



Report to the Secretary of State for Transport

by Lesley Coffey BA(Hons) BTP MRTPI

an Inspector appointed by the Secretary of State for Transport

Date: 6 January 2020

HIGHWAYS ACT 1980

ACQUISITION OF LAND ACT 1981

The Highways England A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Slip Roads and Roundabouts) Order 20..

The Highways England A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Side Roads) Order 2019.

The Highways England (A2 Trunk Road Bean and Ebbsfleet Junction Improvements) Compulsory Purchase Order 2019.

Inquiry Held on 1-4 October and 8-11 October 2019

File Ref: DPI/W2275/19/12

TABLE OF CONTENTS

1. PREAMBLE

2. PROCEDURAL MATTERS

3. DESCRIPTION OF THE SITE AND ITS SURROUNDINGS

4. THE CASE FOR THE HIGHWAYS ENGLAND

5. THE CASES FOR THE SUPPORTERS

6. THE CASES FOR THE OBJECTORS

7. THE CASES FOR ADDITIONAL REPRESENTATIONS

8. THE RESPONSE OF THE HIGHWAYS AGENCY

9. INSPECTOR'S CONCLUSIONS

10. RECOMMENDATIONS

APPENDIX A: Appearances at the Inquiry

APPENDIX B: Inquiry Documents List

APPENDIX C: Abbreviations

CASE DETAILS

The Trunk Road (Line) Order

- The draft Trunk Road (Line) Order would be made under Sections 10 and 41 of the Highways Act 1980, and is known as **The Highways England A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Slip Roads and Roundabouts) Order 20..**
- The Draft Order was published on 15 January 2019
- The Order would authorise the construction of a new section of trunk road or trunk road slip roads.

Summary of Recommendation: That the Order be made with modifications

The Side Roads Order

- The Side Roads Order was made under Sections 14 and 125 of the Highways Act 1980, and are known as **The Highways England A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Side Roads) Order 2019.**
- The Order was made on 15 January 2019.
- The Order would provide for the improvement and construction of highways; the stopping up of highways and private means of access; and the provision of new means of access

Summary of Recommendation: That the Order be confirmed with modifications

The Compulsory Purchase Order

- The draft Compulsory Purchase Order is made under Sections 239, 240, 246 and 24 of the Highways Act 1980, as extended and supplemented by section 250 of that Act, and section 2 of the Acquisition of Land Act 1981. It is known as **The Highways England (A2 Trunk Road Bean and Ebbsfleet Junction Improvements) Compulsory Purchase Order 2019.**
- The Order was published on 15 January 2019.
- The Orders would authorise the compulsory acquisition of all the land needed to construct the new trunk road and associated junctions and for all necessary alterations to side roads as provided by the above-mentioned Scheme and draft Side Roads Order.

Summary of Recommendation: That the Order be confirmed with modifications

1.0 PREAMBLE

- 1.1 I have been appointed to hold a public local inquiry into the above Orders, and to report to the Secretary of State for Transport.
- 1.2 I held a pre-inquiry meeting at The Eastgate Centre, 141 Springhead Parkway, Northfleet, Gravesend, Kent DA11 8AD when the procedure for the inquiry and the timetable for the submission of documents were explained. A copy of the notes of the meeting is at document Misc/1.
- 1.3 The inquiry sat from 1 October to 4 October, and from 8 October until 11 October 2019. I held an evening session on Wednesday 9 October. I made an unaccompanied site inspection on 29 September 2019. I also made an accompanied site visit on 11 October 2019.
- 1.4 Three round table sessions were held to examine the Applicant's approach to the proposed modifications, traffic modelling, and the Bean Residents Association (BRA) alternative scheme. The substantive points from these discussions are included in the parties representations.
- 1.5 There were 12 objections remaining to the Orders at the start of the inquiry, including 7 statutory objections¹. These are summarised at HE/SID/3. Two were withdrawn during the course of the inquiry². In addition, a number of parties including the local planning authorities participated in the three roundtable discussions.
- 1.6 Gravesham Borough Council, Dartford Borough Council, Ebbsfleet Development Corporation, Bluewater and London Resort Holdings supported the principle of the Scheme and appeared at, or were represented at the inquiry. Eight objectors, including one of the statutory objectors, appeared or were represented at the inquiry. These were Bean Residents Association, Bean Parish Council, CPRE, J&B Construction, Duncan Woods, Jan Beckett, and Chris Botten.
- 1.7 The objections from Dartford and Gravesham Cycling Forum [OBJ-004] and Gary Outram [OBJ-027] were withdrawn on the basis that the Applicant was pursuing MOD-5 which proposes a signalised non-motorised user (NMU) crossing at the southbound B255.³ In the absence of MOD-5 these objections [DGCF/1/A and DGCF/1/B] would not be overcome.
- 1.8 The Objection from Sarah and Darren Winchester [OBJ-014] was withdrawn

¹ HE/SID/3

² National Grid OBJ-11 [NG/1] & Philip Jenns OBJ-39 [JENN/SID/1]

³ E mails to the Applicant dated 25 September 2019

on the basis that the Applicant submitted MOD-2 which removes Plot 1/4a from the Compulsory Purchase Order (CPO).⁴ In the absence of MOD-2 the Objection from Sarah and Darren Winchester would not be overcome.

- 1.9 The Objection from Elliott's Springhead Nurseries (OBJ-25) was withdrawn on the basis of MOD-4 which removes Plots 2/9a, 2/10/a and 2/11a from the CPO⁵. In the absence of this modification this objection would not be overcome.

The Published Scheme

- 1.10 At Bean the improvements are based on the existing road layout. The most significant changes are the addition of an eastbound on-slip from Bean North roundabout and the construction of a new bridge to the east of the existing bridge. In summary the Scheme proposes:

Bean Junction

- The Bean North Roundabout will be widened to the east to accommodate an eastbound on-slip, and a new southbound link to the new bridge over the A2. This will require demolition of eleven properties (Ightham Cottages) and the acquisition of Spirits Rest Horse sanctuary.
- A new bridge over the A2 east of the existing Bean Lane Overbridge will be provided for southbound traffic from the roundabout (the existing Bean Lane Overbridge will be used for northbound traffic) and there will be a new entry slip road on to the A2 for eastbound traffic. The entry slip will provide four running lanes eastbound between the entry slip and the A296 merge by replacing the hard shoulder with a hard strip.
- The A2 westbound off-slip will be widened to three lanes on the approach to the roundabout with all three lanes available for right turn movement to Bean Lane (link road). The existing B255/A296 slip road will be kept open in its existing layout, including the dedicated left turn lane. A narrow traffic island or barrier will be introduced to the B255 southbound carriageway between the Bluewater Parkway merge and the A296 diverge, segregating the four-lane carriageway into a dual two-lane carriageway. The signing strategy at Bluewater will direct motorists travelling east on the A2 to use the new eastbound on-slip.
- The Bean South Roundabout will be widened to the east to provide more capacity and a link to the new bridge. The eastbound off-slip will be widened to three lanes.

Ebbsfleet Junction

- At Ebbsfleet access will be provided from the junctions to the new and
-

⁴ HE/SID/3 pages 7-9

⁵ HE/SID/3 page 10

future development areas. The proposed improvements broadly follow the existing road layout but with the existing roundabouts enlarged and traffic signals provided. The link road between the roundabouts will be widened from the existing single carriageway to a dual two-lane carriageway with additional widening to three lanes on the approach to the roundabouts. The existing eastbound and westbound off-slips will be retained.

- The Ebbsfleet East Roundabout will be extended to the north and an additional arm added to accommodate access to the proposed Station Quarter South development. The eastbound exit arm from Ebbsfleet East Roundabout will be widened to three lanes, which divides into two carriageways with one lane heading to the local road network at Pepperhill Junction and the other two lanes heading to the A2. The eastbound off-slip will be widened at the approach to the roundabout with a dedicated signal controlled left turn lane.
- The Ebbsfleet West Roundabout will be extended to the south and will be fully signalised. The west arm at the roundabout will provide access to the Ebbsfleet Green development. The circulatory carriageway will be widened to provide for three lanes. The entry to the roundabout from the north will also be widened to three lanes on the approach to the junction.

A2 mainline

- Narrow lanes will be introduced along a limited section of the A2 mainline carriageway to accommodate the merge of the new slip road to avoid existing significant constraints including ancient woodland, electricity pylons, a subway and a grade II listed arched footbridge.
- Along this section the central reserve metal barrier will be replaced with a rigid concrete barrier to provide more width on the eastbound carriageway. The existing central reserve concrete barrier will be shifted slightly south under Swanscombe Footbridge, to provide more width on the eastbound carriageway. There will be changes to the gantries along the A2 including one demolished gantry, two new cantilever gantries and changes to the signs and signals on retained gantries.

The Compulsory Purchase Order (CPO)

- 1.11 The Order land is required for the purpose of implementing the Line Order and the Side Roads Order.
- 1.12 The Order Limits are shown on Figure 2.2 of the Environmental Statement (ES) [B3.2]. The Order Plans show the land to be acquired [A.7]. The Applicant seeks to acquire all of the land comprising the identified plots permanently. The Applicant states that it is intended that those plots identified within the Statement of Reasons (SoR) as required for temporary

purposes only would be returned to the original owners once the Scheme has been built, in as close to the original condition as possible.

- 1.13 In addition, where the Applicant seeks to create third party rights over plots it is intended to acquire the plots, create the rights proposed, and then return the plots to the original owners [HE/SID/1]. This approach is discussed at section 9 of this Report.
- 1.14 The main grounds of objection are the loss of Ightham Cottages, the effect of the proposal on residents living at Hope Cottages and in Bean, the effect of the Scheme on air quality and noise, the effect of the Scheme on traffic congestion within the area, including traffic using Bluewater, the safety of the Scheme and the use of CPO powers in relation to Plot 2/6d.
- 1.15 The Applicant confirmed at the inquiry that it had complied with all necessary statutory formalities. This compliance was not disputed.
- 1.16 This report contains a brief description of the site of the proposal (the subject of the Orders) and its surroundings, the gist of the cases presented and my conclusions and recommendations. Lists of inquiry appearances, documents and plans are attached. I have included in the list of documents the proofs and other statements of evidence submitted by the parties, subject, however, to the proviso that these may have been added to or otherwise amended at the inquiry.

2.0 PROCEDURAL MATTERS

- 2.1 The Applicant did not submit a planning application in relation to the proposed Scheme. Section 8 of the Statement of Reasons [A.8] and Section 5.1 of the Statement of Case [C.7] explain that the proposal is permitted development by virtue of Class B of Part 9 of Schedule 2 of the Town and Country Planning (General Permitted Development) (England) Order 2015 (the "GPDO").
- 2.2 An ES has been undertaken and reported in accordance with the Environmental Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017 and pertaining to the amended provisions under the Highways Act 1980.
- 2.3 These Regulations apply the amended EU directive 2014/52/EU2 "on the assessment of the effects of certain public and private projects on the environment" (usually referred to as the 'Environmental Impact Assessment Directive') to the planning system in England.
- 2.4 The ES includes comments from statutory consultees, comments made by any other person, and any other substantive information relating to the ES provided by the Applicant, including the updated Register of Environmental Actions and Commitments (REAC)⁶ and the Veteran Trees Compensation

⁶ HE/SID/20 & HE/SID/20.1

Strategy Technical Note⁷.

2.5 The Applicant submitted an Environmental Statement Errata document [N.9] as well as a Proofs of Evidence Errata document [HE/SID/25]. I have taken all of these documents and the submitted environmental information into account in reaching my recommendation.

2.6 The Scheme as submitted is referred to as the 'Published Scheme'. Prior to the inquiry the Applicant submitted 5 modifications to the published Scheme⁸. Together these modifications combine to form the 'Promoted Scheme'. Details of the consultation in respect of these modifications are provided at HE/SID/8. The modifications were discussed at a roundtable session and were also addressed during evidence in chief and cross-examination. These modifications are considered individually and in combination within this Report.

