall take place between 1st March and 31st August, inclusive.

(e) Biosecurity measures to address the risk of introducing or spreading crayfish plague during construction in line with best practice guidance on this matter.

(f) Dust Management Plans, including dust monitoring at Ballyhea National School during the construction phase.

(g) A communications strategy to keep Cork County Council and Limerick City and County Council appraised of the progression of the project through the submission of quarterly progress updates.

(h) Location of the site and materials compounds including areas identified for the storage of construction waste, excavated materials, fuels, oils and chemicals;

(i) Location of access points to the site for any construction related activity;

(j) Location of areas for construction site offices and staff facilities;

(k) Details of site security fencing and hoardings;

(l) Details of on-site car parking facilities for site workers during the course of construction;

(m) Details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site;

(n) Measures to obviate queuing of construction traffic on the adjoining road network;

(o) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network and for the cleaning of the same;

(p) Alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public road or footpath during the course of site development works;

(q) Details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;

(r) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater;

(s) Off-site disposal of construction/demolition waste and details of how it is proposed to manage excavated soil;

(t) Means to ensure that surface water run-off is controlled such that no silt or other pollutants enter watercourses, surface water sewers or drains.

(u) A record of daily checks that the works are being undertaken in accordance with the CEMP shall be kept for inspection by the planning authority.

Reason: In the interest of amenities, public health and safety.

11. The site development and construction works shall be carried out such a manner as to ensure that the adjoining roads are kept clear of debris, soil and other material and cleaning works shall be carried on the adjoining public roads by the developer and at the developer's expense on a daily basis.

Reason: To protect the residential amenities of property in the vicinity.

12. Site development and building works shall be carried out only between the hours of 0800 to 1800 Mondays to Fridays inclusive, between 0800 to 1300 hours on Saturdays and not at all on Sundays or public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.

    Reason: In order to safeguard the amenities of property in the vicinity.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Niall Haverty
Senior Planning Inspector

29th May 2023

Appendix 1: List of Observers and Objectors

No.	Last Name	First Name / Rep.	Agent
1	Ballyhea National School	James O'Brien	-
2	Beechwood Drive Residents Association	Michael Copps and Others	-
3	Carey	Councillor PJ	-
4	Clery and Others	Gabriel	-
5	Clifford	Joseph, Ann and Donie	-
6	Clifford (Effin and Garrienderk Community)	Joseph	-
7	Collins TD	Niall	-
8	Copps and Others	David	-
9	Davern	Nora and Eamonn	-
10	Davern	Patrick and Nodhlaig	-
11	Donegan and Other Councillors (Cappamore Kilmallock Municipal District)	Councillor Michael	-
12	Doyle	Councillor Ian	-
13	Dundon and Others	John	-
14	Effin GAA Club	Donal Kelly	-
15	Egan	Geraldine	-
16	Fleming	David	-
17	Hanley	Noel	-
18	Houlihan and Others	Betty	-
19	Kennedy and Reilly	Michael and Deirdre	Matthew J. Nagle Solicitors
20	Leahy	Bernadette	-
21	Lowell and Others	Hilton	-
22	Lucey	Daniel	Frank Ross Consulting Engineer
23	Mackessy and Others	Michael	-
24	O Riordan - Cork Older Age Council	Maurice	-
25	Mc Dermott	Michael and Bridie	-
26	Mc Inerney	Maria	-

27	Mc Namara	Denis and Geraldine	-
28	Mc Namara - Sihra	Margaret	-
29	Moore	Colm	-
30	Morrissey	Patrick and Helen	-
31	Mortell and Others	John	-
32	O Connor	Nuala and Joe	-
33	O' Connor	Aidan	-
34	O' Connor	Councillor Sean	-
35	O Donoghue TD	Richard	-
36	O Donovan TD	Patrick	-
37	O Keeffe	Jerome	-
38	O Kelly (Ballyhea Community Hall Committee)	Michael	-
39	O Kelly and Others	Michael	-
40	Ryan	Billy and Mary	Hickey Fitzgerald Solicitors
41	Ryan and Other Councillors	Councillor Eddie	-
42	Scoil Naisiunta Mhuire	Anne-Maria Murphy	-
43	Sihra	Melissa	-
44	Trustees of The Diocese of Cloyne - Folio - 146747F	James O'Brien	-
45	Trustees of The Diocese of Cloyne - Folio - CK25282F	James O'Brien	-
46	Trustees of The Diocese of Cloyne - Folio - CK28756	James O'Brien	-
47	Trustees of The Diocese of Cloyne - LDG - 041555-21	James O'Brien	McCutcheon Halley
48	Trustees of The Diocese of Cloyne - Various Reg Lands	James O'Brien	McCutcheon Halley

