IN THE MATTER OF AN APPLICATION TO
AN BORD PLEANÁLA

FOR APPROVAL OF THE FOYNES TO LIMERICK ROAD (INCLUDING ADARE BYPASS) COMPRISING:

(I) FOYNES TO RATHKEALE PROTECTED ROAD SCHEME, 2019;

(II) RATHKEALE TO ATTYFLIN MOTORWAY SCHEME, 2019;

(III) FOYNES SERVICE AREA SCHEME, 2019.

ABP Ref. ABP-306146-19 and ABP-306199-19

ORAL HEARING

Brief of Evidence

Engineering - Part A

Summary of the Proposed Development
Project Need & Justification
Alternatives

By Seamus MacGearailt, B.Eng. C.Eng. F.I.E.I. F.Cons.E.I.,
Roughan & O'Donovan – Aecom Alliance Consulting Engineers

February 2021

1. QUALIFICATIONS AND EXPERIENCE

1.1. My name is Seamus Mac Gearailt. I am a Director of Roughan and O'Donovan Consulting Engineers. I qualified with an honours degree in Civil Engineering in 1986 from University College Dublin. I am a Chartered Engineer with over 30 years professional experience, in a wide variety of activities including transportation, buildings, bridges and environmental impact assessment.

1.2. I have prepared and directed numerous environmental impact assessments since the M1 Boyne Bridge at Drogheda in 1995, including for the Samuel Beckett Bridge in Dublin, the N4 Lucan Bypass Upgrade, the N2 Slane Bypass, and the Coonagh / Knockalisheen Distributor Road in Limerick for example.

2. ROLE IN THE PROPOSED DEVELOPMENT

2.1 I have been the project director for the ROD-AECOM design team on the Foynes to Limerick Road since March 2014. I have also carried out the role of Environmental Co-Ordinator. I am responsible for the overall direction of the design team for this project supported by a team of engineering and environmental professionals and various specialist environmental sub-consultants.

3. EVIDENCE TO THIS ORAL HEARING

3.1 I have prepared this Brief of Evidence in accordance with the directions of An Bord Pleanála as set out in the letter to the Applicant dated 17th December 2020. My evidence will be presented in parts as follows:

3.2 **<u>Evidence Part A:</u> Summary of the proposed road development**.

1) Project Need and Justification.
2) A summary of the assessment and appraisal of alternatives in the Stage 2 Route Corridor Options.

3.3 **<u>Evidence Part B:</u> Responses to the submissions received from other parties.**

Evidence Modules

3.4 My evidence to this oral hearing will be complemented by the evidence of various colleagues from the project team. For efficiency of the process we have arranged the presentation of the evidence by our witnesses in Modules on a thematic basis.

4. BRIEF SUMMARY OF THE PROPOSED DEVELOPMENT

4.1 The proposed road development will achieve two key objectives:

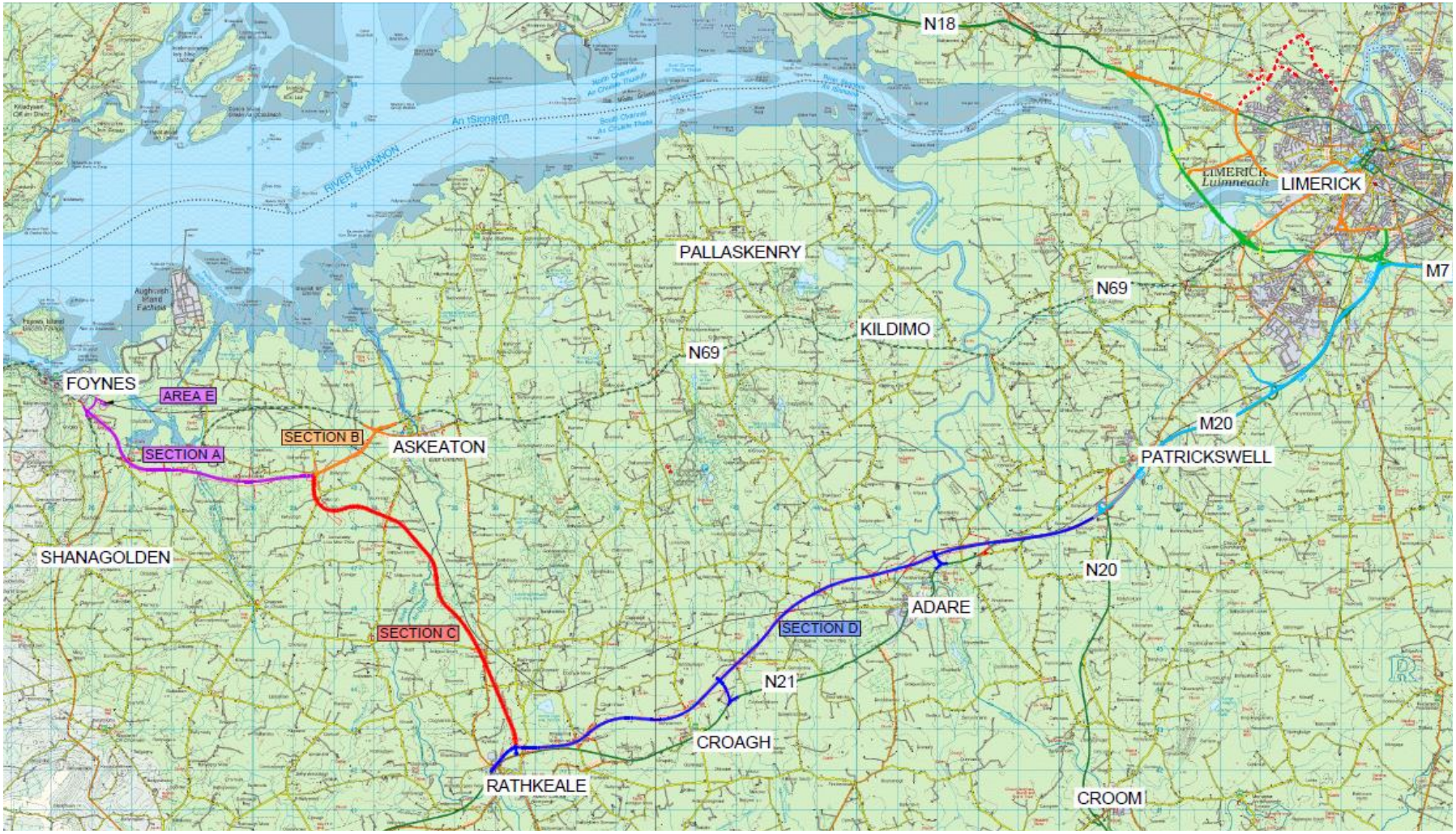
a. It will provide a much-needed bypass for the village of Adare, a significant traffic bottleneck with long traffic delays, and

b. It will provide a high-quality road to the Port of Foynes , which is a key priority, for the Mid-West Region of Ireland.

4.2 A high-quality access route to Shannon-Foynes Port is required by public policies at European, National, Regional and Local levels, as outlined further in in the statement prepared on behalf of the Applicant in respect of Planning Policy.

Slide 1 (EIAR Figure 1.1)

The map on screen shows the proposed road development in relation to the area between Foynes and Limerick, with the towns and villages highlighted, and the 4 sections of the route labelled A to D.



4.3 The proposed road development comprises 4 elements:

1) 15.6km of Type 2 Dual Carriageway Protected Road, (see sections A and C below) extending from Foynes to Rathkeale, **Sections A and C**,
2) 1.9km of Single Carriageway link road to Askeaton, **Section B**,
3) 17.5km of Dual Carriageway Motorway from Rathkeale to Attyflin east of Adare, **Section D**, and
4) A terminal Heavy Goods Vehicle rest area adjacent to Foynes Port, **Area E**.

Section A of the proposed road development commences south of the village of Foynes in the townlands of Corgrig and Ardaneer on the N69 National Secondary Road (Limerick to Tralee) and extends south and eastwards for 6.3km towards the townland of Ballyclogh 2km west of the town of Askeaton.

At the townland of Ballyclogh, a roundabout junction will be provided where there will be two branches: Section B eastwards to Askeaton, and Section C south-eastwards to Rathkeale.

Section C: From Ballyclogh the main route will head south-east over a length of 9.3km towards the town of Rathkeale, where it will join with the existing N21 (Limerick to Tralee) road on the northern outskirts of the town.

Sections A and C will comprise a "**Protected Road**" as defined in the Roads Acts. This designation will ensure that there is no direct access to the proposed road development other than at controlled junctions and, thus, it will meet the requirements of the EU TEN-T Regulation for an 'Express Road'.

In combination, Sections A and C of dual carriageway road from Foynes to Rathkeale will be 15.6km long.

A terminal service area for heavy goods vehicles (HGVs) will be provided at the western end of this section of the proposed road development, immediately beside the entrance to Shannon-Foynes Port. This facility will enable drivers of HGVs to take a rest and avail of shower and toilet services at the beginning or end of their journey on the road network.

Section B: An eastward branch will extend from the Ballyclogh junction for 1.9km as a single carriageway road to connect with the existing N69 route at the western edge of the town of Askeaton.

Section D: Extending eastward from the Rathkeale Junction, there will be a new motorway section of the M21, over a length of 14.0km from Rathkeale to Monearla east of Adare, where it will join the existing N21 high-quality Single Carriageway. From Monearla to Attyflin, the existing N21 Single Carriageway section of the road will be

upgraded to motorway for a distance of 1.5km, and the existing 2km section of dual carriageway will be reclassified to motorway.

At Attyflin, the proposed M21 will link with the existing M20 Motorway for onward connection to the Limerick Southern Ring Road, and further along the M7 north-eastwards to Nenagh and beyond, or north-westwards along the N18 towards Ennis and Galway.

The overall length of Section D of the proposed road development is 17km.

4.4 There will be a total of 64 bridge structures in the proposed road development:

- 5 significant river bridges, (see Slide 2 showing, for example, proposed bridges at Robertstown, the River Deel Bridge, and the River Maigue Bridge).
- 18 other river and stream bridges,
- 3 bridges over the Foynes to Limerick Railway line,
- 16 overbridges and underbridges for existing roads and access tracks; (see Slide 3 at Ballingarrane and Clonshire Beg) and
- 22 underpasses.