2.7 The Applicant assessed each modification in terms of its impact on the Orders, Safety and the ES. In summary they comprise:

- *Modification 1* The A2 eastbound exit slip road is realigned at the approach to the Bean North roundabout to match the existing carriageway. An additional lane to the approach is to be provided (3 lanes instead of 2 lanes as in the Published Scheme). The northbound and southbound B255 are also redesigned (following the new segregated left turn lane (SLTL) configuration) by moving the alignment towards the East. This would require changes to the Side Roads Order (SRO) and the Line Order. These changes are set out in Appendix C of the MOD-1 Report [R.1].
- *Modification 2* Proposes the removal of the main site compound for the Scheme, Plot 1/4a of the CPO. It was intended to utilise this area, along with other minor compounds at Ebbsfleet, for the storage of materials and cabin / car parking locations for staff. This would require a modification to the CPO and the provision of an alternative construction compound. This modification would require changes to the CPO as set out in Section 2.2 of the MOD-2 Report [R.6]
- *Modification 3* The Published Scheme included the enlargement of Bean South roundabout and the introduction of traffic signals. This modification removes the proposed traffic signals. It does not require any changes to the Orders [R.8].
- *Modification 4* Proposes the removal of Plots 2/9a, 2/10a & 2/11a from the CPO. This modification will require changes to the CPO. These changes

⁷ CD L15

⁸ Details of these modifications including the reports submitted by the Applicant can be found at R.1, R.2, R.3, R.4, R.6, R.7, R.8, R.11.1, R.11.2, R.12.

are set out at R.11.2.

- *Modification 5* Proposes the provision of an at-grade signalised crossing for pedestrians and cyclists on the northern approach to the B255/A296 roundabout. This would provide a direct West - East NMU facility. This modification would not require any changes to the published Orders [R.12].
- 2.8 In addition, the Department for Transport (DfT) sought amendments to the text of the Line Order and the CPO. These are set out at R.9.1 and R.10.1, and the necessary modifications are shown at R.9.2, R.9.3, R.10.2 and R10.3.
- 2.9 Two further modifications were proposed at the inquiry [HE/SID/29]. The amendments sought relate to plots 2/6d and 2/7d. The Applicant stated that the reasons for acquisition within Appendix A to the Statement of Reasons in respect of some of the plots should be amended to include "*Also required as a temporary licence working space in connection with the construction of the scheme works*" to the description⁹.
- 2.10 The Applicant also requested a modification to the SRO to include reference to Highways England's powers under section 129 of the Highways Act 1980 to provide new private means of access (PMA) to land.¹⁰ These amendments are discussed below.
- 2.11 Signed Statements of Common Ground (SoCG) were submitted to the inquiry. Amongst other matters these included areas where the parties disagreed or were unable to reach agreement during the course of the inquiry. The signed SoCG included Natural England, Environment Agency, Historic England and Kent County Council Heritage, Kent County Council, Dartford Borough Council, Gravesham Borough Council, Ebbsfleet Development Corporation (EDC) and Bean Parish Council. [O.1,O.2,O.3,O.4,O.5,O.6,O.7,O.8].
- 2.12 Due to unforeseen personal circumstances the original witness for Campaign to Protect Rural England (CPRE) was unable to attend the inquiry. Richard Knox Johnson appeared on their behalf, and although he was able to cross-examine the Applicant's witness, Ms Vicki Sykes, personal circumstances prevented him from returning to give his evidence in chief and this was taken as read. For this reason, it was not tested at the inquiry by way of cross-examination or Inspector's questions.

3.0 SITE AND SURROUNDINGS

- 3.1 The Scheme is located between Dartford and Gravesend in north Kent. Bean Junction is the first junction on the A2 to the east of the M25.

⁹ HE/SID/29 page 4

¹⁰ HE/SID/29 page 4

- 3.2 The existing A2 is a dual 4-lane all-purpose road that reduces to dual 3-lane through Bean Junction. The grade-separated junctions at Bean and Ebbsfleet are approximately 1.2 miles (2 km) apart. Bean Junction connects to the A296 Watling Street (Roman Road) and the B255. It provides access to the Bluewater shopping centre, a regional shopping centre. The Ebbsfleet Junction connects to the A2260 and Southfleet Road. It serves Ebbsfleet International Train Station and the surrounding Ebbsfleet Valley and Eastern Quarry developments that form part of Ebbsfleet Garden City.
- 3.3 In 2008, the road east of Bean Junction was widened to dual 4-lane and new highway planting was implemented, which has now established and provides localised screening of the highway layout, associated structures and traffic.
- 3.4 The A2 generally follows the gently undulating topography to the east. The A2 western extent of the Scheme is approximately 80 m above Ordnance Datum (AOD) rising to a highpoint around Bean Junction and falling towards Ebbsfleet Junction and the A2 eastern extent at approximately 15 m AOD. A topographical map of the area is provided at Figure 9.8 in the ES Volume 3 [B.3.10]. From high points there are views north towards the River Thames and Tilbury Docks in Essex.
- 3.5 The grade II listed structure of Swanscombe Cutting Footbridge is an elegant post tensioned arch, pre-stressed concrete footbridge built in 1964.
- 3.6 Beyond the footbridge, travelling eastwards, the landscape falls away and becomes more open, offering long-range panoramic views across the Kent countryside to the south east. The landscape is attractive and comprises gently undulating arable farmland and pasture, however, the electricity pylon and transmission lines mar and dominate the view, detracting from the landscape character. Polytunnels and garden centres in the vicinity of Pepperhill Junction are noticeable.
- 3.7 The north side of the Ebbsfleet Junction is considered the 'Gateway' to the Ebbsfleet Garden City. The amenity landscaping to the junction is strong visually and of a high quality, creating a distinctive character and sense of arrival. The style of the amenity planting is urban in character, very distinctive and comprises fastigate trees, clipped hedgerows and highly maintained lawn.
- 3.8 Bean Village is situated close to the Bean South roundabout, and the B255 provides the main link between the village and the strategic road network. Hope Cottages are located immediately to the west of the Bean South roundabout and close to the Bean Bridge. Some of the dwellings are separated from roundabout and adjacent roads by a landscaped area, but this diminishes in depth towards the north. As a consequence, the dwellings at 15 and 16 Hope Cottages benefit from little or no screening.
- 3.9 Ightham Cottages and the Spirits Rest Horse Sanctuary are located off the existing Bean North roundabout.

4.0 THE CASE FOR HIGHWAYS ENGLAND

Need for the Scheme

- 4.1 The Scheme forms part of the Kent Thameside Strategic Transport Programme (STP) and is needed to support future growth in the Thames Estuary growth area. The current Bean junction is the product of changes undertaken in 1999 to accommodate the Bluewater Shopping Centre. The current Ebbsfleet junction was built in 2005 in order to accommodate Ebbsfleet International Railway station.
- 4.2 Development to create a new Garden City at Ebbsfleet, which aims to deliver up to 15,000 new homes and 30,000 jobs has commenced. In addition, there has been significant housing growth in Dartford over the past five years. Considerable further growth is planned for Dartford and Gravesham in the coming years.¹¹
- 4.3 Bean already suffers from congestion in peak periods. This Scheme will solve the congestion problems at Bean junction, will avoid congestion problems in future at Ebbsfleet, and facilitate the development of much needed new housing. It will help to alleviate the more generalised problem of congestion along the A2 corridor but would not resolve this issue.
- 4.4 Improvements to The Bean and Ebbsfleet junctions are necessary to improve capacity, manage increases in traffic, and avoid adverse environmental effects. At Bean Junction, future development will increase traffic levels by 50- 60% by 2037 during peak periods, compared to 2014 traffic levels. At Ebbsfleet Junction, future development will increase traffic levels by 170– 200% by 2037 during peak periods compared to 2014 traffic levels¹².
- 4.5 In addition to increasing capacity and relieving congestion the Scheme aims to:
- Increase capacity of the junctions and minimise the impact on the A2;
 - Improve journey times;
 - Improve road safety;
 - Minimise impact on the environment; and
 - Where possible improve air quality with regard to vehicle emission generally and specifically at the existing declared Air Quality Management Areas (AQMA).¹³
- 4.6 There is strong and longstanding local policy support for a scheme, as well as a commitment by DfT to secure an improvement at these junctions.

¹¹ ES Paragraph 2.1.1

¹² ES Paragraph 2.1.2 These figures were modelled using the RTF14 forecasts.

¹³ ES Paragraphs 2.2.3 & 2.2.4

- 4.7 Support for the Scheme was articulated most recently in the correspondence received¹⁴ in response to London Resort's Position Statement [LRCH/1/B]. These authorities wish the Scheme to be implemented without delay or modification to accommodate the London Resort Scheme, and this applies with equal force to BRA's case for an alternative.

History of the Scheme and Consideration of Alternatives

- 4.8 The history of the Scheme is set out in Section 2.2 of the Statement of Reasons [A.8].
- 4.9 Section 3.0 of the ES [B.1] sets out the Applicant's assessment of alternatives. A number of the options initially considered were found to be unable to accommodate the forecast traffic flow or would conflict with other traffic movements. Tables 3.2 and 3.3 of the ES [B.1] sets out the options considered and the reasons for their rejection.
- 4.10 Option 5 at Bean Junction was the preferred option as it was likely to have the least environmental impact. The environmental implications of Option 5 are set out at paragraph 3.2.15 of the ES [B.1]. Option 1 was the preferred option at Ebbsfleet.
- 4.11 The Applicant's preferred route announcement was made in August 2017. The public consultation period took place between 21 February – 04 April 2018¹⁵. It related to only one option in respect of each junction. Following the consultation further changes were made to the design.
- 4.12 The Orders together with the Environmental Statement and other accompanying documents were published on 14 February 2019 and the statutory objection period ran until 28 March 2019.

Law and Policy

- 4.13 The Orders are made or published in draft pursuant to powers under the Highways Act 1980 ("HA 1980") and are subject to the provisions of the Acquisition of Land Act 1981 ("ALA 1981").
- 4.14 The 'Guidance on Compulsory purchase process and The Crichel Down Rules' (The Guidance)[E.3] sets out the principles to be applied when considering a CPO. The Applicant confirmed that it was subject to the Crichel Down Rules which apply to "... all government departments, executive agencies and non-departmental public bodies in England" [HE/SID/33].
- 4.15 The Applicant has complied with this guidance in that:

¹⁴ EBB/1, DTC/1, KCC/1 and GBC/1

¹⁵ CD C.1 Section 2.2

- The acquiring authority having a very clear idea of how it intends to use the land.
 - There are policy and budgetary commitments in the Road Investment Strategy (RIS) in respect of the costs of constructing the Scheme with further detail in the Funding Statement[HE/SID/2].
 - It has continued to negotiate with landowners and a number of parcels of land have been purchased voluntarily. During the course of the inquiry objections have been withdrawn.
 - There is a public inquiry and landowners will be entitled to compensation. The urgent need for more housing in England all points to the interference with the human rights of landowners to be justified.
 - Considerable work has been undertaken with statutory consultees and regulators and there is every reason to suppose that the necessary licences, permits and consents will be forthcoming.
- 4.16 The HA 1980 directs the decision-maker to have regard to certain matters. Section 10(2) of the Act provides:
“(2) The Minister shall keep under review the national system of routes for through traffic in England and Wales, and if he is satisfied after taking into consideration the requirements of local and national planning, including the requirements of agriculture, that it is expedient for the purpose of extending, improving or reorganizing that system...”
- 4.17 Planning policy is relevant but, as is apparent from s10(2), there is no presumption that compliance or non-compliance with planning policies is determinative of whether or not the Orders ought to be made or confirmed.
- 4.18 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England. At the heart of the NPPF is a presumption in favour of sustainable development, which should be considered through both plan-making and decision-taking.
- 4.19 The Development Plan for the Scheme area comprises:
- Dartford Core Strategy Local Plan (2011)
 - Dartford Development Policies Plan (2017)
 - Gravesham Local Plan Core Strategy (2014)
 - Kent County Council's Local Transport Plan 4: 2016-2031
 - Kent Minerals and Waste Plan (2016)¹⁶
- 4.20 The Scheme is subject to a number of land use, built heritage and environmental designations and policies namely:
- Two AQMAs,
 - Seven Defra Noise Important Areas (NIAs);
 - Darenth Wood which is an ancient woodland and designated as a Site of Special Scientific Interest (SSSI) and retains a medieval boundary scheduled monument abutting the highway boundary of the A2;
-

¹⁶ HE/11/A Sarah Wallis POE Section 2.3

- The Thrift and two other ancient woodlands are situated near Bean Junction;
 - Swanscombe Skull Site SSSI and Baker's Hole SSSI;
 - Five Grade II listed buildings
 - Various Country Parks and Local Wildlife Sites (LWS)
 - Thames side Corridors Biodiversity Opportunity Area.
 - Four Scheduled Monuments
 - Veteran Trees
 - Green Belt¹⁷
- 4.21 Local planning policy is strongly supportive of the Scheme, with Kent, Gravesham and Dartford Councils all recognising the need for improvements to transport infrastructure, including the Scheme, to enable the ambitions for development in their plans to be realised. The EDC Implementation Framework states that the successful delivery of the Scheme on time is critical to the operation of the network and in delivering new development in Ebbsfleet.
- 4.22 The National Policy Statement for National Networks (NPSNN) sets out "The Government's vision and policy for the future development of nationally significant infrastructure projects on the national road and rail networks. The Scheme forms part of the Strategic Road Network and the NPSNN confirms that it may be a material consideration in decision making on non- Nationally Significant Infrastructure Project (NSIP) schemes.