Appendix 2: List of Observers and Objectors at Further Information Stage

No.	Last Name	First Name / Rep.	Agent
1	Trustees of the Diocese of Cloyne	James O'Brien	McCutcheon Halley
2	Board of Management of Ballyhea National School	Maria O'Hanlon McInerney	-

Appendix 3: List of Documents Submitted at Oral Hearing

Ref. No.	Submitted by	Presenter	Topic
1	Iarnród Éireann	David Vaughan	Opening statement & background
2	Iarnród Éireann	Gerry Healy	Brief of Evidence – Overview of Railway Order and Railway works
3	Iarnród Éireann	David Dineen	Property referencing
4	Iarnród Éireann	Rory Mc Donnell	Brief of Evidence - Planning
5	Iarnród Éireann	Rory Mc Donnell	Brief of Evidence – EIA Co-ordination
6	Iarnród Éireann	Heidi Sewnath	Brief of Evidence – EIAR, Population, Health & Surface
7	Iarnród Éireann	Dr. Susie Coyle	Brief of Evidence - Biodiversity
7a	Iarnród Éireann	Dr. Susie Coyle	Mitigation Strategy
8	Iarnród Éireann	Dr. Susie Coyle	Brief of Evidence – Natura Impact Statement
9	Iarnród Éireann	Gerry Healy	Agreement between Iarnród Éireann and Limerick City and County Council
10	Iarnród Éireann	Colin Wyllie	Brief of Evidence – Traffic and Transport
11	Iarnród Éireann	David Dineen	Brief of Evidence – Property Referencing
12	Iarnród Éireann	Chris Conroy	Brief of Evidence – Noise and Vibration
13	Iarnród Éireann	Bryn Coldrick	Brief of Evidence – Cultural Heritage
14	Iarnród Éireann	Richard Barker	Brief of Evidence – Landscape and Visual
15	Patrick O'Donovan TD	Sean Brosnahan	Brief of Evidence
16	Mike Donegan	Mike Donegan	Brief of Evidence
17	Gabriel Clery	Gabriel Clery	Brief of Evidence
18	Ballyhea National School – Board of Management	Marie O'Hanlon-Mc Inerney	Brief of Evidence
18a	Ballyhea National School – Board of Management	Marie O'Hanlon-Mc Inerney	Brief of Evidence
19	Trustees of the Diocese of Cloyne	Mary O'Connor	Brief of Evidence – Ecology
20	Trustees of the Diocese of Cloyne	Denis Mc Namara	Brief of Evidence – Bats
21	Michael O'Kelly	Michael O'Kelly	Brief of Evidence

Ref. No.	Submitted by	Presenter	Topic
22	Cork County Council Age Action Group	Maurice O'Riordan	Brief of Evidence
23	Iarnród Éireann	Gerry Healy	Agreement between Iarnród Éireann and Cork County Council
24	Hilton Lowell	Hilton Lowell	Brief of Evidence
25	Noel & Margaret Hanley	Michal O'Kelly	Brief of Evidence
26	Noel & Margaret Hanley	Michal O'Kelly	Brief of Evidence – Report by Big Hill Associates
27	Bernadette Leahy	Bernadette Leahy	Brief of Evidence
28	Iarnród Éireann		LVIA submissions responded to numbered within precis
29	Ballyhea Community Hall Committee	Geraldine Egan	Brief of Evidence
30	Iarnród Éireann		Schedule of Mitigation updates – 28/09/22
31	Iarnród Éireann		Appendix 1L: Schedule of Mitigation – March 2021
31A	Iarnród Éireann		Appendix 1L: Schedule of Mitigation – September 2022
32	Iarnród Éireann		Statutory Instruments – SI No. 743 of 2021