Slide 2: Large River Bridges

Ref: EIAR Volume 5A Photomontages Pages 12 and 16, and Volume 5B Page 22.

Robertstown Bridge

River Deel Bridge

River Maigue Bridge

Slide 3: Underbridges

Ref: EIAR Volume 5A Photomontages Page 24, and Volume 5B Page 14.

View east on L-6132 at Ballingarrane VP10

View north on L-8024 at Clonshire Beg VP21

4.5 The proposed road development will also include 7 junctions (see Slide 4 for example the roundabouts at the proposed Croagh and Adare Junctions). Two of these will be grade-separated junctions at Adare and Croagh, including structures, link roads and roundabouts. The other 5 junctions will be at-grade roundabout type junctions, providing access points at Foynes, Ballyclogh, Askeaton, and two at Rathkeale.

Slide 4 Junctions

Ref: EIAR Volume 5B Photomontages Pages 8 and 26.

View west on N21 of Croagh Junction VP18

View north on N21 at Adare Junction VP27

4.6 As set out in various sections in the Environmental Impact Assessment Report, (EIAR) the proposed development delivers many benefits including the following:

a) It provides an EU TEN T Regulation standard of access to the CORE port of Shannon Foynes and an efficient and safe link to the national road network at Limerick which will facilitate the port to grow significantly.

b) It implements an important part of the TEN-T Network in the Limerick area, which will improve the integration of Ireland with the rest of the European Union, especially in the new context with a need for more direct shipping links that bypass Britain.

c) The new roads will provide key transport links across central Limerick to assist regional development with improved journey times and reliability.

d) Public transport services will benefit with shorter and more reliable journey times.

e) The new roads will bypass 6 urban settlements, Adare and Croagh on the N21, and a necklace of 4 villages along the N69 at Mungret, Clarina, Kildimo and Kilcornan, which will improve the quality of life for those communities through reduced traffic congestion and associated noise and air pollution.

f) Road safety will be improved along two key routes.

g) Conditions will improve for all modes of local travel including cycling and walking, through reduced traffic volumes, particularly a reduction of HGV's, on the existing roads.

4.7 In terms of economic efficiency, the proposed development provides for a single combined 35km long route comprising part of both the TEN-T Core and Comprehensive networks, compared to two separate routes with an aggregated overall length of 57km. The single combined route was primarily proposed to avoid a proliferation of local environmental constraints, and also has the benefit of requiring the use of fewer resources/materials and being a much more carbon efficient scheme.

5. PROJECT NEED & JUSTIFICATION

5.1 In the Information provided for the Applicant, An Bord Pleanála requested that a submission should deal specifically with the following matter:

> *"Project Need / Justification and Scale in both the current environment and in the long-term taking into account policy changes relevant to climate change, modal shift and travel patterns and more sustainable use of resources and energy."*

5.2 In that regard my evidence will address part of the case for the proposed roads development in the following respects:

a) Project *Need / Justification and Scale in the current environment* in relation to the inadequacies of the existing roads to serve the transport requirements. The scale of the proposed roads will be explained in terms of both length and width, and the associated earthworks required to traverse the topography of the route.

b) *Sustainable use of resources and energy* in respect of the embedded carbon involved in the construction of the proposed new road links. This factor is relevant to the Climate Change topic in terms of the greenhouse gas emissions associated with the construction stage.

5.3 The Applicant's submission shall be completed by the following evidence:

a) extensive policy support relevant to the Project Need and Justification,

b) traffic volumes, both existing and the projected future traffic demands, associated with the planned growth of the Mid-West and South-West Regions, including provision for the expansion of Foynes Port,

c) potential for modal shift and travel patterns associated with the proposed road and railway infrastructure between Foynes, Rathkeale and Limerick City,

d) transport emissions relevant to consideration of potential impacts on Climate Change during the operation of the proposed new roads.

5.4 Existing Roads Conditions

5.4.1 The EIAR outlined the significant inadequacies of the existing N69 and N21 National Roads to serve the transport requirements of the Mid-West and South-West Regions of Ireland. I just wish to briefly highlight these existing deficiencies for context.

Traffic Pressures and Road Safety on the N69

5.4.2 The alignment quality and frequency of junctions and accesses along the existing N69 National Secondary Road barely meets the requirements of the lowest road type provided for in the TII Design Standards, which is a Type 3 Single Carriageway. Such a road should have a safe traffic capacity of just 5,000 vehicles per day (AADT) in accordance with the design standards. Already the traffic volumes along this road in 2017 ranged from 6,350 near Foynes (27% above 5,000) to 11,750 near Limerick.

This severe traffic pressure contributes to the very poor road safety record along the route, with collision rates that are more than twice the national average. These collisions occur in numerous locations along the route such as at the many junctions and accesses, or at some of the sharp bends.

5.4.3 The existing N69 is not a safe or suitable road for pedestrians and cyclists in the absence of hard shoulders, or even proper verges in many places. The current conditions are shown in Slides 5 and 6. This has severe implications for the many people who live along the rural sections of the route, and in dispersed settlements such as Kilcornan which has no footpaths, for access by the community, to the local school or church.

5.4.4 It is untenable that such a poor-quality road could cater for the necessary growth of HGV traffic to Foynes Port as envisaged in the numerous planning policies.

Slide 5 (EIAR Ref.: Plates 2.26 and 2.30)

Slide 6 (EIAR Ref.: Plates 2.31, 2.32 and 2.33)

Traffic Pressures and Road Safety on the N21

5.4.5 Apart from the 5 km long section through Adare, the existing N21 is a good quality road with an alignment and Type 1 Single Carriageway cross-section that meets the TII Standards, which has a safe traffic capacity of 11,600 vehicles per day (AADT). However, the traffic volumes along this road in 2017 ranged from 13,900 at Croagh to 15,700 west of Adare (20% to 35% above capacity). This traffic pressure contributes to significant congestion in Adare as shown in Plates 7 and 8 (overleaf) and has a very poor road safety record along the route, with collision rates that are, again, more than twice the national average. On such roads there is a particular risk of high-speed head-on collisions with a greater likelihood of fatalities.

5.4.6 Traffic calming with a 60km/h speed limit and safety features were provided at Croagh Village in the past decade to help improve road safety, especially for pedestrians crossing the road.

5.4.7 The shortcomings of the existing N21 and N69 National Roads already constrain the economic performance of these regions due to congestion, delays, and road safety risks for road users, as well as imposing significant environmental disbenefits for the local communities along these routes. This poor baseline situation provides an essential context for the appreciation of the *Need and Justification for the Project.*

Slide 7 (Not included in the EIAR)

Slide 8 (EIAR Ref.: 2.19, 2.20 and 2.21)

Previous Proposals for a Bypass of Adare

5.4.8 Limerick County Council previously sought planning consent in 2010 for a bypass of Adare on the southern side of the village as part of a wider plan linked with proposals for an M20 motorway between Limerick and Cork. For other reasons, the proposed

M20 scheme was withdrawn from consideration by An Bord Pleanála in 2011. Subsequently a revised application was submitted to the Board in 2012 for a bypass of Adare in advance of a fresh proposal for the M20. An Bord Pleanála refused to approve the proposed Adare Southern Bypass scheme in 2012 for the following reasons:

> *"Having regard to the decision to withdraw the proposed M20 application from the planning process together with uncertainty as to when, or if, any new application in respect of this development may be submitted, the Board considers that the proposed N21 development would, if permitted and constructed, constitute isolated infrastructure, would not represent a coherent approach to the provision of major roads infrastructure and, furthermore, would not have the potential to fulfil the functions envisaged for the Scheme. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area."*

5.4.9 As will be described in the Planning Evidence to follow, the rationale for refusing the previously proposed Adare Southern Bypass scheme was, that without the link to the future M20, the proposed Adare Bypass was deemed to be isolated infrastructure that would not fulfil its intended function. In this fresh proposal for a bypass of Adare as an integral part of the Foynes to Limerick Road, it will form part of a coherent and efficient national road network across central County Limerick that will deliver two elements of the EU TEN-T international transportation network.

5.5 Scale of the Proposed Road Development

5.5.1 The following section includes a description of the scale of the proposed roads in terms of their length, width (road cross-sections), and the associated earthworks required to traverse the topography of the route.

Length of the Proposed Road Scheme

5.5.2 As indicated earlier (in Section 4.7) if the two existing national roads were improved in isolation of each other, then regardless of the significant environmental challenges along the N69, there would be a total combined schemes length of 52km as follows:

- Foynes to Limerick along the existing N69: 34 km
- Rathkeale to Attyflin: 18 km

5.5.3 Instead, the required high-quality road links are achieved in a single road development that is 17km shorter than two stand-alone routes, which is a saving of 33% in terms of road length and the associated works and use of resources. Or another way of looking at it, the separate schemes would have been 49% longer than the proposal. In this respect it may be seen that the combined scheme is a sustainable development which provides a very significantly reduced scale of proposed road with significant savings in

the use of materials and less embedded carbon when compared to alternatives (including alternatives put forward in certain submissions made to the Board).

Proposed Road Cross-Sections

5.5.4 In Chapter 5 of the EIAR the existing and future traffic flows along the national roads in the mid-Limerick area are outlined. The following table provides the traffic flows along the key sections of the proposed roads.

Table 2.2a – Traffic Projections			
Section		**Existing Traffic (2017 AADT veh/day)**	**Future Traffic (2039 AADT veh/day)**
A	Foynes to Ballyclogh	6,350	8,350 (+2,400 on old road) 22% HGV
C	Ballyclogh to Rathkeale	n/a	5,950 26% HGV
D	Rathkeale to Attyflin	13,900 – 16,900	23,650 – 30,450 9.5% HGV

Ref: EIAR Chapter 5, Table 5.6, Page 5/20

5.5.5 The projected traffic flows are then compared to the capacity thresholds for different road types in accordance with the relevant design standard below.