Scheme Design

- 4.23 The Scheme has been designed in accordance with the Highways England Design Manual for Roads and Bridges (DMRB). There are some areas where departures from these standards have been, or will be, sought from Highways England. The most significant departure proposed relates to narrow lanes on the A2 mainline between Bean Junction and Ebbsfleet Junction.
- 4.24 Narrow lanes are proposed along an approximately 1.3km length of the A2 eastbound carriageway and approximately 350 metres of the westbound carriageway. The narrow lanes will be mitigated by re-allocating lane widths, making the two nearside lanes of each carriageway wider than the two offside lanes to accommodate higher flows of heavy goods vehicles in the nearside lanes and facilitate weaving movements. The proposed narrow lanes solution complemented with the mitigation measures is a low risk to all affected users. The principle of narrow lanes has been endorsed by the Safety Control Review Group¹⁸.

¹⁷ HE/11/A Sarah Wallis POE Section 3.1

¹⁸ Craig Twyman EiC

- 4.25 The existing bridges and Sandy Lane Subway will generally remain unchanged. The proposed Bean Junction Overbridge East runs parallel to the existing Bean Lane Overbridge, using a similar three-span arrangement.¹⁹ It would be slightly higher than the existing bridge.
- 4.26 Five retaining walls are proposed under the preliminary design, although more could be added during detailed design. The existing retaining measures along the A2 will remain²⁰.
- 4.27 The existing attenuation pond in the area known as Bean Triangle will be partially infilled and extended with a larger attenuation pond, shifted slightly north. The existing attenuation pond west of Bean North Roundabout may need to be enlarged, subject to detailed design calculations. Oversize pipes and a swale solution are proposed at Ebbsfleet Junction.
- 4.28 Provision for NMUs include a substantially improved north-south route through Bean Junction. Adequate provision has been made for safe movements of NMUs within the Scheme area.
- 4.29 Although improvements to the A2 mainline are not within the scope of the Scheme, a number of measures are proposed that will have a positive effect on safety and capacity.
- 4.30 The segregation barrier was introduced into the Scheme design for safety and traffic flow reasons. Traffic modelling forecasts that the barrier will help to balance traffic, reducing overall congestion. The barrier would make some journeys slightly longer. However, the improvements to Bean North Roundabout will help to relieve congestion and reduce delays in this area.
- 4.31 The existing car park in the north-west corner of Bean Triangle will be slightly reduced in size. This change does not affect the viability of the car park. The proposed entry and exit arrangements offer no significant inconvenience compared to the existing layout and they are safer²¹.
- 4.32 The design team refined the Scheme design in November 2018 to enable the retention of all but three veteran trees. The design team considered design changes to avoid the three veteran trees, but it was determined that they were unavoidable due to the Scheme layout and there was no scope to change the design to avoid them without extremely significant cost, programme, safety and environmental implications.

¹⁹ HE/2/A Craig Twyman POE Section 3.5

²⁰ HE/2/A Craig Twyman POE Section 3.5

²¹ HE/2/A Craig Twyman POE Section 4.1.13

Published Modifications to the Scheme

- 4.33 As set out at 2.7 above the Applicant submitted 5 modifications to the Scheme. These are assessed individually and cumulatively. Taken together they comprise the Promoted Scheme. *MOD1*
- 4.34 MOD-1 came about due to a topographical error in the survey. The layout shown within the published scheme would provide insufficient headroom for the wires between the pylons. The modification would not impact on the scheme boundary, but modifications to the SRO and draft Line Order would be required.
- 4.35 The proposed SLTL would follow the existing alignment. This reduces the impact on the carriageway edge. The eastbound exit slip road is realigned to match the existing carriageway. An additional lane to the approach is to be provided, giving a total of 3 lanes. The Modification also includes changes to the alignment of the B255. The roundabout would remain the same size, but there would be three lanes through the gyratory²².
- 4.36 Retaining the pylon in its current position would save about £3.85 million²³. There would be additional savings as set out in HE/SID/9. The difference between the published Scheme and the inclusion of MOD-1 would be about £8.65 Million. There would also be environmental benefits associated with the retention of the vegetation. Due to the reduction in works required the programme for construction could also be optimised, reducing the construction period from 3 years to 19 months²⁴.
- 4.37 There would be two departures from the usual safety standards. These relate to the chevron markings and forward visibility. However, both of these issues also arise with the existing layout and do not appear to have given rise to any safety issues²⁵. The accident records for the current operation of the SLTL do not suggest that this is a concern, consequently retaining the current layout would not have an impact on safety. These departures have been discussed with the safety experts at Highways England and it has been indicated that any departures would be likely to be approved at detailed design stage as the impact on safety is low/negligible and adequate mitigation measures through signing and road marking would be in place.²⁶

²² CD R.1 Section 2.1

²³ CD R.1 Section 2.6

²⁴ Robert Murphy Round table Discussion

²⁵ CD R.1 Section 2.2

²⁶ Craig Twyman EiC

- 4.38 A review of accident data over the last three years shows, 3 accidents on the slip road, including one serious accident. The evidence suggests that this was due to the driver travelling too fast rather than the design of the road²⁷.
- 4.39 There would be no operational impact on the roundabout, but the PM peak queue length would increase from 4 vehicles to 6 vehicles on the Bean North Bridge²⁸.
- 4.40 The modification is unlikely to have any effect on the findings on the air quality or noise assessment within the ES during either the construction or the operational phases²⁹.
- 4.41 The retention of the A2 off bound slip embankment and the B255 southbound link would mean that vegetation clearance would no longer be required along the embankment. This would be a beneficial change to the published scheme in terms of biodiversity since the temporary habitat loss and subsequent effects on hazel dormice, common species of reptile and badgers would be reduced. The habitat creation measures within the ES would remain unchanged due to the proposed loss of woodland and trees in other areas of the scheme³⁰.
- 4.42 The retention of the existing vegetation to the embankment to the east of bound slip would be a beneficial change in terms of landscape and visual receptors. It would retain vegetation on the skyline for receptors to the South West of the junction and screen views of the traffic on the B255 during operations. During year 1 the significance of effects arising from MOD-1 would reduce from moderate adverse to slight adverse in relation to receptors 21, 23, 24, and 25.

MOD2

- 4.43 In response to an objection from the landowner it is proposed to remove Plot 1/4a from the Scheme³¹. This would have provided the main site compound.
- 4.44 MOD-2 has been assessed against the environmental topics within the ES. With the exception of biodiversity the modification is unlikely to have any effects on the findings within the ES. The modification would involve the retention of the existing habitats within Plot 1/4a and vegetation clearance would no longer be required at this location. This would be a beneficial change to the scheme for biodiversity receptors as temporary habitat loss and subsequent effects on hazel dormice, common species of reptiles and badgers would be reduced³².

²⁷ HE/SID/6A

²⁸ HE/SID/25 Errata Sheet page 1

²⁹ CD R.1 Section 2.5

³⁰ CD R.1 Section 2.5

³¹ OBJ-014

³² CD R.7 Section 2.4

- 4.45 The MOD-2 report provides a high-level assessment of the environmental impacts of 6 possible sites. Due to Brexit contingency measures Location 3 is no longer available, however two of the sites are within the ownership and control of Highways England and therefore will definitely be available. The site compound will be a matter for the contractor and it is not certain that any of these sites would be used for the compound, but the MOD-2 report [R.7] indicates the issues that may arise in terms of these potential sites and the mitigation measures that are likely to be necessary. The use and establishment of the compounds is subject to control under the REAC.
- 4.46 All of the locations for the compounds are either within the study area for the construction dust assessment within the ES or partially within the study area. Once standard mitigation measures are applied there are not expected to be any significant adverse residual effects for air quality. All of the compounds are at a greater distance from the nearest noise sensitive property by comparison with Plot 1/4a. There is not expected to be any change to the conclusions of the noise assessment reported within the ES.
- 4.47 All alternative compounds will involve direct impacts (habitat loss) and potential indirect impacts (habitat degradation) that could affect the adjacent retained habitats. Habitat loss, disturbance, noise and light pollution are also likely to affect protected and notable species that are known to have the potential to be present.
- 4.48 Avoidance, mitigation and compensation measures set out in volume one section 7.8 of the ES will apply to compound locations. Habitat loss will be minimised as far as practical and protective measures will be implemented to avoid an encroachment or pollution of retained adjacent habitats during construction.
- 4.49 Some locations outside the Scheme boundary have not been subject to detailed ecological survey. Subject to the avoidance mitigation and compensation measures outlined in section 7.8 of the ES there is expected to be no change to the assessment of residual effects compared with the proposed compound at Plot 1/4a.
- 4.50 With the exception of Location 1 there is expected to be no change to the significance of residual effects insofar as it relates to road drainage and the water environment. Location 1 will cause some direct loss of an existing attenuation drainage pond. Subject to the mitigation measures in the form of extending and reinstating the pond there is expected to be no change to the magnitude of residual effects.
- 4.51 Some areas of Location 4 are identified to be at high risk from surface water flooding. It is also classed as being at risk of groundwater flooding. Extensive mitigation measures are likely to be required. Based on the mitigation measures set out within the ES and the Flood Risk Assessment there is not expected to be any change to the conclusions in the assessment reported in the ES.
- 4.52 Location 6 would give rise to a temporary increase in impact on landscape character area E. This would change from neutral to moderate adverse but

would be reversible in the short term. There would be an increase in significance of effects for visual receptors at Location 1, Location 2 and Location 4 for users of public rights of way DR 312, DR 28, and National Cycle Route 1. Location 6 would give rise to moderate adverse effects in terms of landscape. There would be new receptors not previously assessed as part of the scheme which would have moderate adverse effects due to the compound at Location 6. The impact on landscape and visual receptors is temporary and reversible.

- 4.53 Location 5 is situated within a Groundwater Source Protection Zone 1 (SPZ 1) and therefore the groundwater receptors are of increased sensitivity relative to other sites. It was previously used as a service station and a change in land use may result in elevated potential risk relative to other sites and the assessment within the ES.
- 4.54 Location 2 is anticipated to have a temporary and significant adverse effect at The Cottage, Park Corner Road. This is due to reduced visual amenity, although views are likely to be largely filtered by boundary vegetation. This property is anticipated to have post-mitigation noise effects due to night time construction works, therefore any significant post-mitigation visual effects could combine to create a significant amenity effect.
- 4.55 Overall the removal of the construction compound Plot 1/4a and the use of one of the alternative compounds is unlikely to change the overall significance of effects within the ES during the construction phase for all environmental topics except for landscape. For Locations 1,2 and 6 there will be a temporary increase in the significance of effect for visual receptors. At Location 5 the change in land use may result in an elevated potential risk for geology and soils relative to the other sites and relative to the assessment within the ES.