Table 2.2b – Road Types and Capacities		
Road Type	**Width**	**Traffic Capacity (AADT)**
Type 3 Single	7.0m 6.0m + 0.5m hard strips	5,000
Type 2 Single	8.0m 7.0m + 0.5m hard strips	8,600
Type 1 Single	12.3m 7.3m + 2.5m hard shoulders	11,600
Type 2 Dual	16.6 2 x 7.0m + 0.5m hard strips	20,000
Type 1 Dual	21.6 2 x 7.0m + 2.5m hard shoulders	42,000
Motorway	21.6 2 x 7.0m + 2.5m hard shoulders	52,000

Ref: TII Road Design Standard DN-GEO-03031 Table 6.1

5.5.6 The existing N21 single carriageway between Rathkeale and Adare is already overloaded by 20% at the western end, and this worsens to the east of Adare. A Type 2 dual carriageway is currently required to cater safely for the current traffic flows.

5.5.7 From Tables 2.2a and 2.2b above, it is clear that Section D of the proposed road from Rathkeale to Attyflin which will carry a traffic flow of 30,450 by 2039 requires either a Type 1 Dual Carriageway or a Motorway cross-section, both of which are the same in terms of physical width. (A motorway has a higher capacity because of the exclusion of slow traffic and vulnerable road users for safety reasons). For consistency with the other main national routes, and for longer term capacity beyond the next two decades, a motorway is proposed.

5.5.8 For Sections A and C on the Foynes to Rathkeale link, the proportion of Heavy Goods Vehicles will be especially high at up to 26%. In simple traffic capacity terms a single carriageway road type could suffice on this part of the route. However, in the context of such high numbers of trucks, for safety reasons due to platooning of trucks and the need for safe overtaking, it is considered that a Type 2 Dual Carriageway would be a more appropriate road type. The additional width required is only 4.3m, which is less than 10% of the typical 50m wide overall footprint of the proposed road.

5.5.9 In light of the foregoing, it is clear that the scale of the proposed road development in terms of the proposed road types is appropriate for and proportionate to the traffic needs along the route.

Scale of Earthworks

5.5.10 Apart from the length and width of a proposed road scheme, the next most significant factor of scale is the earthworks. High-quality roads cannot have large numbers of junctions with other roads or railways and must be provided with bridges to pass over or under these features as well as over watercourses and floodplains with appropriate clearances. These factors largely determine the vertical alignment of the proposed new road. Normally the designer will seek to achieve an earthworks balance within the scheme by seeking firstly minimising the necessary embankments, and then finding opportunities for cuttings to source the fill material from.

5.5.11 In low-lying and fairly flat terrain such as the area of mid-Limerick along this route, it is very difficult to develop sufficient cuttings to provide the necessary volume of fill materials. In this case, there is a requirement for approximately 4 million m^3 of fill material for embankments along the route, however, 3 million m^3 of cut material is available, mainly from the two large cuttings at Mulderricksfield in Section A of the route near the western end, and at Ballycannon / Croagh in Section D, close to the middle of the route. Groundwater and drainage constraints preclude further extension of cuttings to provide an earthworks balance. Accordingly it will be necessary to import the deficit of 1 million m^3 of soils and rock materials from other sources in the region, as is described in the EIAR Chapter 4 Section 4.16.8.

5.5.12 In conclusion, in the design of the proposed road development every effort was made to minimise the scale of the necessary earthworks.

Extent of Bridges

5.5.13 As summarised earlier, there will be a total of 64 bridge structures in the proposed road development. Of these there are 22 minor underpasses for farm access, and 18 minor watercourse bridges, none of which are significant in terms of the scale of materials required. The remaining 24 larger structures consist of 5 river bridges, 3 railway bridges and 16 road bridges, at an average spacing of about 1.5km. Each bridge is necessary for the proposed high-quality roads to traverse the various obstacles along the route. In each case the spans of the structure have been carefully determined by the specific needs at the particular crossing.

5.5.14 There is no flexibility for railway and road bridges to deviate from the minimum clearance requirements horizontally and vertically, and the scale of these bridges are more or less standard, as may be seen widely across the existing major road network in Ireland.

5.5.15 For the 5 significant river bridges, the spans have been chosen with respect to the environmental requirements at each watercourse, such as flooding, wildlife passage and access links for the lands on either side of the proposed road. Side-spans are provided to give appropriate clearances along the river banks. Thus the lengths of the structures are as long as is necessary in each case. At the River Maigue, a particularly long central span of 94m is required to avoid intrusion into the ecologically sensitive area of river channel between the existing flood bunds that are set back along either bank, parallel to the river (see Slide 9).

Slide 9 – Proposed River Maigue Bridge (EIAR Ref.: Plate 4.63)

5.5.16 In summary, the number and size of the proposed bridges along the proposed road development is what is necessary and is perhaps a little below average for such road types in Ireland. In this respect the scale of the proposed road development is quite typical and is not excessive.

5.6 Resources and Energy Required for the Construction of the Proposed Roads

5.6.1 The Board has asked for evidence in relation to "*more sustainable use of resources and energy*".

5.6.2 In the context of a proposed road development, information as to the efficient and sustainable use of resources and energy is particularly relevant to the consideration f potential impacts on Climate Change topic in terms of the greenhouse gas emissions associated with the construction stage (and in respect of which evidence shall be presented later to the oral hearing).

5.6.3 The application documentation, and indeed this statement, has described the manner in which the design of the proposed road development has been optimised in order to minimise the scale of the works involved in terms of the length of the scheme. This particular factor is a design feature that results in a more sustainable use of resources and energy than providing two separate schemes as indicated at 5.5.2 above and is the most important determinant in reducing the quantum of embedded carbon involved in the construction of the proposed new road links.

5.6.4 In the Response to Further Information submitted to the Board in September 2020, the Applicant outlined various other design measures that will reduce the volume of carbon involved in the construction of the scheme, such as:

a) low-carbon cement in concrete production,

b) open channel drainage systems that minimise the use of manufactured and imported materials, and

c) the use of recycled materials in the road pavement.

5.6.5 In addition, during the operation stage, the very extensive planting of trees and woodland areas along the route will sequester carbon dioxide as an immediate offset to vehicle emissions for the first several decades. Thereafter, with the transition to a mostly electric fleet, which will eliminate emissions along the proposed roads, this planting will sequester carbon more generally.

5.6.6 In these respects the proposed road development shall contribute to a reduced carbon footprint with a clear focus on *more sustainable use of resources and energy.*

6. ALTERNATIVES

6.1 In the Information for the Applicant, An Bord Pleanála requested that the submission should deal specifically with the following matter:

> *"A summary of the assessment /appraisal of alternatives, with a focus on Stage 2 Route Corridor Options."*

My evidence will respond to this requirement.

6.2 Alternatives Considered are described in some detail in Chapter 3 of the EIAR. The **Route Selection Process** was undertaken across a period of two years and comprised a comprehensive assessment of alternative.

6.3 During the Route Selection and Design stages, there were extensive public consultations, as described in EIAR Chapter 3, Section 3.10, which involved 9 separate events over a period of more than 4 years between July 2014 and November 2018.

6.4 The first step of the route selection process comprised a **Constraints Study**, to identify the nature and extent of relevant significant constraints within a defined study area. The extent of the study area was developed based on the need to provide a suitable road between Shannon-Foynes Port and the motorway network in the vicinity of Limerick. In the north-south direction, it extended over a distance of 17km, from south of the existing N21, through to the Shannon estuary in the north. In the west to east direction it extended over a distance of 34km, from west of Foynes, to the Limerick Southern Ring road in the east, measuring about 500km^2 in area. Various constraints were identified from desktop studies, site visits and public consultation feedback, which provided the basis for developing route options.

6.5 Plates 3.2 and 3.3 of the EIAR Chapter 3 (replicated for ease of reference below) highlight the dense concentration of Biodiversity Constraints in the central part of the study area with a network of Natura 2000 sites that are hydrologically connected as part of the Askeaton Fens Complex of candidate Special Area of Conservation.

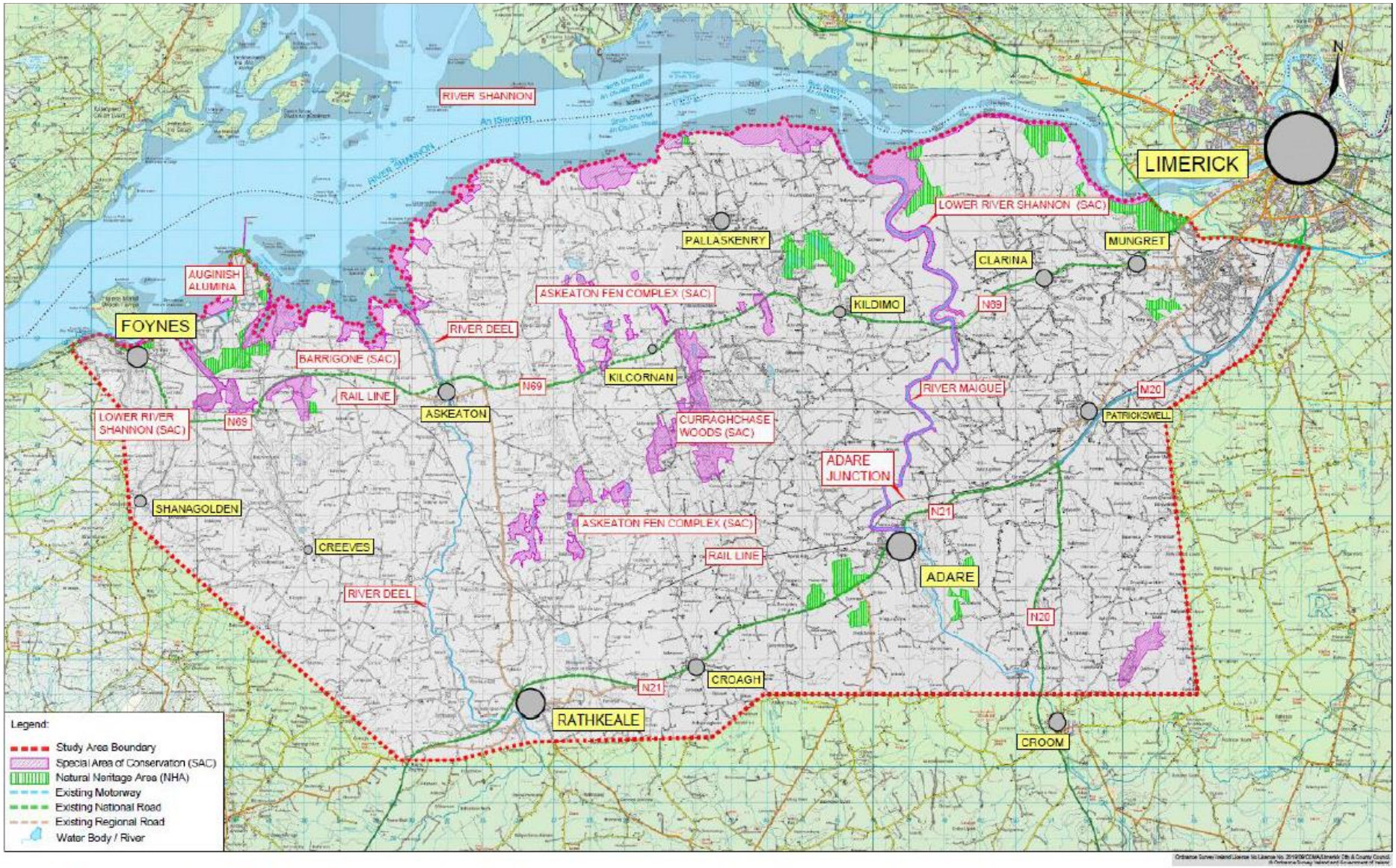


Plate 3.2 **Major Ecological Constraints in the Study Area** (see Fig. 3.1 of Volume 3 for A3 version)

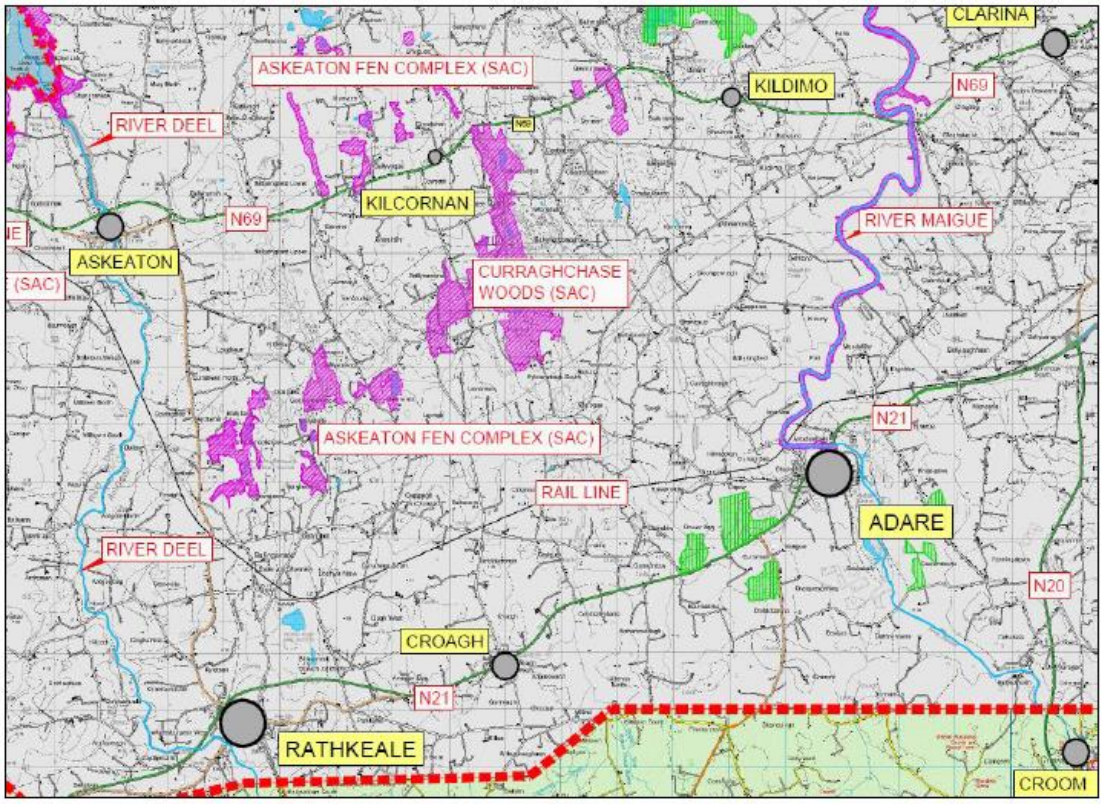


Plate 3.3 **Concentration of Major Ecological Constraints in the centre of the Study Area**

6.6 Stage 1A of the route selection process comprised the definition of 1km wide broad route corridors as shown in Plate 3.4 below, (EIAR page 3/16) with 11 variations arranged by different combinations of various sections.

6.7 In Stage 1B, 300m wide route corridor options were defined and compared in groups to determine the best option between common points. Stage 1C comprised the selection of 4 shortlisted Route Corridor Options which were brought forward to the Stage 2 assessment as shown in Plate 3.6 of the EIAR.

Option 1: Red

Option 2: Blue

Option 3: Orange

Option 4: Green

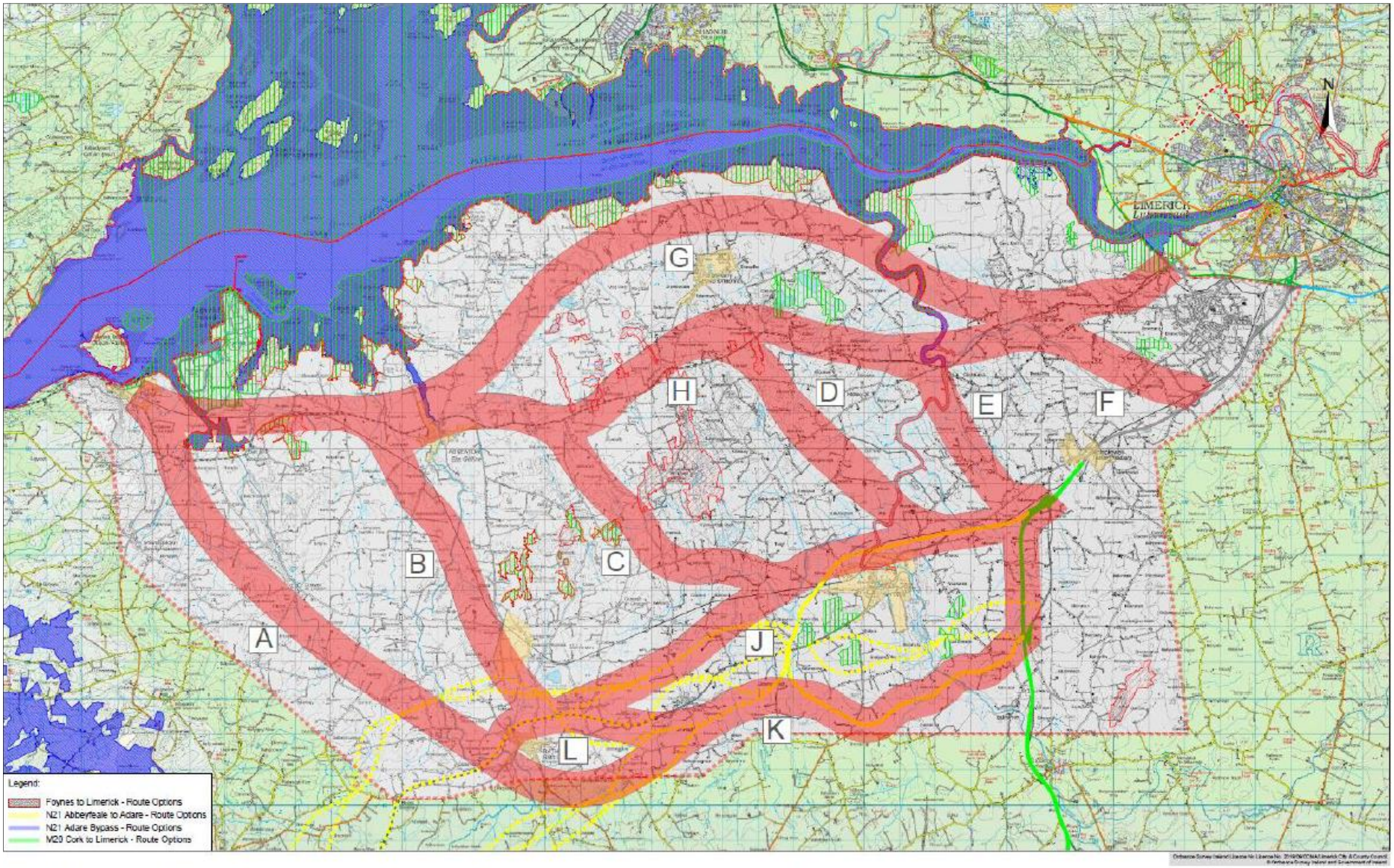


Plate 3.4 **Broad Route Corridor Options – Stage 1A** (see Fig. 3.2 of Volume 3 for A3 version)