MOD-3

- 4.56 MOD 3 proposes the removal of traffic signals from Bean South roundabout. The strategic model indicates that traffic flows would increase marginally on all approaches of the Bean North roundabout and the Bean South roundabout. There would be no change in the delay at the Bean North roundabout and there would be reductions in the delays at the Bean South roundabout.
- 4.57 The operational model suggests that for the 2038 PM peak there would be a significant reduction in queues on the A2 westbound off slip at the Bean South roundabout. Balanced against this, there would be an increase in the queue on Bean Lane northbound approach of the Bean South roundabout. There would also be reductions in queue lengths for Hall Road/Station Road roundabout and Hall Road/Sainsbury's roundabout. The mean maximum queues on the Bean Lane northbound are predicted to increase by about 12 vehicles in the 2038 PM peak compared to the published scheme.
- 4.58 An assessment of the economic benefits of the scheme suggest that user benefits would increase by about £25 Million compared to the published scheme. Assessed under Road Traffic Forecast 2018 (RTF18) user benefits

would increase by about £12 Million. In addition, the removal of the signals is estimated to reduce construction costs by about £100,000.

- 4.59 The changes to traffic flows and queuing traffic could potentially affect air quality at Hope Cottages, the nearest receptors. Further analysis would be required to determine the effect, however, since the receptors at Hope Cottages are below the relevant national air quality objectives any change in concentrations is expected to be imperceptible, or a small decrease compared to the situation without the scheme.
- 4.60 There is also a potential for an increase in noise. Again, further analysis would be required to determine the effect at the nearest receptors, but it is expected that any changes in noise at these receptors are likely to be negligible.
- 4.61 The design of the roundabout has been subject to an independent road safety audit. Based on this and the fact that the layout provides suitable capacity for the design year peak traffic it is considered that the design should operate safely on a priority basis as a conventional un-signalised roundabout. The proposed modification would not reduce flows on the new slip road and therefore would not encourage traffic onto lower standard roads which in turn may reduce safety.
- 4.62 The disadvantages of this modification are identified and expressed with admirable clarity in Mrs Collins's statement [IP/5]. Mr Shipley's HE/SID/12 & 13 quantify the impacts in terms of queue length. Exiting Bean Village to go northwards over the bridge will be more difficult without traffic lights because residents and visitors have to give way to traffic on the westbound off-slip. Bean residents, however, will benefit from de-signalisation whenever they return to the village from the north or from the east along the A2. Mr Shipley's quantification dealing with maximum queue lengths shows that the impact on the arm of the roundabout coming from Bean is acceptable and, as already stated, the benefits massively outweigh the costs.
- 4.63 It would be open to Kent County Council (KCC) as the highway authority to insert traffic lights should the impact on vehicles entering the south of the roundabout be regarded as unacceptable. The acceptability of the northern exit from Bean should be kept under review once the Scheme is operational. This would provide a means of giving prominence to the understandable concerns of the BRA regarding de-signalisation.

MOD-4

- 4.64 MOD 4 proposes the removal of Plots 2/9a, 2/10a and 2/11a (Springhead Nurseries land) from the CPO since rights of access are no longer required³³.
- 4.65 This modification would require amendments to the CPO to remove Plots 2/9a, 2/10a and 2/11a.

³³ CD R.11.1

MOD-5

- 4.66 This modification was proposed in response to objections from the Dartford and Gravesham Cycling Forum and Mr Gary Outram [OBJ-004 & OBJ-027].
- 4.67 MOD-5 proposes a new NMU route and controlled crossing of the southbound B255 slip road approximately 45 metres north of its entry to the B255/A296 roundabout. This can be accommodated within the existing highway boundary. A pedestrian guard rail is proposed adjacent to the NMU route to guide pedestrians and cyclists to cross through the Toucan crossing. The existing road restraint system is extended to the north to prevent NMUs from crossing through the central reserve³⁴.
- 4.68 The existing NMU route on the east side of the B255/A296 slip road would be retained. The limitations of the existing crossing mean that a signal-controlled crossing at this location would be difficult, therefore the proposed NMU crossing would be located 45 metres from the existing informal crossing³⁵.
- 4.69 The visibility at the proposed NMU crossing is less than the absolute minimum required by TN 2/95, therefore mitigation measures will be required. The proposed crossing has been subject to a safety risk assessment. The identified hazards have been recorded in a semi-quantitative safety risk assessment table which identifies the overall risk as low³⁶. Details of this assessment are provided at HE/SID/10.
- 4.70 The VISSIM operational model assessment tested the impact of the proposed crossing at the eastern and northern approaches to the B255/A296 roundabout. The test was for the 2038 PM peak which is the worst-case scenario and assumed that 20 NMUs would use this facility in the peak hour.
- 4.71 The results show the B255/A296 roundabout will experience higher delays due to the crossing. Queues are predicted to be longer than the Do Something scenario, however the overall network result shows that the total network delays with the crossing will be lower than the Do Minimum scenario³⁷. If the queues caused by the signals were found to be excessive and gave rise to other adverse impacts on the network, KCC would be able to remove them³⁸.
- 4.72 It is not necessary to modify the Orders if the proposed controlled NMU crossing is incorporated into the Scheme since it lies within the current highway to be improved areas and will not require additional land³⁹.

³⁴ CD R.12 Section 2.2

³⁵ CD R.12 Section 2.3

³⁶ CD R.12 Section 2.42

³⁷ CD R.12 Section 2.5 and tables 2.5.1 & 2.5.

³⁸ Round table Session Stephen Binkuweir

³⁹ CD R.12 Section 2.6

4.73 Subject to the mitigation measures within the ES the additional NMU crossing is unlikely to have any effect on the findings of the air quality, noise and vibration, biodiversity, road drainage and water environment, landscape, geology and soils, cultural heritage, materials and waste, climate effects and vulnerability and cumulative effects assessments presented within the ES. In general, the mitigation measures already proposed in the ES are not expected to require amendment to accommodate this additional NMU crossing⁴⁰.

4.74 There is a degree of consensus in favour of this modification. Bluewater do not object and appear to have been satisfied by HE/SID/7 in which the point was made that KCC will have power to remove or alter the lights if that is expedient.

Cumulative effect of MOD-1, MOD-2, and MOD-5

4.75 HE/SID/12 provides an assessment of the published scheme with MOD1, MOD3 and MOD5, provides a strategic model assessment, economic assessment and operation assessment. This shows that journey times decrease or remain constant. The exception to this would be Route 5 during the PM peak 2038 northbound which increases by 2% due to the removal of the signals at Bean South Roundabout and the access from Bean Lane northbound.

4.76 It predicts lower delays for the modification test compared to the Do Minimum RTF18 scenario in the 2023 and 2038 AM peak hours. A greater number of trips are able to pass through the modelled area within the peak hour.

4.77 In 2023 the average delay per vehicle reduces by 24 seconds in the AM and 1 second in the PM peak. In addition, a higher number of trips are able to access the network within the peak hour compared to the Do Minimum and hence the Scheme increases capacity across the modelled network as a whole.

4.78 HE/SID/13 provides an assessment of the cumulative effect of MOD-1, MOD-2 and MOD-3 including a Saturday sensitivity test to include Bluewater. The assessment considers the effect of the modifications by comparison with the Do Minimum scenario. In terms of the overall network delays for the design year of 2038 would be significantly lower, with many more vehicles able to enter the network.

4.79 At the Bean North Roundabout, queue lengths at the B255 approach are predicted to reduce significantly by comparison with the Do Minimum scenario. At the B255 southbound arm of the A296 / B255 roundabout queue

⁴⁰ CD R.12 Section 4

lengths are predicted to increase from 346 metres to 491 metres but are expected to dissipate quickly.

- 4.80 Overall, the Modification Test is predicted to improve operational performance in the Saturday peak hour between 16:00 – 17:00, at both the Bean and Ebbsfleet roundabouts, compared to the 2038 Do-Minimum network.

Traffic and Economic Assessment of the Scheme

- 4.81 The assessment of the traffic impacts of the scheme has been undertaken using both a strategic and a local operational transport model. The Scheme model was based on a March 2016 base year. It considered the AM and PM peak hours and the inter-peak (IP) average hour.
- 4.82 In order to assess the effects of the Scheme the ES considers the 'Do Minimum' and 'Do Something' scenarios respectively. The 'Do Minimum' scenario represents the future baseline without improvements at the A2 Bean and Ebbsfleet Junctions. The 'Do Something' scenario represents the scenario where the Scheme is built. These scenarios considered the opening year 2023 and the design year 2038.
- 4.83 The forecasts were based on RTF15. The subsequent release of Road Traffic Forecasts 2018 (RTF18) results in reduced traffic flows across the network with an associated reduction in delays in both the Do Minimum and Do Something scenarios. A sensitivity test has been undertaken by incorporating the changes in growth rates of LGVs & HGVs for the core scenario⁴¹ and a technical note in relation to the sensitivity test was submitted by the Applicant [H.6].
- 4.84 RTF18 also has implications for the economic benefits of the Scheme. The economic benefits of the scheme are assessed over a 60-year period and take account of savings in travel time, vehicle operating costs and user charges. Savings due to accidents are also taken into account as are the impacts of the scheme on greenhouse gas emissions, local air quality and noise.
- 4.85 The overall Present Value of Benefits (PVB) reduces to £80.2 million compared to the £143.8 million forecasts in the core scenario. This reduces the overall initial Benefit to Cost Ratio (BCR) from 2.33 to 1.45. The carbon calculations were revised in December 2018 to include all roads in the traffic model. This reduced the carbon disbenefit of the scheme from £2.37 million to -£0.14 million. This adds to the overall economic benefits and would result in a BCR of 1.47⁴².

⁴¹ HE/3/A Craig Shipley Summary POE Section 7.2 & HE/3/C

⁴² H.6 Table 5-1

- 4.86 An assessment of journey times along 12 routes show that the scheme would reduce the overall journey time across the majority of routes in both the opening and design years compared to the Do Minimum scenario. The reduction in journey time is much higher in the PM peak than other peaks, as more trips pass through the scheme in the PM peak.⁴³
- 4.87 An operational model was developed to provide a more detailed assessment of the Bean and Ebbsfleet junctions. This compares the average delay per vehicle and the total number of trips processed through the model network (the non-latent demand).
- 4.88 The operational performance of the Scheme for the AM peak (06:30 – 08:30) and the PM peak (16:30 – 18:30) has been modelled using the VISSIM software. This suggests that during the AM peak hour the total delay with the Scheme is predicted to decrease by 24 seconds per vehicle for 2023 compared with the Do Minimum scenario. The PM peak hour model predicts similar reduction in average delays. The 2038 Do Something model predicts an improvement in total delay of 100 seconds per vehicle in both the AM and PM peak hours.⁴⁴
- 4.89 The total number of trips to pass through the modelled network will increase by 150 vehicles in the AM and around 800 vehicles in the PM peak hour for the 2023 Do Something scenarios compared with the Do Minimum scenarios. For the Do Something 2038, the model predicts an increase of around 820 total vehicle trips in the AM peak hour and an increase of vehicle throughputs by approximately 1,020 vehicle trips in the PM peak hour.⁴⁵
- 4.90 Having regard to the Bluewater peak hour an assessment of the operational performance of the Bean and Ebbsfleet junctions has been undertaken for a Saturday effect of the Scheme on journey time. This indicates that in the 2038 forecast year the level of vehicle delay within the VISSIM network reduces by 37% with the Scheme in place. In addition, both the Bean interchange and Ebbsfleet interchange perform well within capacity.⁴⁶
- 4.91 In the Do Something scenario, the addition of a new on-slip at Bean North reduces congestion on the A296 slip by re-routing traffic through the new on-slip and offers an alternative route via B255. The new on-slip from Bean North to the A2 combined with the A296 slip would also result in more traffic routing along the A2 in the eastbound direction⁴⁷.