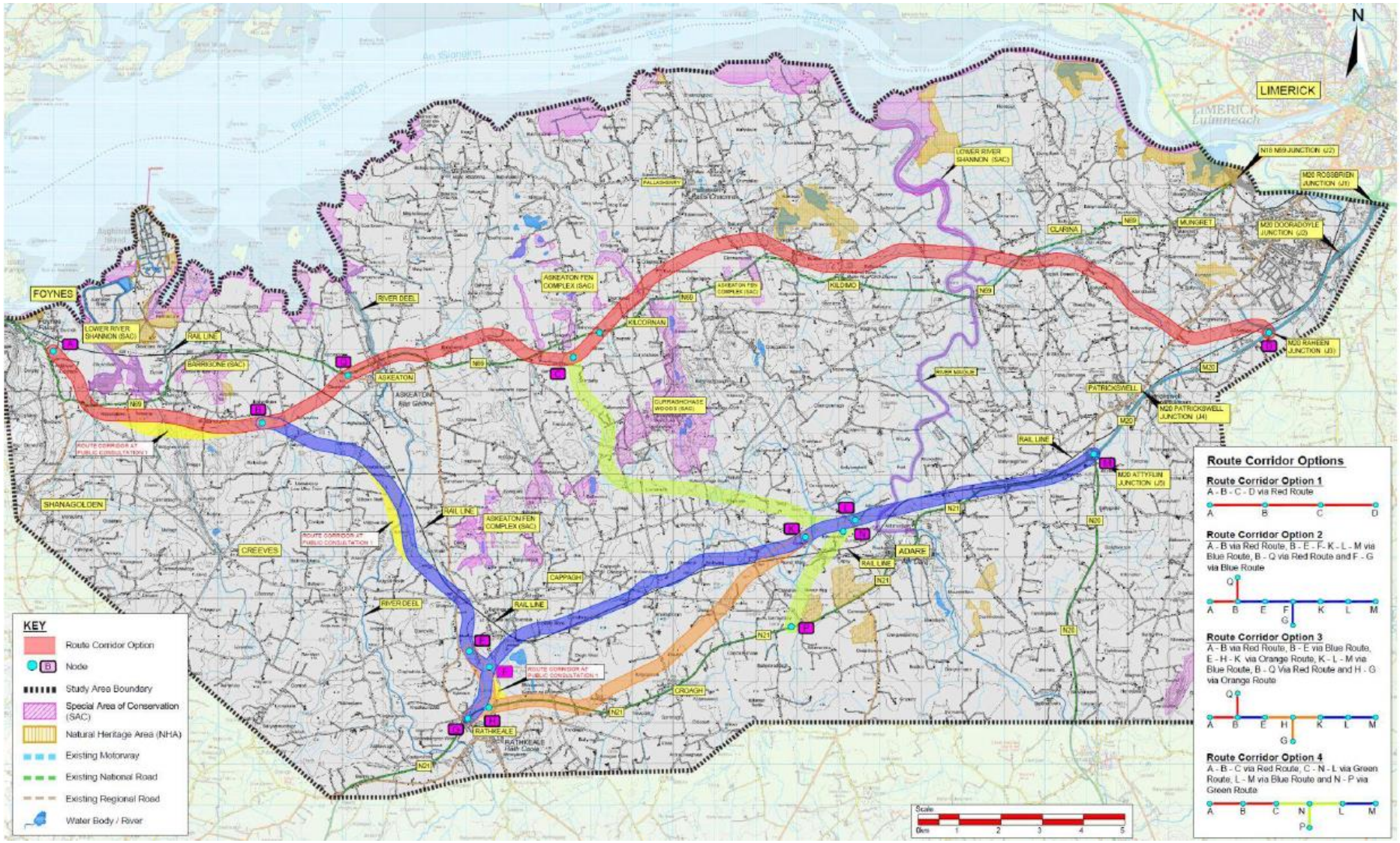


Plate 3.6 of the EIAR - Refined Route Corridor Options 1-4

6.8 **Stage 2** of the Route Options Assessment process comprised the appraisal of the 4 short-listed route corridor options to select a Preferred Route Corridor. The four route options were put on display to the General Public in March 2015 at a Public Consultation Event. Following the feedback received from the Public Consultation and further environmental assessments, four changes to the route corridor options were made at Craggs, Milltown, the Askeaton Bypass and Rathkeale (see section 3.7.3 of Chapter 3 of the EIAR for further information).

6.9 These 4 routes were assessed under the five Common Appraisal Criteria of

Environment

Economy

Safety

Accessibility & Social Inclusion, and

Integration.

A route corridor option assessment matrix was developed from the results of the assessment and a further assessment of preferences was undertaken, the results of which are shown in Table 3.1 of the EIAR.

EIAR Table 3.1: Route Corridor Option Preference Matrix

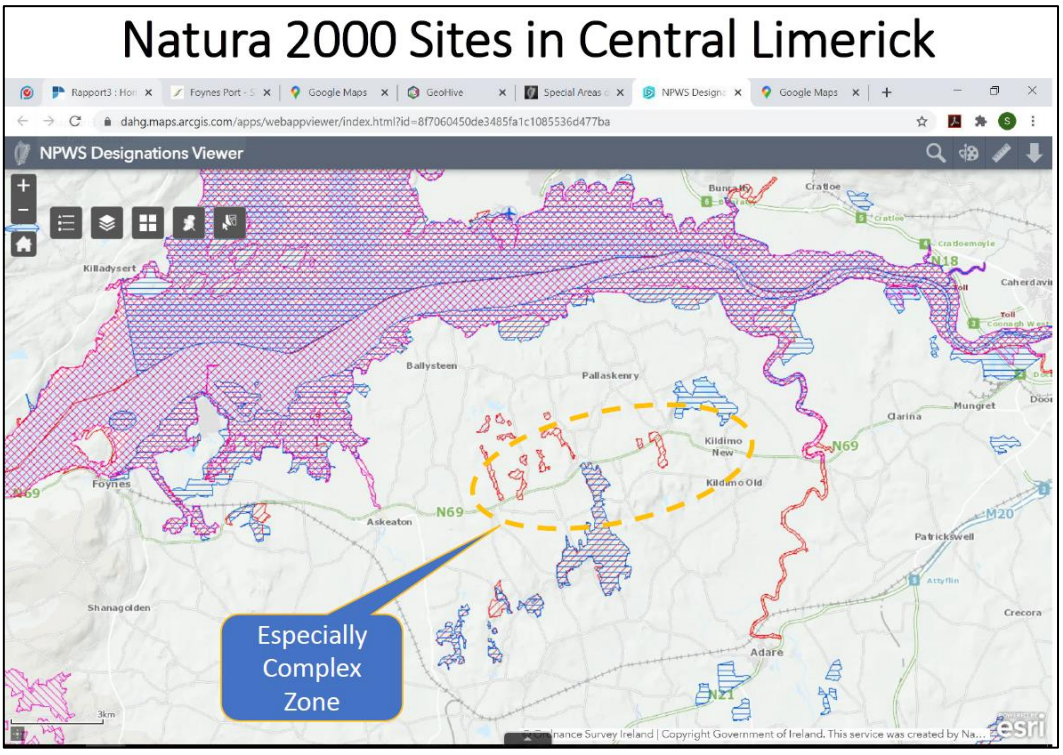
	Route Corridor Option 1	Route Corridor Option 2	Route Corridor Option 3	Route Corridor Option 4
Environment				
Noise and Vibration	Least Preferred	Intermediate	Preferred	Least Preferred
Air Quality	Least Preferred	Preferred	Intermediate	Intermediate
Landscape & Visual	Least Preferred	Preferred	Intermediate	Intermediate
Agriculture	Preferred	Least Preferred	Intermediate	Preferred
Impact on Properties (Non Agricultural)	Least Preferred	Preferred	Intermediate	Intermediate
Ecology	Least Preferred	Intermediate	Preferred	Least Preferred
Archaeology & Cultural Heritage	Least Preferred	Intermediate	Preferred	Intermediate
Hydrogeology	Least Preferred	Intermediate	Preferred	Least Preferred
Hydrology	Preferred	Least Preferred	Intermediate	Preferred
Soils, Geology and Waste	Least Preferred	Preferred	Preferred	Intermediate
Ranking	4	2	1	3
Economy				
Economic Benefit (COBA - Efficiency and Effectiveness)	Least Preferred	Preferred	Preferred	Preferred
Funding Impacts	Intermediate	Intermediate	Intermediate	Intermediate
Transport Reliability	Least Preferred	Preferred	Preferred	Preferred
Wider Economic Benefits	Least Preferred	Preferred	Preferred	Intermediate
Ranking	4	1	1	3
Safety				
Collision reduction	Least Preferred	Preferred	Preferred	Intermediate
Security	Least Preferred	Preferred	Preferred	Intermediate
Ranking	4	1	1	3
Accessibility and Social Inclusion				
Impact on Vulnerable Groups	Intermediate	Intermediate	Intermediate	Intermediate
Impact on deprived geographic areas	Intermediate	Preferred	Preferred	Intermediate
Ranking	4	1	1	3
Integration				
Transport Integration	Preferred	Preferred	Preferred	Preferred
Land Use Integration	Intermediate	Preferred	Preferred	Preferred
Geographical Integration	Preferred	Preferred	Preferred	Preferred
Integration with Other Government Policies	Preferred	Preferred	Preferred	Preferred
Ranking	4	1	1	1

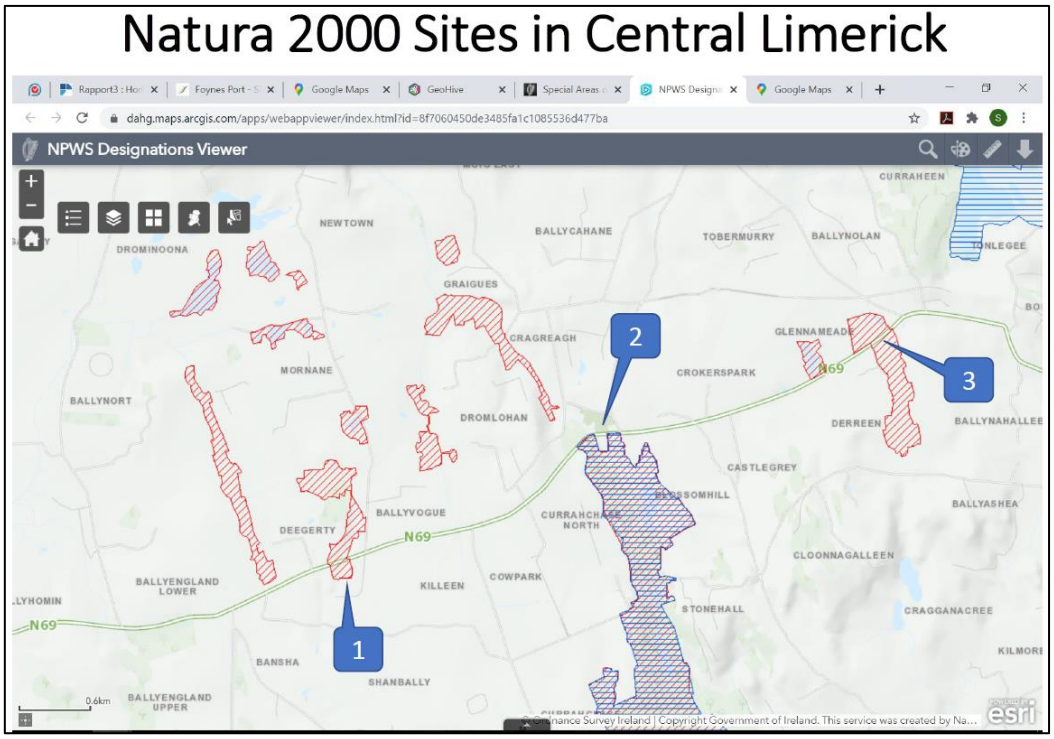
Overall Summary				
	Route Corridor Option 1	Route Corridor Option 2	Route Corridor Option 3	Route Corridor Option 4
Environment	Least Preferred	Intermediate	Preferred	Intermediate
Economy	Least Preferred	Preferred	Preferred	Intermediate
Safety	Least Preferred	Preferred	Preferred	Intermediate
Accessibility and Social Inclusion	Least Preferred	Preferred	Preferred	Least Preferred
Integration	Least Preferred	Preferred	Preferred	Preferred
Ranking	4	2	1	3

6.10 Options 1 and 4 both scored poorly in terms of environmental impacts, in particular for Ecology largely because they pass very close to, or would directly impact upon, the numerous sites in the Askeaton Fen Complex cSAC that are located across the existing N69 route east of Askeaton through Kilcornan to Kildimo.