⁴³ CD B.8 Transport Forecasting Package Section 3.3

⁴⁴ HE/3/B Craig Shipley POE Section 6.6

⁴⁵ HE/3/B Craig Shipley POE Section 6.6

⁴⁶ HE/3/B Craig Shipley POE Section 6.7

⁴⁷ CD.B.8 paragraph 3.3.4

- 4.92 The Scheme would also deliver benefits in terms of a reduction in accidents, improvements in air quality, carbon emissions and noise, and journey time reliability.⁴⁸

Construction

- 4.93 The main construction works would commence in March 2020 and the Scheme would be open to traffic in 2023. The A2 mainline works would be completed first, followed by the Bean and Ebbsfleet junction works that would be completed simultaneously.
- 4.94 Advanced works may commence early in the first quarter of 2020 and include habitat translocation, planting, archaeological investigations, securing of the site, establishment of the site offices, early utility diversions and site clearance. Although the work is programmed to last 3 years, it is hoped that it may be completed in 19 months⁴⁹.
- 4.95 There are several key elements of the construction strategy which determine the key interactions and programme duration. These are: Dormice and breeding bird constraints; Archaeological monitoring in accordance with the archaeological Management and Mitigation Strategy (AMMS) [M.8]; Advance planting; the need to carry out main earthworks during the 'Earthworks Season' between April and October; and traffic management phasing⁵⁰.
- 4.96 Working hours for normal construction activities are likely to be 7.00am to 7.00pm Monday to Friday and 7.00am to 1.00pm on Saturday. Earthworks during summer hours may extend until 8.00pm Monday to Saturday, with occasional works on Sundays. Some limited and specific night-time working would be required. There would be no normal working on Sundays, Bank or Public Holidays. Any exceptions to normal working hours would follow a notification procedure to advise any residents that may be affected by the works. The working hours will be subject to local authority approval via the section 61 process within the Control of Pollution Act 1974⁵¹.
- 4.97 A key aim of the earthworks strategy has been to achieve an earthworks balance, whereby the volume of excavated material equals the volume of fill needed for both embankment construction and landscape ground-shaping. This would maximise the reuse of materials available within the site, minimise the import of materials from outside the site and minimise the need for inert material disposal. Where appropriate or required, material would be modified to maximise its suitability for inclusion in the completed Scheme.
- 4.98 There will be some slip road closures required on both the Bean and Ebbsfleet Junctions. Where these are required, they will be overnight and appropriate

⁴⁸ HE/3/B Craig Shipley POE Sections 7.4, 7.5 and 7.7

⁴⁹ Chris Kennedy XX

⁵⁰ HE/4/A Chris Kennedy Summary POE Section 2.1

⁵¹ HE/4/A Chris Kennedy Summary POE Section 2.2

diversion routes will be provided. Any closures would be discussed with Bluewater.

- 4.99 The estimated peak number of personnel working on the A2 Bean and Ebbsfleet site would be approximately 150. Temporary site compounds would be established to support the construction operations. These would generally comprise mobile 'portacabin' office units, welfare facilities, storage areas for construction materials, maintenance areas and parking areas for the workforce⁵².
- 4.100 The main construction compound location is being discussed with local land owners and will be subject to private agreement for securing land, the compound will be erected under General Permitted Development Order (GPDO) rights⁵³.

Environmental Design

- 4.101 Environmental design has been an integral part of the Scheme development and will continue to be so as the Scheme progresses to detail design. Wherever practicable, measures are taken to avoid impacts on environmental assets and designations. Where this is not possible, solutions are sought to minimise the impact. Only then are mitigation or compensation measures proposed.⁵⁴
- 4.102 The Scheme adheres to the design principles within the Road to Good Design [H.2]. Amongst other matters this seeks to provide an inclusive, resilient and sustainable road network.
- 4.103 Since the publication of the ES the following documents have been prepared to provide more detail and further explanation on certain aspects of the Scheme: Landscape and Ecology Mitigation Strategy [I.7]; Veteran Tree Compensation Strategy Technical Note [L.15]; Archaeological Mitigation and Management Strategy [M.8].
- 4.104 Crown Land is required for advance planting and there is agreement in principle that it will be sold to the Applicant [CE/1].⁵⁵
- 4.105 The submitted cross-sections show the effect of the changes to the Bean South Roundabout on Hope Cottages [HE/SID/17]. The proposal provides for a noise barrier to Hope Cottages. It is hoped that this could be converted to a green barrier, but this would need to be the subject of designated funds. The noise barrier will not extend in front of 15 and 16 Hope Cottages due to this being a pinch point.⁵⁶

⁵² HE/4/A Chris Kennedy Summary POE Section 3.0

⁵³ HE/4/A Chris Kennedy Summary POE Section 3.0

⁵⁴ HE/5/A Liz Brown Summary POE Section 2.0

⁵⁵ Liz Brown XX

⁵⁶ Liz Brown XX

- 4.106 The Scheme includes areas of woodland planting and the creation of a number of other habitats.

Landscape

- 4.107 The landscape design is shown on the Preliminary Environmental Design Figures 2.3 in ES Volume 3 [B.3.1]. The submitted Landscape and Visual Impact Assessment (LVIA) took account of IAN/135/10 Landscape, and Visual Effects Assessment [G.23], and DMRB Volume 11 [G.25]. It also considered the published Guidelines for Landscape and Visual Impact Assessment (GLVIA) 3rd Edition, 2013 [I.1], and Landscape Institute Advice Note 01/11 (2011) Photography and Photomontage in Landscape and Visual Assessment [I.6]. This assessed the Scheme taking account of mitigation.⁵⁷
- 4.108 The proposed landscape mitigation relies on a number of measures including advance planting within the arable field to the south-east of Bean South Roundabout, during the first available planting season of the construction programme. In addition, the newly formed embankments at the Bean Junction will be replanted with native species broadleaved woodland to re-establish the visual screening and integrate the Scheme into the landscape.⁵⁸
- 4.109 The existing planting at the Ebbsfleet junction will be replaced using semi-mature stock to recreate the 'Gateway' to the Garden City.
- 4.110 The residual effects would include moderate adverse effects on local Landscape Character Areas (LCAs) G1 – A2 Corridor North (Open and Closed) and C1-C3 Darent and Bean Woods. This is due to the loss of existing native vegetation to the embankments, which has established sufficiently to meet its design objectives of integrating the junction into the landscape and providing visual screening.⁵⁹ By year 15 when the mitigation planting will reach its design objectives, the significance of effects would be reduced to neutral for LCA G -A2 corridor and would be slight beneficial for LCA C1-C3 due to the extensive area of planting.⁶⁰
- 4.111 There would be large adverse effects for the residents of 6-16 Hope Cottages during construction due to the new Bean overbridge, the increase in the number of lanes between Bean South Roundabout and the enlargement of the Bean South Roundabout. These cottages are located between 9 and 30 metres from the carriageway.⁶¹
- 4.112 During operation the significance of effects reduces to moderate adverse due to the view of the timber environmental barrier for 6-14 Hope Cottages and an increase in road infrastructure in views from 15 and 16 Hope Cottages.

⁵⁷ HE/6/A Angela Wade POE Summary Section 2.1

⁵⁸ HE/6/A Angela Wade POE Summary Section 2.2

⁵⁹ HE/6/B Angela Wade POE Paragraph 2.3.2

⁶⁰ HE/6/B Angela Wade POE Paragraph 2.3.11

⁶¹ HE/6/B Angela Wade POE Paragraph 2.3.5 & 2.3.6

There is insufficient space to include any new mitigation planting in front of Hope Cottages which are located on higher land than the road therefore the adverse effects on these properties would not reduce. 16 Hope Cottages would have a clear view of the additional lane and new overbridge during operation since the barrier would not extend this far.⁶² The existing screen planting will be retained. This will filter views of the Scheme from 1-5 Hope Cottages.⁶³ If a green barrier were provided in this location the effects would reduce to slight⁶⁴.

- 4.113 At Ebbsfleet the mitigation planting to the roundabouts would provide an immediate impact. As such the significance of effects would be reduced to slight adverse in year 1 of operation and to neutral by year 15 when the embankment planting will also have achieved its design objectives.
- 4.114 The users of the National Cycle Route (NCR) 177 and NCR 1 are sensitive receptors close to the Scheme and would experience large adverse effects during construction. The construction activity will be dominant in the view of the Spring River Public House and Hotel, however, views of the Scheme from the hotel would be limited to the northernmost windows.
- 4.115 The landscape and ecological proposals have been considered as an interrelated aspect of the landscape design. The Landscape and Ecological Mitigation Strategy [I.7] contains further details over and above those provided in the ES.

Biodiversity

- 4.116 The scheme is designed to avoid direct impacts on Darenth Woods SSSI, the Ebbsfleet Marshes, and 5 five ancient woodlands. Losses of veteran trees and lowland mixed deciduous woodland has been minimised as far as practical. These design measures have reduced the potential impacts on protected species including Hazel dormice and badgers through minimising habitat loss. Further refinement of the design has been made to avoid potential losses of veteran trees.
- 4.117 The Scheme has the potential to result in indirect impacts on Darenth Wood SSSI, Ebbsfleet Marshes LWS, ancient woodlands (Darenth Wood, The Thrift, Parkhill Wood, and two unnamed areas), veteran trees, and other habitats due to their close proximity to the Scheme. However, with the application of appropriate mitigation measures, significant residual adverse effects would be unlikely.
- 4.118 During construction the Scheme would involve direct impacts (i.e. habitat loss) affecting three individual veteran trees, lowland mixed deciduous woodland, broadleaved plantation woodland, semi-improved grassland, arable

⁶² HE/6/B Angela Wade POE Paragraph 2.3.15

⁶³ HE/6/A Angela Wade POE Summary Section 2.3

⁶⁴ Angela Wade EiC

farmland, two ponds, and man orchids. Appropriate mitigation and compensation measures would be provided.⁶⁵

4.119 The design review has reduced the potential number of veteran trees to be lost from 12 originally to 3.⁶⁶ All three trees are located immediately adjacent to the highway boundary. The trees need to be removed for the following reasons:

- T032 to facilitate construction of the new southbound approach to Bean North Roundabout and NMU route;
- T036 to facilitate construction of the retaining structure for the new slip road onto the A2 for eastbound traffic; and
- T057 to widen the westbound off-slip at Bean Junction to three lanes on approach to the roundabout.

4.120 A report setting out the reasons for the loss of these trees was submitted to Natural England [L.14] [HE/SID/18].

4.121 The compensation strategy for the loss of 3 veteran trees involves a hierarchy of measures as set out in the Veteran Trees Compensation Strategy [L.15]. These measures include keeping the location of the trees under review throughout the detailed design stage. If possible, the trees would be retained. If retention is not feasible the trees will be translocated to a suitable receptor site that would be informed by the results of soil sampling. In addition, native broadleaved woodland and 9 new pendulacate Oak trees would be planted. The removal of the trees cannot be fully compensated and would result in a large adverse permanent effect on their conservation status.⁶⁷

4.122 The Scheme also has potential to involve direct and indirect impacts on protected species through habitat loss, killing/injury, and disturbance. With appropriate mitigation and compensation (including works to be carried out under a Natural England European Protected Species mitigation licence for hazel dormice), significant residual adverse effects on bats, otter and water vole, birds, reptiles, badger and terrestrial invertebrates would be unlikely. Slight adverse temporary effects are predicted on the conservation status of hazel dormice until new habitats become established.⁶⁸

4.123 Once operational the Scheme has potential to result in indirect impacts on Darenth Wood SSSI, Ebbsfleet Marshes LWS, ancient woodlands (Darenth Wood, The Thrift, Parkhill Wood, and two unnamed areas), veteran trees, and other habitats due to their close proximity to the Scheme. With the application of appropriate mitigation measures to address potential indirect

⁶⁵ HE/7/A Caroline Ford Summary POE Paragraph 2.3.2

⁶⁶ HE/7/B Caroline Ford POE Section 3.2

⁶⁷ HE/7/B Caroline Ford POE

⁶⁸ HE/7/A Caroline Ford Summary POE Paragraph 2.3.4

- impacts in relation to groundwater/water pollution, significant residual adverse effects would be unlikely.⁶⁹
- 4.124 A very small improvement would be made in relation to air quality at the edge of Darenth Wood SSSI. As a result, the significance of the residual effects on the SSSI would be neutral. Due to habitat creation as part of the Scheme, long-term slight beneficial effects are predicted for lowland mixed deciduous woodland, broadleaved plantation woodland, semi-improved grassland and ponds.⁷⁰
- 4.125 The Scheme also has potential to cause indirect impacts on bats, hazel dormice, birds and terrestrial invertebrates through disturbance/habitat loss via lighting during operation. With appropriate mitigation through design, significant residual adverse effects would be unlikely. Due to habitat creation measures, slight beneficial long-term effects are predicted on the conservation status of hazel dormice and birds once new habitats are established.⁷¹
- 4.126 The design includes embedded ecological mitigation measures to ensure the retention and protection of designated sites, ancient woodland and retained veteran trees. Notable habitats such as lowland mixed deciduous woodland and hedgerow would be protected from accidental incursion and pollution during construction. These measures are secured by the Landscape and Ecological Management Plan (LEMP) and set out in the REAC.
- 4.127 Mitigation measures in relation to air quality, noise and water and drainage would avoid and minimise the potential impacts of pollution during construction.
- 4.128 Ightham Cottages were found to have low potential for roosting bats. The submitted surveys [B2.8] [HE/SID/19] did not find any evidence of roosting bats, however due to access restrictions, it was only possible to cover the front elevations of No's 1-2 and the front and rear elevations of No's 7-9.
- 4.129 Hazel dormouse nest boxes would also be established in retained Woodland scrub during autumn 2019 in accordance with the mitigation licence. Post-construction monitoring would be undertaken for the hazel dormouse population and for the newly created habitats.
- 4.130 Site clearance would be carried out under a precautionary method of working for works affecting habitats that support other protected species such as bats, nesting birds, common species of reptile and badgers. Prior to construction protected species surveys would be undertaken for bats, badgers, otters and water voles to inform any further mitigation that may be required.