Route Corridor Option 1 – The direct route from Foynes to Limerick

6.11 Inspector, on screen I am showing images to illustrate the challenges posed for any route option that would follow along or close to the existing N69 in the Kilcornan area. These images are supplemental to the EIAR and are provided to explain in more detail the difficulties that would have been associated with such a route option.





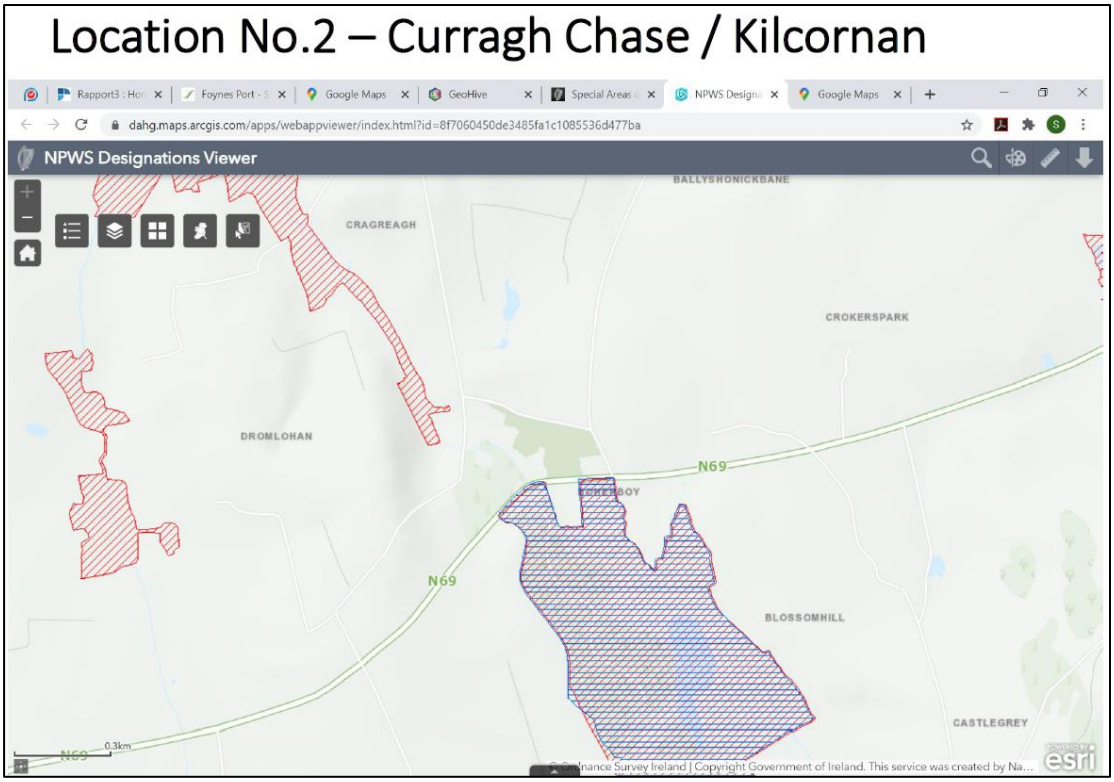
(These images were not published in the EIAR but are included here to elaborate further on the issues that would be involved with this route option).

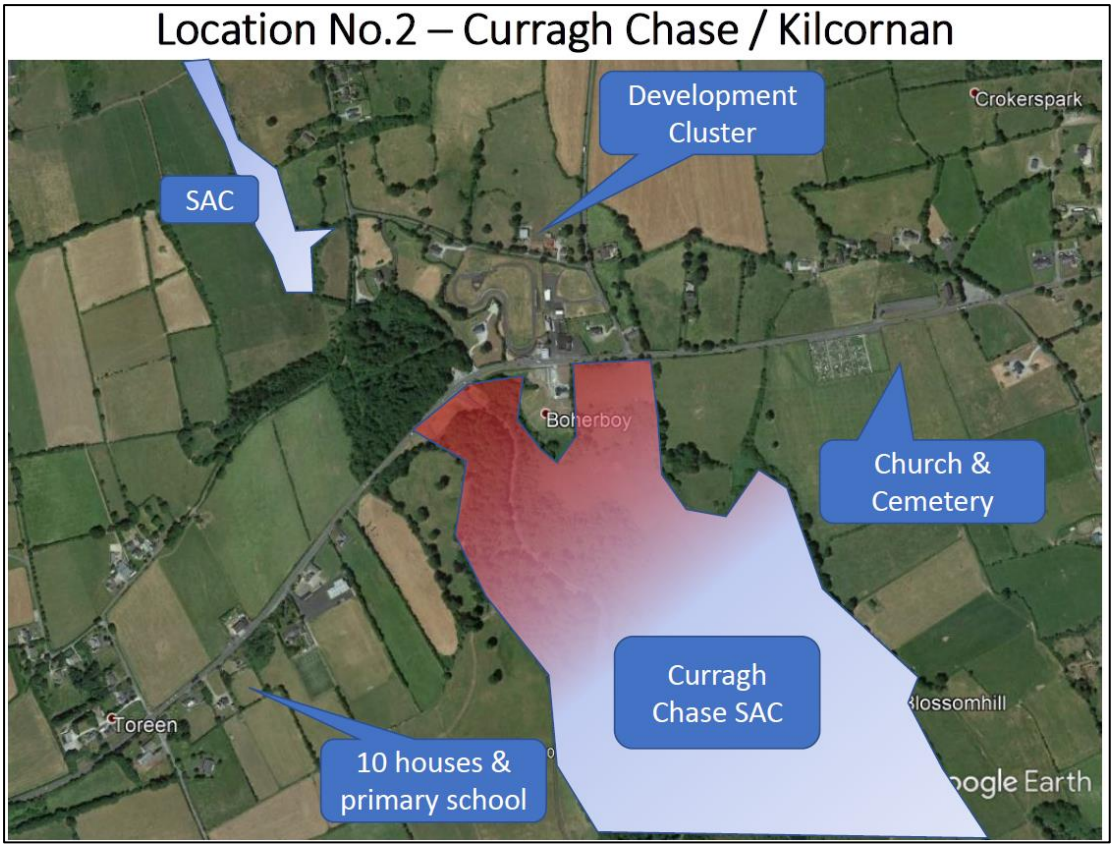
6.12 As you can see, there are 3 locations where there are Special Areas of Conservation that are located right beside the existing road. In two cases, at Ballyvogue and Glennameade, the cSAC is on both sides of the road, and presumably extends underneath it as well.

Location No.1 - Askeaton Fen Complex at Ballyvogue

Location No.3 - Askeaton Fen Complex at Glennameade


Fen at
Glennameade
© 2020 Google
Google Earth
© 2021 Google
Google Earth


Location No.2 – Curragh Chase / Kilcornan
NPWS Designations Viewer
dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba
BALLYSHONICKBANE
CRAGREAGH
CROKERSPARK
DROMLOHAN
N69
BLOSSOMHILL
CASTLEGREY
esri

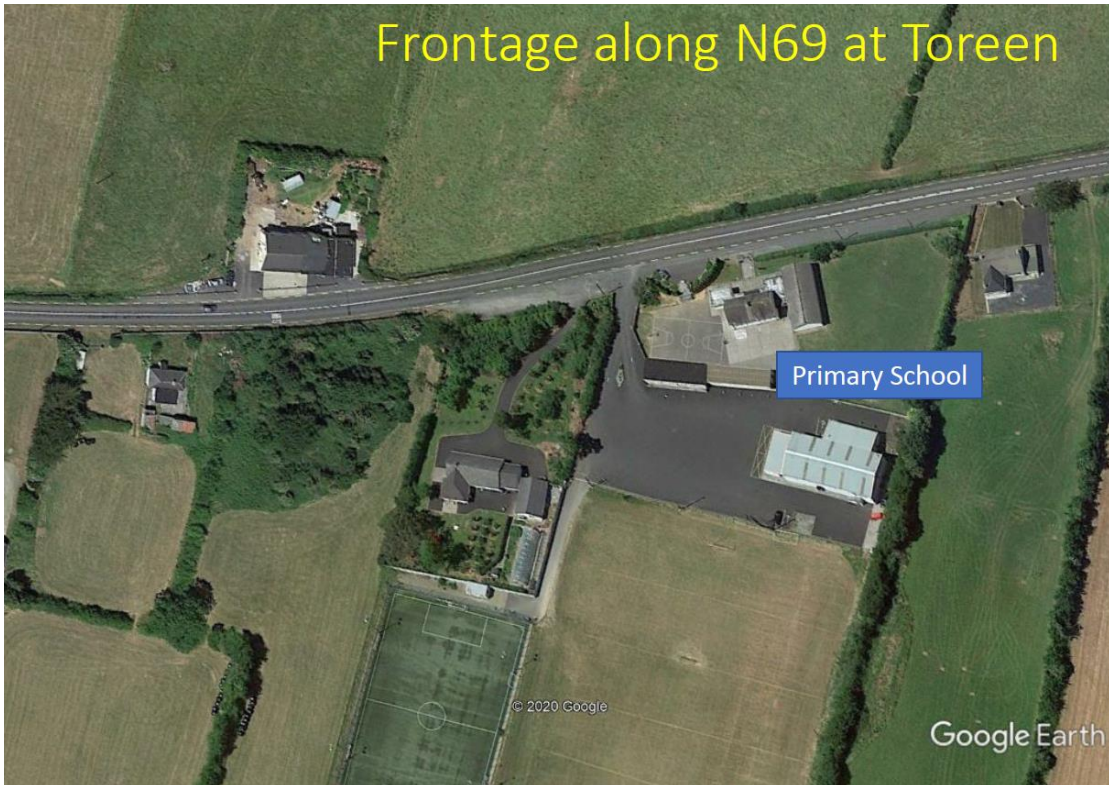


6.13 To highlight the difficulties of developing an improved or new road along the existing N69 corridor, an example is shown below of the significant additional impediments presented by the extensive frontage development over a 2km length through the Kilcornan area which consists of the following obstacles as you travel from west to east:

- Cluster of 11 dwelling houses on both sides of the road at Tooreen.
- Kilcornan National School and sports facilities (GAA and Soccer) at Tooreen on the southern side of the road.
- Entrance to Curraghchase Forest Park on the southern side.
- The Kilcornan House pub on the northern side (closed for several years), with associated former petrol station, go-kart track and various other buildings.
- Cluster of 10 dwelling houses, mainly on the northern side of the road at Boherboy.
- Kilcornan Cemetery on the southern side.
- Kilcornan Church on the northern side.
- Cluster of 10 dwelling houses, mainly on the northern side of the road in the vicinity of Kilcornan Church.

In addition there are 6 local road junctions along this short 2km section of the N69.

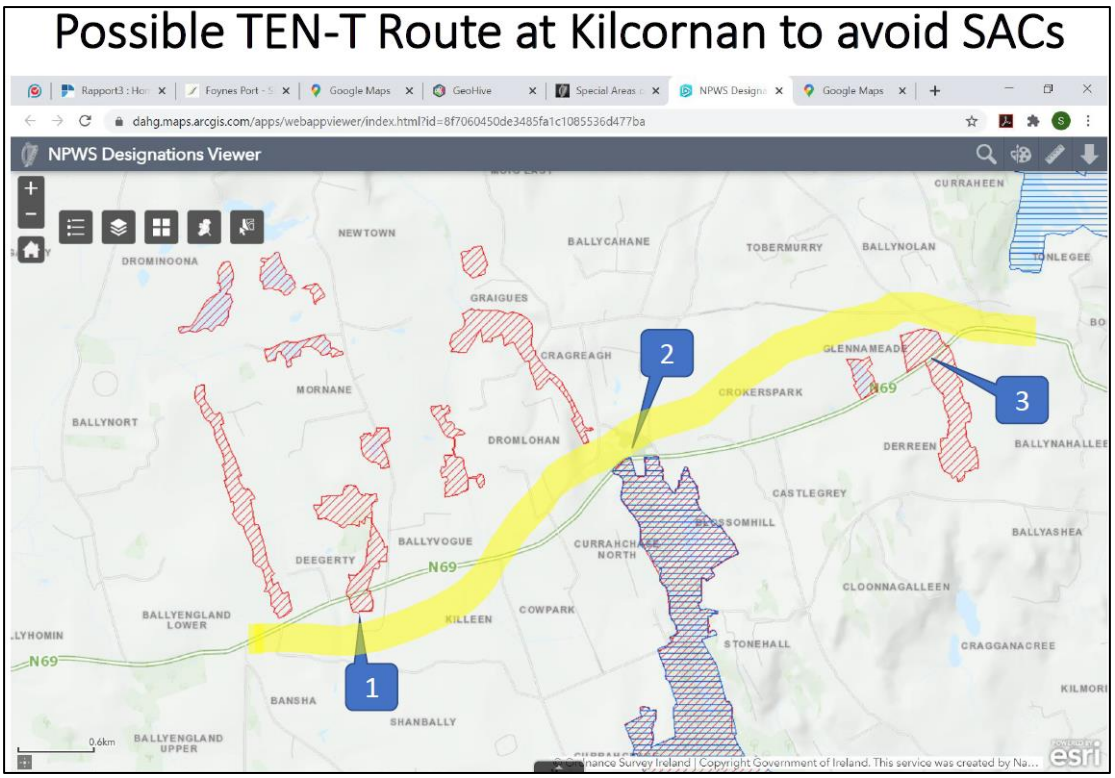
Frontage along N69 at Toreen



Frontage along N69 at Toreen

Primary School

6.14 It would not be possible to upgrade the existing N69 to the required EU TEN T Regulation standard for the route to Foynes Port through the Kilcornan area as described above, and an off-line route would be necessary. There is only a very narrow gap of 230m between the two cSACs on either side of the route at Curraghchase, and a new road through this gap would pass through a woodland, the former go-karting track and would require the demolition of 3 dwelling houses. Indirect impacts to the hydrological regime that connects the cSACs (numbered 1, 2 and 3 on the following map) would also be probable. Such a possible alignment is shown in the following image, which illustrates the basis for Option 1, the Red Route as shown in Figure 3.5 of the EIAR.



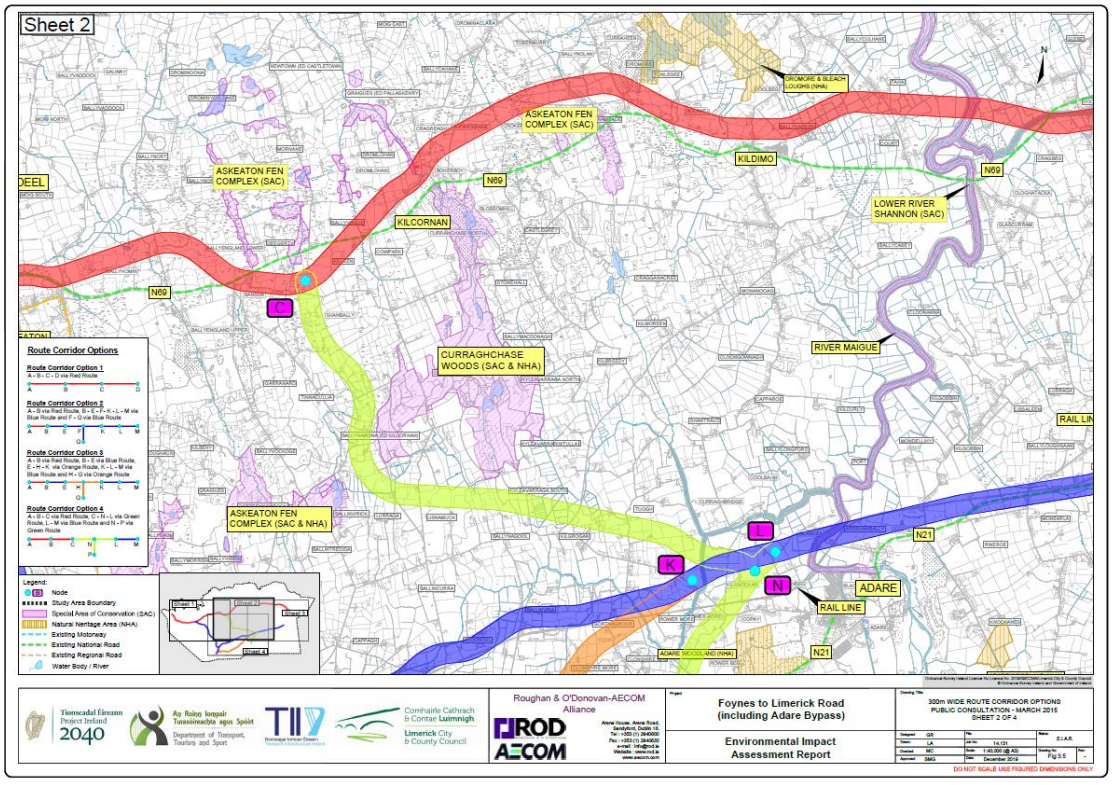
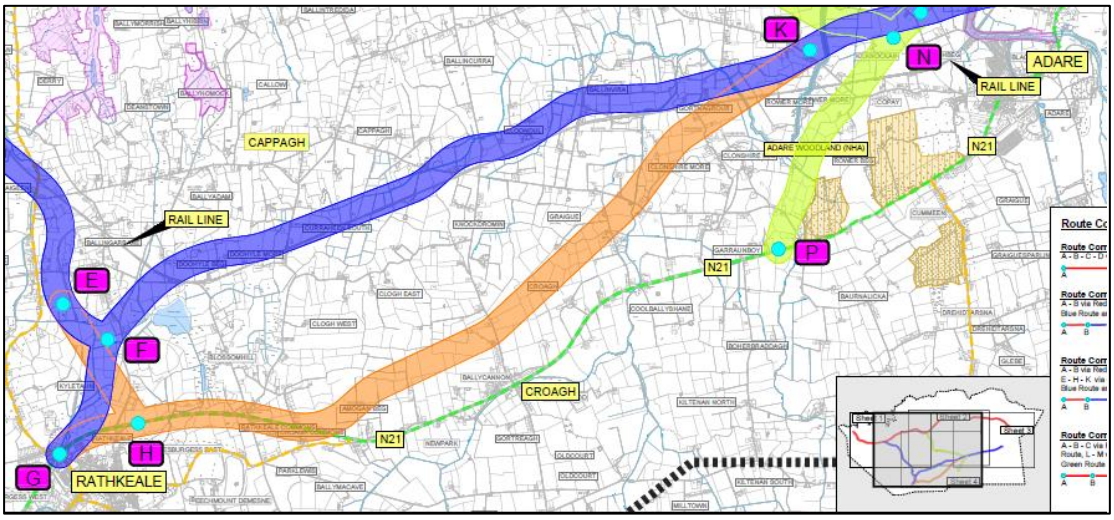


Figure 3.5 of the EIAR

Comparison of Route Options 2 and 3

6.15 Because of the closeness of the results for Route Options 2 and 3, further assessment was carried out to evaluate the differences between these options in the section where they differed in location which is over a length of about 8km between Ballingarrane north of Rathkeale and Gortnagrour 3km west of Adare.



Extract from EIAR Figure 3.7

6.16 Table 3.3 of the EIAR provides a localised comparison of Options 2 (the blue route) and 3 (the Orange Route) in this section where they diverge. In essence, as a result of its location further south and more removed from the sensitive ecological areas to the north, Option 3 scored better in terms of various environmental impacts, but worse for agriculture.