⁶⁹ HE/7/A Caroline Ford Summary POE Paragraph 2.4.2

⁷⁰ HE/7/A Caroline Ford Summary POE Paragraph 2.4.3

⁷¹ HE/7/A Caroline Ford Summary POE Paragraph 2.4.5

- 4.131 Habitat creation measures include the creation of broadleaf woodland (much of which would take the form of advance planting), species rich grassland, scrub, native hedgerow, and extended ponds. In addition, the replanting of temporarily cleared habitats post construction. The top soil supporting man orchid colonies would be reused in grassland creation areas on the road verges post-construction.
- 4.132 A LEMP would be produced for the Scheme during the detailed design stage and implemented throughout the establishment and maintenance period. An Ecological Clerk of Works would be employed during the construction period to advise on all ecology issues and measures. The LEMP takes account of comments from the local authorities and the veteran tree compensation strategy has been provided to the Woodland Trust.

Historic Environment

- 4.133 The Scheme and study area are located in a landscape area rich in archaeological remains from the Palaeolithic through to the Roman and early medieval periods.
- 4.134 The most sensitive area with regard to archaeology is the eastern end of the Scheme at the Ebbsfleet junction where significant remains associated with the Romano-British and later prehistoric settlement and cult centre are known to survive north of the A2. This area also has a recognised potential for Lower Palaeolithic and early Holocene archaeology and palaeoenvironment.
- 4.135 A slight adverse and not significant effect during the construction phase has been identified on potential buried remains as well as remains potentially associated with three known heritage assets: Vagniacae; Watling Street; and 2nd Century Roman Temple. Potential slight adverse and not significant cumulative effects on the potential prehistoric and paleoenvironmental resource have also been identified.
- 4.136 An Archaeological Management and Mitigation Strategy (AMMS) will ensure preservation either in situ or by record of the known heritage assets within the Scheme and enable identification and preservation by record of any hitherto unrecorded archaeological remains.
- 4.137 A signed statement of common ground between the Applicant, Historic England and Kent County Council Heritage was submitted to the inquiry [O.3]. Most matters between the parties are agreed although some matters were under discussion it is considered that these can be addressed through the Archaeological Management and Mitigation Strategy (AMMS), which is an evolving document. Moreover, much of the information sought will not be available until the design is refined.

Air Quality

- 4.138 Air Quality was assessed using the tools and datasets available at the time the ES was published. Since that time updates have been made to the various tools and datasets produced by Defra and used in the air quality

assessment. Given that the air quality assessment was undertaken using the tools and datasets available at the time it is not considered necessary to undertake any further assessment.⁷²

- 4.139 Within the air quality study area, there are four AQMAs, of which three are in Dartford: AQMA No.1 (A282 Tunnel Approach); AQMA No.2 (London Road); and AQMA No. 4 (Bean Interchange); and one is in Gravesham, the Gravesham A2 AQMA (along the length of the A2). All of these were declared by the local authorities for exceedances of the national nitrogen dioxide (NO₂) annual mean objective and in two cases for exceeding the national 24-hour mean objective for fine particulate matter (PM₁₀).⁷³
- 4.140 The legally binding, mandatory limit values for Air Quality set by the European Union (EU)⁷⁴ has been transposed into UK law under the Air Quality Standards Regulations 2010 (AQS).⁷⁵ The same criteria are used for both the EU limit values and the AQS objective in respect of NO₂ and particulate matter (PM₁₀ and PM_{2.5}).
- 4.141 For NO₂ annual mean concentration should not exceed 40 micrograms per cubic metre (µg/m³), whilst the 1-hour mean concentration should not exceed 200 µg/m³ more than 18 times a year. For PM₁₀ the annual mean concentration should not exceed 40 µg/m³ whilst the 24-hour mean concentration should not exceed 50 µg/m³ more than 35 times a year.
- 4.142 There have been a number of changes since the ES was published:
- The Defra Pollution Climate Mapping (PCM) datasets have been updated. Data is now available for 2017. This data does not alter the conclusions in the ES regarding compliance.⁷⁶
 - The baseline conditions within the ES have been updated using the most recent local authority monitoring data. This shows that annual mean NO₂ concentrations at the Dartford Bean Interchange and St. Clements roadside sites still exceed the national annual mean objective (where data was available). At the Gravesham A2 roadside site concentrations are still below the annual mean objective.⁷⁷
 - Various tools and datasets produced by Defra and used in the air quality assessment have been updated. These include updates to Vehicle Emissions Factors Toolkit; Background concentration maps; and the NO_x to NO₂ calculator. The air quality assessment was undertaken using the

⁷² HE/9/A Vicki Sykes POE Summary Section 3.2

⁷³ HE/9/A Vicki Sykes POE Summary Section 2.2

⁷⁴ EC Ambient Air Quality and Cleaner Air for Europe Directive (the Ambient Air Quality Directive)

⁷⁵ SI 2010/1001

⁷⁶ HE/9/B Vicki Sykes POE Paragraph 3.1.2

⁷⁷ HE/9/B Vicki Sykes POE Paragraph 3.1.4 & 3.1.5

tools and datasets available at the time, and it is not considered necessary to undertake any further assessment.⁷⁸

- 4.143 During construction of the Scheme, there is the potential for increased emissions of dust which could affect the amenity of nearby sensitive receptors. With the application of appropriate mitigation measures, secured in the Construction Environmental Management Plan (CEMP), significant residual effects at those receptors would be unlikely.⁷⁹
- 4.144 To allow for uncertainty in future estimates of vehicle emissions and ambient concentrations of NO₂, the guidance in the Highways England's Interim Advice Note (IAN) 170/12 v3 [G.17] was used to provide more realistic future concentrations than the use of Defra emission factors which are considered more optimistic.
- 4.145 Although 11 of the 75 selected human health receptors are expected to exceed the national annual mean NO₂ objective, both with and without the Scheme, only one is expected to have a small increase in concentrations (less than 2 µg/m³). This is R17 which is located adjacent to the new on-bound slip road. At the other ten receptors, concentrations are expected to decrease or change imperceptibly with the Scheme. The majority of receptors with an exceedance are located within the Dartford AQMA No.1.⁸⁰ Accordingly when assessed in accordance with IAN 174/13 [G.19] the change arising from the Scheme is not significant.
- 4.146 Three of the 11 receptors are also expected to exceed the national 1-hour mean NO₂ objective, both with and without the Scheme. These receptors are all located within the Dartford AQMA No.1.
- 4.147 There are two other receptors, both located along the A2, with a 'small' increase in annual mean NO₂ concentrations. R11, which is located in the new development in Eastern Quarry with an increase of 0.5 µg/m³, and R13, a property within Bean Triangle east of Bean Junction, with an increase of 1.3 µg/m³. In both cases the reason for the increase in concentrations is an increase in traffic with the Scheme on the section of the A2 between the junctions. However, R11 is not actually representative of any residential properties in the illustrative masterplan for the Eastern Quarry development site but has been positioned near to the A2 as a worst case.⁸¹
- 4.148 There are not expected to be any exceedances of the national annual mean or 24-hour mean PM₁₀ objectives at any receptors, with or without the Scheme.

⁷⁸ HE/9/B Vicki Sykes POE Section 3.2

⁷⁹ HE/9/A Vicki Sykes POE Summary Section 2.3

⁸⁰ HE/9/A Vicki Sykes POE Summary Section 2.4

⁸¹ ES Chapter 5 Paragraph 5.7.12

- 4.149 The results showed that, overall, there is not considered to be a significant adverse effect on local air quality as a result of the Scheme in the context of the national air quality objectives for human health.
- 4.150 The effects of air quality on pedestrians were not assessed since they would only be in the area for a short time. The air quality assessment was undertaken prior to the consideration of where noise barriers for mitigation purposes may be required. The effect of noise barriers on near-road pollutant concentrations will depend on the height of the barrier, the distance of the receptor behind the barrier, and the orientation of the barrier relative to the wind direction. Generally, the effect of such a barrier is to lead to a decrease in pollutant concentrations at receptors behind the barrier.⁸²
- 4.151 The concentrations at receptors behind the noise barriers at the new slip road onto the A2 eastbound and at Hope Cottages, could therefore be lower with the Scheme than the concentrations reported in the ES.⁸³

Noise

- 4.152 The noise levels at the properties closest to the Scheme currently exceed the daytime Significant Observable Adverse Effect Level (SOAEL) threshold, 68dB LA10-18hr⁸⁴, with noise levels of 75dB LA10-18hr⁸⁵ to 80dB LA10-18hr⁸⁶ during the day.

Construction Noise

- 4.153 The construction noise assessment within the ES was considered to be overly conservative and has been revised. In accordance with BS5228: 2009 + A1:2014 it is considered to be more appropriate to treat attenuation from the construction works over distance as a point source allowing for the fact that activities would be taking place over discrete sections of the scheme at a time.
- 4.154 The ES predicted that at night time even with mitigation, all properties within 300 metres of the works would be affected, whereas the new approach predicts that this would only be the case for properties within 100 metres of the works. An updated table 6.13 has been provided⁸⁷.
- 4.155 Most properties within the study area are situated more than 150m from the works. Without noise mitigation, Hope Cottages and Brickfield Nursery in Bean, and some new properties within the Ebbsfleet Valley Development

⁸² HE/9/A Vicki Sykes POE Summary Section 3.3

⁸³ HE/9/A Vicki Sykes POE Summary Section 3.3

⁸⁴ This is the SOAEL used by the Applicant for operational noise and is derived from the Noise Insulation Regulations 1975 (amended 1988)

⁸⁵ This is the SOAEL used by the Applicant for construction noise during the daytime

⁸⁶

⁸⁷ HE/10/A Victoria Stewart POE Summary Section 3.1

- could be affected by construction noise levels that exceed the daytime threshold limits for construction noise. Temporary noise barriers adjacent to the works could improve noise levels by up to 10dB and would almost eliminate any predicted significant daytime construction noise impacts.
- 4.156 Almost all of the activities would exceed the night-time noise threshold value (55dB) within 300m of the construction works, even with mitigation in place. The frequency of these impacts can be reduced, if night time construction works are limited to essential works only⁸⁸.
- 4.157 During construction, noise levels are unlikely to exceed daytime significance threshold levels (as defined in the ES) at any property with temporary noise mitigation in place. Adverse impacts are however predicted at those properties that are within 50m of the works, including Hope Cottages and the nearest properties within the new developments at Ebbsfleet Valley.⁸⁹
- 4.158 For night time works, a significant adverse effect from construction noise is predicted at all properties within 100m of the works, even with temporary mitigation in place. The frequency of these impacts will be minimised as night time construction works will be limited to essential works only. Best practice, considerate working hours, as well as frequent and open communications with stakeholders, will help to reduce the impact of construction noise and vibration.⁹⁰
- 4.159 The construction noise assessment within Chapter 6 of the ES predicts that with temporary noise mitigation in place, the weekday daytime (08:00-18:00) and Saturday daytime (08:00-13:00) noise levels are not expected to exceed the Applicant's SOAEL threshold limit (75dB L_{Aeq, T}).
- 4.160 Table 6.2 of the ES shows that trigger levels between 18:00 and 19:00 on a weekday, and between 13:00 and 14:00 on a Saturday, would be 70dB L_{Aeq, T}. In addition, the trigger levels between 19:00 and 22:00 on a weekday, and between 14:00 and 22:00 on a Saturday, would be 65dB L_{Aeq, T}. Therefore, the effect of construction work continuing until 19:00 during the summer months has been considered.
- 4.161 Properties 15 and 16 Hope Cottages are around 10m from the works. Should evening works be carried out within this distance the noise levels at these properties would exceed these evening trigger levels. However, when the works are 20m from the properties, the noise levels are not expected to exceed 70dB L_{Aeq, T}. At 40m from the works, the noise levels are not expected to exceed 65dB L_{Aeq, T}.

⁸⁸ CD B.1 ES Paragraph 6.7.7 & 6.7.8

⁸⁹ HE/10/A Victoria Stewart POE Summary Section 2.3

⁹⁰ HE/10/A Victoria Stewart POE Summary Section 2.3

- 4.162 It is recommended that construction noise close to Hope Cottages is limited to weekday daytime (08:00 to 18:00) and Saturday (08:00 to 13:00) where possible, to limit the impact during the evening and night time periods.
- 4.163 If works are required at these locations during the evening period, in line with paragraph 6.4.6 of the ES, noise insulation would not be necessary if works are limited to a period of less than 10 days in any 15 consecutive days, or than 40 days in any 6 consecutive months, during construction. The same is also true for night time workings, where the trigger level is 55dB L_{Aeq}, T⁹¹.

Operational Noise

- 4.164 When the Scheme opens there would be a minor decrease in noise at 9 dwellings and a moderate decrease at 1. There would be a minor perceptible increase in noise at Brickfield Nursery. By 2038 the Scheme would give rise to a minor perceptible decrease in noise at three dwellings. Without the Scheme, by 2038 it is expected that there would be no perceptible changes at any receptors.
- 4.165 The significance of these changes is assessed using the impact magnitudes defined in DMRB HD 213/11⁹². In the opening year (2023), during the daytime, there was a net reduction in noise, with 19 fewer properties between the Lowest Observable Adverse Effect Level (LOAEL) and the SOAEL with the Scheme, and 4 fewer properties equal to or greater than the SOAEL.⁹³
- 4.166 By the future assessment year (2038), during the daytime, there was a net reduction in noise, with 258 fewer properties between the LOAEL and the SOAEL with the Scheme, and 6 fewer properties equal to or greater than the SOAEL. Without the Scheme there was a net reduction in noise, with 268 fewer properties between the LOAEL and the SOAEL by the design year (2038), and 4 fewer properties equal to or greater than the SOAEL.
- 4.167 The reductions in noise that are common to all design year scenarios can be attributed to the inclusion of the Lower Thames Crossing (LTC) in the traffic data, plus the new lower noise surfacing that has been included on the A2.
- 4.168 The noise mitigation includes a new lower noise road surface, replacing the existing older sections of low noise surfacing, and new and replacement environmental noise barriers.
- 4.169 The Scheme, when operational, is not predicted to generate any significant effects. All adverse effects have been mitigated and the quality of life improved where possible.

⁹¹ HE/SID/26

⁹² ES Chapter 6 Paragraph 6.4.23 and Table 6.5

⁹³ The LOAEL and SOAEL values used by the Applicant are set out at ES Chapter 6 Table 6.6

- 4.170 The World Health Organisation (WHO) Environmental Noise Guidelines (ENG) strongly recommend that the average noise exposure at a property from road traffic noise is reduced to below 53dB L_{den} , with night noise exposure reduced below 45dB L_{night} . Road traffic noise above these levels is associated with adverse effects on health and sleep. The values in the guidelines are those where adverse effects are confirmed to have occurred rather than defining the point at which those adverse effects begin to occur⁹⁴.
- 4.171 The Noise Policy Statement for England (NPSE) states that schemes should avoid significant adverse noise effects, as well as mitigate and minimise adverse effects.
- 4.172 The L_{den} value used in the WHO ENG is not directly comparable with the daytime L_{Aeq} , as it takes into account the noise level over the full 24hr period and includes penalties for night time and evening noise. The night time values used by Highways England are more stringent than those provided in the WHO Environmental Noise Guidelines 2018.
- 4.173 In line with the NPSE policy aims, the number of properties that exceed the threshold for significant effect has been reduced. In addition, there are no new properties that exceed the SOAEL as the result of the scheme. Where reasonably practicable mitigation has been included to reduce the levels of noise at properties near the Scheme. The mitigation measures include low noise surfacing and noise barriers.
- 4.174 At present 1,849 residential properties exceed the LOAEL during the day and 3,197 exceed the LOAEL at night. With the Scheme by 2038, it is predicted that 1,574 residential properties would exceed the LOAEL during the daytime and 3,193 properties would exceed it at night time.
- 4.175 In terms of significant effects at present 221 properties exceed the SOAEL during the day, and 312 exceed this level at night time. With the scheme by 2038 it is predicted that there would be 215 residential properties that exceed the SOAEL during the day with 301 properties exceeding the SOAEL at night⁹⁵.

Alternatives

- 4.176 BRA has promoted an alternative scheme. The Applicant submits that the fundamental question is whether the objections to the Scheme itself are such that it cannot meet the statutory tests and therefore should not be recommended. The Applicant maintains that none of the objections to the Scheme meet this test.
- 4.177 The Applicant's position is that there is no basis for suggesting that the necessary licences would not be granted in relation to protected species. The

⁹⁴ HE/SID/15

⁹⁵ HE/SID/15

mitigation land is owned by the Crown Estate and therefore cannot be purchased by compulsion. Discussions and negotiations with the Crown Estate are on-going and it has been confirmed that in principal the Crown Estate would be willing to sell the land.⁹⁶

- 4.178 Any alternative scheme would involve additional costs. These costs are not limited to those incurred by the promoting authority, but wider costs in terms of the need to facilitate the future growth of the Garden City. There would also be a cost to the local community since, as shown by the evidence, congestion at the A2 and at Bean junction is getting worse.
- 4.179 BRA suggest that those sections of the Scheme which are not controversial could proceed whilst Orders relating to the widening of Watling Street could be progressed separately and constructed to follow towards the end of the building programme.
- 4.180 It is submitted that the Orders before this inquiry could not rationally be confirmed/made with a modification whereby the eastbound on-slip is deleted, since they would provide for enhanced access and egress for only three of the four movements required at the junction. Moreover, there is not traffic modelling to support such an approach. In addition, new orders would be required in respect of Watling Street and the eastbound exit from the junction. This is likely to lead to a further delay of two years.
- 4.181 A review of the BRA Scheme suggests that there would be some departures from standards in terms of the geometry of the A296 merge with the A2, and also that the sight stopping distance is not achieved at the merge, although it is an improvement compared to the existing.⁹⁷
- 4.182 There are concerns that the speed limit on the A296 would need to be reduced due to the introduction of a signal-controlled junction. It is unclear how this would work due to the higher speed of the A2.
- 4.183 A dense network of apparatus under the A296 would need to be diverted to the relocated carriageway verges. This would add to the construction cost and duration.⁹⁸
- 4.184 In terms of air quality, the Alternative would be likely to lead to an increase in pollutant concentrations to properties near the A296, but there is likely to be a beneficial effect on properties to the south of the Bean triangle.⁹⁹
- 4.185 There would be a loss of four additional veteran trees, one of which is ancient. There would also be a loss of man orchid colonies and areas of mixed deciduous woodland and broadleaved plantation woodland. These areas have

⁹⁶ CE/1

⁹⁷ CD R.13 Alternative Bean Residents Association paragraph 3.1.1

⁹⁸ CD R.13 Alternative Bean Residents Association paragraph 3.1.4

⁹⁹ CD R.13 Alternative Bean Residents Association Section 4.2

- the potential to support hazel dormice, foraging and commuting bats, nesting birds, common species of reptile, badgers and terrestrial invertebrates.¹⁰⁰
- 4.186 The Alternative would further sever the Bean Triangle from the Garden City, contrary to the vision currently promoted by the EDC, and the general shift towards sustainable and active travel. The enlargement of Watling Street is likely to hinder and discourage pedestrians and cyclists.
- 4.187 The Promoted Scheme will be built more quickly. At Bean the Promoted Scheme works better in terms of traffic flow. Both schemes increase capacity at the junctions, but the Promoted Scheme does so more effectively and at lower cost.
- 4.188 Benefits under the Promoted Scheme are £104.93 million¹⁰¹. The benefits for the Alternative on the basis of Bean South de-signalisation is £74.76 million.
- 4.189 HE/SID/24 assesses the journey time benefits of the Promoted Scheme compared to the BRA Alternative for the years 2023 and 2038. It shows that the relative journey time performance of the BRA Alternative diminishes over time. Congestion is at its worst during the PM Peak. In 2038 the assessment shows that during this period, of the 6 routes assessed (eastbound and westbound) one would increase by 9%, one would improve but 3 would remain unchanged, and the remaining 7 would increase by between 1% and 5%. The economic assessment included all of the direct and indirect journey time savings.
- 4.190 There is a tendency for traffic in lane 2 of the Watling Street Eastbound carriageway to move to lane 1 as it approaches the A2. Mr Johnson, representing BRA, is correct that under both schemes there is only one lane gain. But there are important differences. Under the Scheme drivers travelling via Bean North will benefit from a lane gain. Drivers joining from the A296 will still need to merge, but the traffic merging will be about 40% lower than at present and they will merge into 4 lanes of traffic rather than 3 as in the case of the BRA scheme.
- 4.191 Both schemes would impact on veteran trees, but the Alternative impacts a greater number and the trees are of greater intrinsic value with one being an ancient tree. The Promoted Scheme would have a greater impact on the Green Belt. It would impact on improved grassland, whereas the BRA Alternative would impact on deciduous woodland, which is ecologically more valuable.
- 4.192 The BCR for the Promoted Scheme is 1.84. Without any of the modifications it is 1.45. The BCR for the Alternative, but including MOD 3, is 1.22. Accordingly, the Promoted Scheme provides decisively better value for money than the Alternative.

¹⁰⁰ CD R.13 Alternative Bean Residents Association Section 4.4

¹⁰¹ HE/SID/12, Table 6

The CPO

- 4.193 The Order Land is required to facilitate the construction and operation of the Scheme. Highways England considers that a compelling case exists.
- 4.194 Highways England seeks authorisation to acquire the majority of the land required for the Scheme outright. For some plots authorisation is sought to compulsorily acquire or create new rights, for example to access highways drainage for maintenance. Highways England has sought to minimise the extent of compulsory acquisition, including the acquisition or creation of rights instead of outright acquisition, wherever possible.¹⁰²
- 4.195 Highways England is aware of the requirement to take reasonable steps to acquire all of the land and rights included in the CPO by agreement. It has engaged with all landowners and occupiers with a view to acquiring their interests by agreement.
- 4.196 Highways England is mindful that it is under a duty to acquire land at best value and that it is required to deliver the Scheme within a specified timescale. It has concluded that it may not be possible to acquire all land interests necessary to deliver the Scheme within this timescale. In addition, some plots are in unknown ownership and cannot be acquired by agreement. Highways England has therefore concluded that the Scheme is unlikely to be capable of being delivered without compulsory acquisition powers.
- 4.197 Eleven residential properties are being acquired for the Scheme to be delivered. At the time of writing five cottages have been purchased by Highways England. In principle agreements have been reached to purchase all the properties not purchased to date through the blight provisions.
- 4.198 Any person affected by the exercise of compulsory acquisition powers may be entitled to compensation. This entitlement to compensation is provided for by the compensation code. Any dispute in respect of compensation may be referred to the Upper Tribunal (Lands Chamber), an independent tribunal, for determination.
- 4.199 As set out in the Funding Statement [HE/SID/2] there is a reasonable prospect of the necessary funds for acquisition being available and the Scheme is affordable. An agreement was signed in January 2018 between DfT and EDC, such that EDC and/or the Government would underwrite the £45m third party contribution to add to the majority funding from DfT to deliver the Scheme. To date Highways England has received two payments totalling circa £15m in accordance with the payment schedule in the agreement. The total cost of the Scheme, which includes the estimated cost of the compulsory acquisition of the land required, is estimated to be £117m. When the third-