Table 3.3 Localised Comparison of Options 2 and 3 – Environmental Criteria

	Route Corridor Option 2		Route Corridor Option 3	
Environment				
Noise and Vibration	Moderately Negative	2	Minor Negative	3
Air Quality	Moderately Negative	2	Moderately Negative	2
Landscape & Visual	Moderately Negative	2	Moderately Negative	2
Agriculture	Major Negative	1	Major Negative	1
Impact on Properties (Non Agricultural)	Moderately Negative	2	Major Negative	1
Ecology	Moderately Negative	2	Minor Negative	3
Archaeology & Cultural Heritage	Moderately Negative	2	Minor Negative	3
Hydrogeology	Moderately Negative	2	Minor Negative	3
Hydrology	Moderately Negative	2	Minor Negative	3
Soils, Geology and Waste	Minor Negative	3	Moderately Negative	2
Sub-Total	20		23	

6.17 Route Corridor Option 3 (the Orange Route) emerged as preferred over Route Corridor Option 2 in the divergent sections between Node E (Ballingarrane) and Node K (Tuogh

just northeast of Gortnagrour) with a score of 23 for Option 3 as compared to 20 for Option 2.

The Preferred Route Corridor

6.18 The Emerging Preferred Route Corridor was presented to the public in a Public Consultation in December 2015. Subsequently it was confirmed as the Preferred Route in the Route Selection Report published in June 2016. This is shown on Plate 3.14 of EIAR Chapter 3.

Design Updates and Further Public Consultations

6.19 Further design refinement continued along the Preferred Route Corridor for which a series of 6 Design Updates were issued in September 2016, March 2017, June 2017, October 2017, May 2018, and November 2018. These comprised refinements of the route corridor based on more detailed information and further assessments, incorporating proposed amendments or variations to the design, proposals for junction locations access arrangements, indicative land-take lines, and watercourse diversions etc.

Conclusion

6.20 In conclusion, the preceding evidence presents a summary of the results of assessment and appraisal of alternatives, which is set out in detail in the application documentation, with a focus on the Stage 2 Route Corridor Options as requested by An Bord Pleanála. The information is presented in detail in Chapter 3 of the EIAR, which fully outlines the design alternatives considered throughout the design process and which included the selection of a preferred cross section, the design of interfaces with other roads, junctions, bridge designs and crossings of local roads etc.

6.21 The selected route for the proposed road development is shown on Plate 4.2 of Chapter 4 of the EIAR, which then describes the proposals in full detail.

Inspector, that concludes Part A of my evidence to this Oral Hearing.

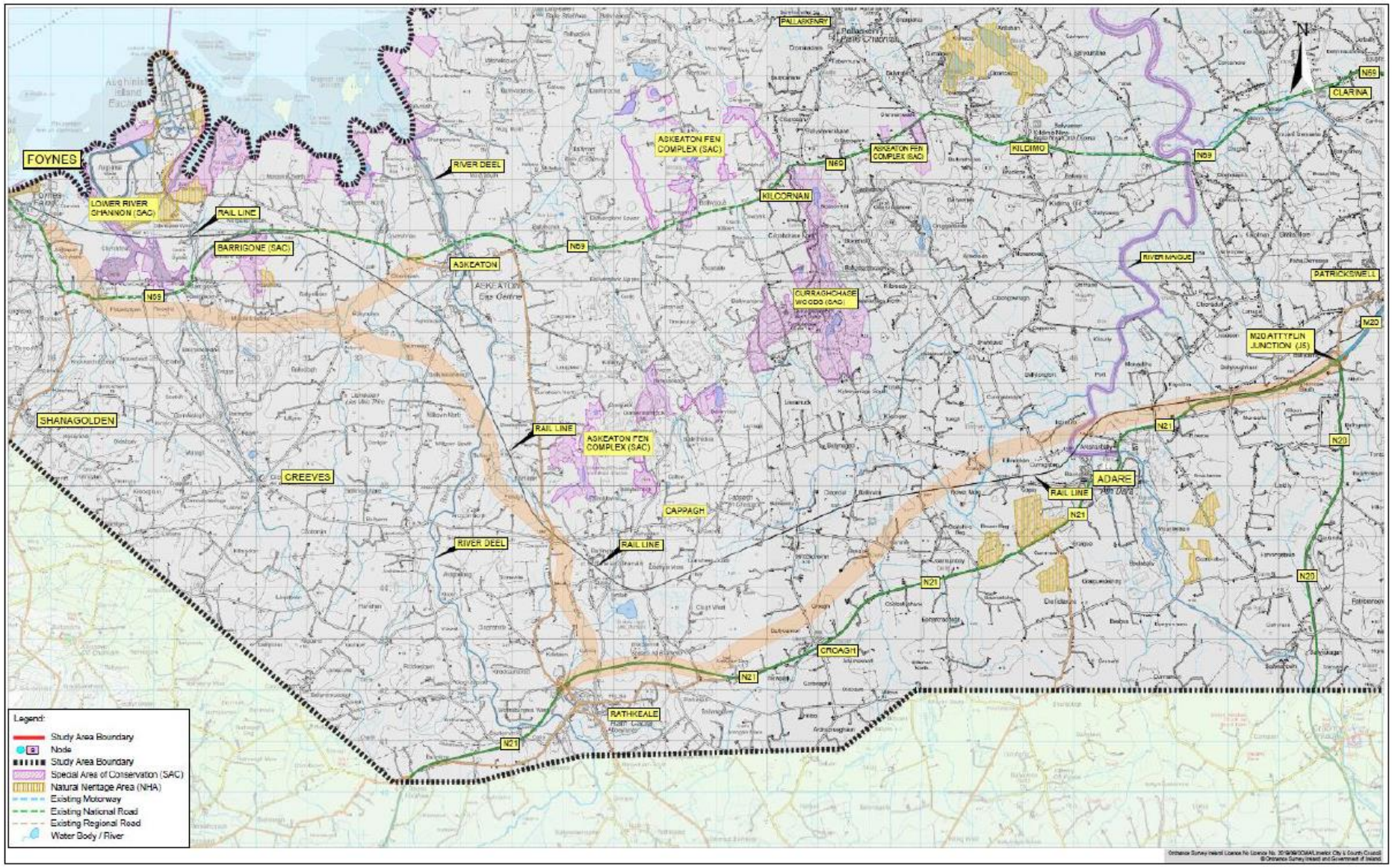


Plate 3.17 **300m wide Preferred Route Corridor – Public Display – December 2015** (See Figure 3.13 in Volume 3 for A3 version)

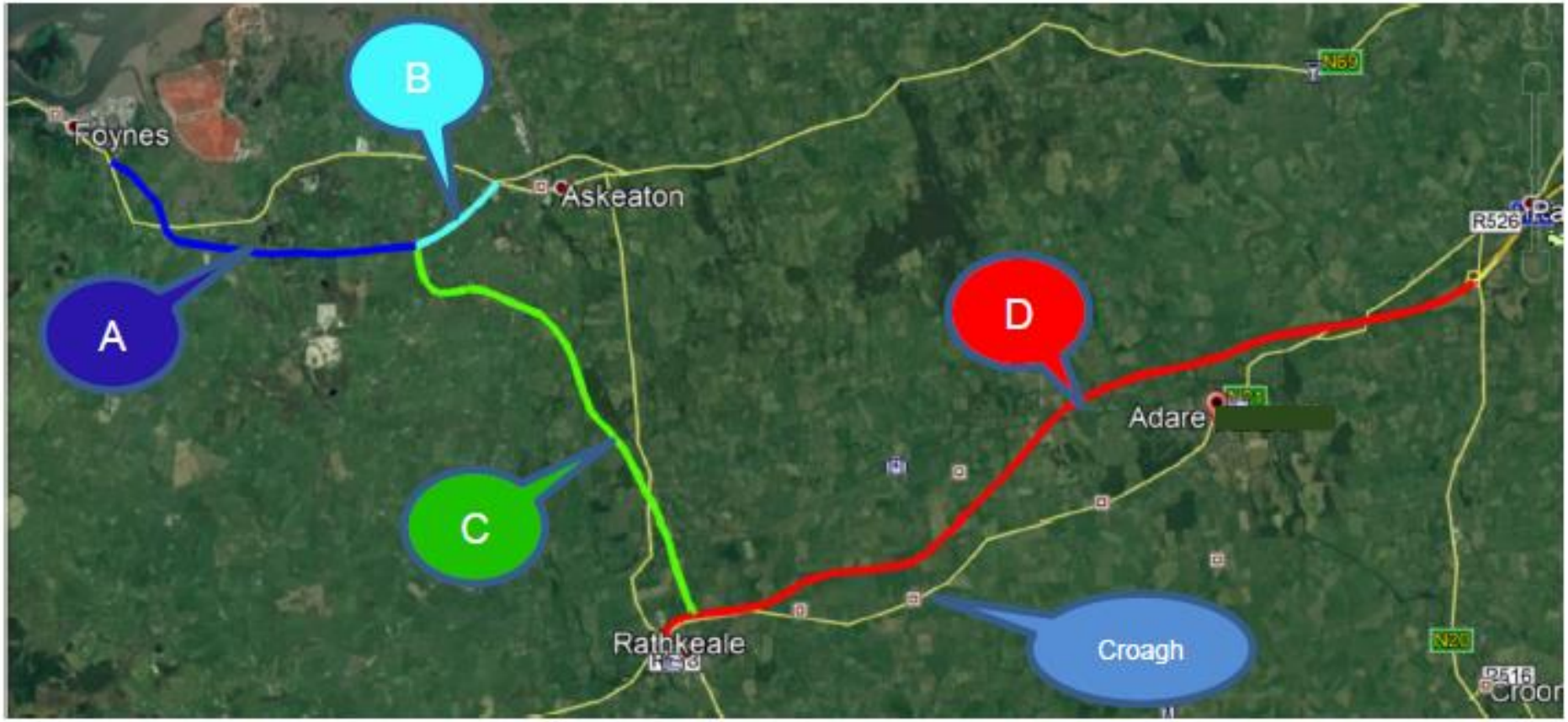


Plate 4.2 **Sections of the Proposed Road Development** (Source: Google Earth)