¹⁰² HE/1/B Stephen Binkuweir POE Section 4.2

- party funding of £45m is taken into account, the estimated net cost to Highways England is £72m.
- 4.200 The CPO is necessary in order to improve highways, stop up highways and PMA to premises and to provide new means of access to premises. It will also enable Highways England to compulsorily acquire land required for the mitigation of adverse effects and enable the acquisition of rights for construction and maintenance of the Scheme. 21 of the 98 plots are required as temporary working space in connection with the construction of the Scheme (total area 1.84ha). It is intended to acquire these plots outright.
- 4.201 Where rights over land are required for the benefit of third parties it is intended to acquire the land outright and to then grant the rights in question. This approach avoids potential legal complications with the creation and transfer of rights, and easements in particular, which could arise if Highways England acquires or creates the rights without first taking ownership of the land and then attempts to transfer the benefit of the rights to the third parties in question. If having granted the rights Highways England does not need to retain the land in perpetuity it would then seek to return the land to the original owner at the appropriate time.
- 4.202 It will be necessary for Highways England to obtain a protected species licence for the construction of the Scheme in relation to hazel dormice. Highways England has had discussions with Natural England in this regard and is not aware of any reason why a licence should not be granted.
- 4.203 Highways England has made provision in the CPO for the acquisition of an area of Crown land comprising 5 plots, 1/27a, 1/27b, 1/27c, 1/27d and 1/29a. The agreement of The Crown Estate Commissioners to the compulsory acquisition of this land is required. On the basis of discussion with the Crown Estate there is no reason to suppose that such agreement will not be forthcoming.
- 4.204 Highways England has reviewed Appendix A to the Statement of Reasons and finds that the reasons for acquisition in respect of plots 2/6d and 2/7d should be amended to include reference to the need to use these plots as a temporary working space in connection with the construction of the Scheme.¹⁰³
- 4.205 The SRO should be amended to include reference to Highways England's powers under section 129 of the Highways Act 1980 to provide new PMA to land.¹⁰⁴ This confers the power to provide a new means of access to any premises when authorised to do so by an Order where it is necessary or expedient in connection with the construction, improvement or alteration of a highway.¹⁰⁵

¹⁰³ HE/SID/29 page 4

¹⁰⁴ HE/SID/29 page 4

¹⁰⁵ HE/SID/16 paragraph 7

5.0 CASES FOR THE SUPPORTERS

- 5.1 A number of parties supported the Scheme in principle. Dartford Borough Council, Gravesham Borough Council, EDC and KCC all wish to see the Scheme implemented without delay [EBB/1, DTC/1,GBC/1,KCC/1]. These parties signed SoCG with the Applicant, although in each case there remained matters that were still under discussion [O.5, O.6, O.7, O.4]. Any substantive points made are reported in Section 7 of this Report.
- 5.2 The Scheme should progress in its current layout with no delays to its current programme and should not be delayed as a result of uncertainties caused by the LR development. The Scheme is urgently required to address the impacts of local developments that are either currently in construction or soon to be in construction.
- 5.3 Delays to the implementation of the Scheme will cause increasing levels of congestion at the interface of the strategic and local highway network, and will lead to negative impacts on the delivery of new homes in Ebbsfleet Garden City, hindering the delivery of local authority housing targets, and national housing priorities. Undue delay will have an impact on delivery of economic growth, including the creation of new jobs, within the Garden City.
- 5.4 The London Resort scheme has been subject to numerous delays and extensions to published timetables, and there is little confidence that the submission of a Development Consent Order (DCO) by Q2 2020 can or will be achieved. Should proposals come forward from London Resort that require further changes to the Bean or Ebbsfleet junctions, it is expected that those changes to be considered in the context of their proposed transport strategy when known, as part of their DCO submission.

6.0 CASES FOR THE OBJECTORS

Bean Residents Association [Documents RSA/1A, RSA/1B, RSA/SID/2, RSA/SID/3, RSA/SID/4, RSA/SID/5, RSA/SID/6, RSA/SID/7, R.5, R.5.1, R.5.2, R.5.2.1]

Modifications

- 6.1 The reasons for MOD-1, including the cost of moving the pylon, are accepted, but the Promoted Scheme now only removes 2 of the 5 Pinch Points they identified in [RSA/1/B]. The northbound queue on the bridge will be longer with MOD-1. There is currently no drawing showing where 2 lanes become one.
- 6.2 MOD-2 is accepted provided any alternative location does not involve the use of the land identified for advance planting (Crown Land) to the south east as the main site compound. The removal of Plot 1/4a would leave the Scheme without a compound. Plot 1/4a could have been used for re-building Ightham Cottages.

- 6.3 In terms of MOD-3 it is considered that the design of Bean South roundabout should be re-visited if signalling is removed as it would make the lower flow on the north-bound entry to the roundabout difficult at peak times. In addition, it would not remove the problem on the southbound circulatory of traffic on the westbound exit not giving way. The traffic signals would have been a benefit to local residents. It is very difficult to cross the westbound traffic.
- 6.4 Signalised control will be needed if traffic will not self-regulate. The situation will be worse for local residents because they will need to cross three lanes of traffic rather than two at present¹⁰⁶. Consideration should be given to part-time signals.
- 6.5 MOD-4, the removal of the Springhead Nursery land is welcome.
- 6.6 In terms of MOD-5, BRA has suggested that the Watling Street roundabout remain as now, but with the additional NMU signalled crossing. In the alternative, as in the Halcrow Hyder JV Scheme, BRA showed replacement with crossroads. However, KCC believe some traffic signals would be obstructed by the north abutment of the KCC B255 bridge over Watling Street.

The Published Scheme

- 6.7 Eleven private homes are to be demolished without investigating (with EDC and Dartford Borough Council) the possibility of replacement nearby. The Terms of Reference for EDC Bean Triangle Environmental Improvements [I.8], includes "*The ability to re-provide an equivalent number of homes which are proposed to be lost by the A2 junction improvements subject to an approved Business Case*", but this has not yet progressed. BRA put forward a site to Dartford Borough Council in the Strategic Housing Land Availability Assessment review, located to use Plot 1/4a, but MOD2 proposes the deletion of this plot.
- 6.8 The Spirits Rest Horse Sanctuary has not been relocated nearby.
- 6.9 The Scheme introduces traffic conflicts such as southbound traffic from Bluewater to Ightham Cottages roundabout. The Scheme will bring the traffic using the new slip road in the Green Belt closer to Bean Village. It will also be visible from some of the properties on Beacon Drive. This could be avoided by providing 2 lanes eastbound along Watling Street.
- 6.10 The Scheme also introduces traffic conflicts within Bluewater. It changes the way in which traffic leaves Bluewater and directs everyone to one roundabout. Local residents are likely to ignore this and use the routes they are most familiar with. The effect of the Sunday peak has not been modelled and is higher than the Saturday peak because it is the same number of people in a shorter amount of time.
- 6.11 The Scheme varies the approvals of Bluewater On-site & Off-site roads.

¹⁰⁶ Roundtable session Mr Johnson on behalf of BRA

- 6.12 The BCR ratios refer to £45m EDC forward funding. Of this, £25m is assumed to be coming from developers. So far only £2.5m has been directed to this Scheme. The £25m is based on s106 contributions solely from Eastern Quarry (Whitecliffe). So, it excludes development contributions from the Bluewater 20% expansion and other sites that are served by the A2.
- 6.13 KCC, who manage the Strategic Transport Infrastructure Programme (STIP) Fund, say the 2018/19 year end STIP Fund Summary will not be ready to be released during the inquiry. Hence, it is not possible to tell the status of money received/ promised and its allocation to projects. BRA are aware that KCC have limited the contribution to the Scheme to £25m rather than the £47m expected by the Applicant. The evidence to the Treasury that the Scheme is value for money is unsound.
- 6.14 The Scheme is without a Main Site Compound location. The Balfour Beatty Buildability report [N.8] is said to be out of date, consequently, BRA cannot comment on temporary diversions or the programme.
- 6.15 The planting by Hope Cottages should be retained, however, there is insufficient space in front of some cottages to allow for the visual impact of the Scheme to be mitigated. The suggested green barrier should be part of the Scheme rather than secured by designated funds.
- 6.16 A new footpath is needed near Hope Cottages.
- 6.17 The Scheme proposes the translocation of the veteran trees that are due to be removed but there is no evidence to indicate that this would be successful.
- 6.18 The flows on the A2 are near capacity and the Scheme will not resolve this. The failure to take account of the changes that may be required by the London Resort may mean that further work will be required with more disruption for residents.
- 6.19 The introduction of a segregated barrier on the B255 upsets journeys (Fig 3¹⁰⁷)). It is not justified by the accident statistics. The barrier would alter the 1988 route assumptions for Bluewater. It has not been shown that the Alternative to a new eastbound slip road, namely 2 dedicated eastbound lanes on A296 would not perform adequately and be less environmentally damaging. This could be achieved by providing a 2-way access road for Bean Triangle businesses and residents. It cannot be dismissed by saying improvements to the A296 are “beyond the scope of the scheme”.
- 6.20 There was a fatal accident involving two cars on B255 north of Ightham Cottages roundabout on 1st January 2011. The driver went the wrong way down the dual carriageway. No entry signs were later erected at exits onto the roundabout. There was also an accident at the eastbound off slip due to driver speed which is a common occurrence.¹⁰⁸

¹⁰⁷ RSA/1B BRA Appendices Section 4

¹⁰⁸ RSA/SID/5

- 6.21 The safe operation of narrow lanes and close junctions is unproven.
- 6.22 Environmental Mitigation is not addressed in detail.
- 6.23 The east-west NMU crossings are in separate schemes and there is no guarantee that they and the two A296 NMU crossings are in the same timescale.
- 6.24 Only if a compelling case in the public interest is found to exist should powers of compulsorily acquisition be granted.

BRA Alternative

- 6.25 The BRA alternative is based on a combination of two previous iterations, the Halcrow Hyder Option 3 and Atkins Option 5¹⁰⁹. It proposes alterations to the Bean Junction, but the proposals for the Ebbsfleet junction are unchanged. It would use existing highway land. It proposes an upgrade to the A296 (Watling Street) through the provision of two eastbound lanes with a conventional A2 merge. The BRA Alternative omits the proposed eastbound slip road and would avoid the need for narrow lanes on the A2. It would also retain the existing hard shoulder to the A2 which would be a safety benefit.¹¹⁰ It would provide a separate access for the Bean Triangle businesses.
- 6.26 The proposed segregation barrier on the B255 southbound would be removed. It would avoid making fundamental changes to Bluewater exit routes and would avoid all southbound Bluewater traffic being forced into the two lane B255.
- 6.27 The Alternative could be integrated with the Garden City access to the Eastern Quarry Site and accommodate all users including NMU users. It would provide an opportunity for better east-west and north-south NMU crossings at the B255/A296. It would also prevent Medway bound traffic from coming unnecessarily close to Bean Village and would reduce the impact on the Green Belt.
- 6.28 The 350m layby would be retained until alternative lorry parking is provided. It is also one of KCC's locations for an Abnormal Load Layby. There is another layby outside Merry Chest Café. There is therefore an opportunity to connect the service road back to the dedicated eastbound lanes and overcome Highways England concerns that they might become responsible for it.
- 6.29 KCC acknowledge that providing 2 lanes to the A296 may address existing issues and supports a more detailed review of this proposal.
- 6.30 This Alternative could be financially attractive, use less Green Belt land and avoid over-engineering ahead of relief from LTC opening circa 2027. Whilst the Alternative Scheme would require some Green Belt land it would be much less

¹⁰⁹ CD C.5 & CD C.6

¹¹⁰ CD R.5 BRA Alternative

than the Published or Promoted scheme. It would also avoid the need for a 6 metre high retaining wall.

- 6.31 No one has said the two eastbound lanes along Watling Street would not provide sufficient A296 capacity to serve both eastbound flows (from Bluewater and Dartford directions). It would not add to delays at Watling Street junction with the Garden City as it has 2 lanes side by side at the future EDC funded signal-controlled junction
- 6.32 It is accepted that the Alternative may involve the loss of a greater number of veteran trees by comparison with the Published and Promoted Schemes. However, the Applicant's Scheme has been subject to further design refinements and Value Engineering. Amongst other matters, these have reduced the impact on Ancient/Veteran Trees and the cost of the Scheme. The Applicant's witnesses have said, with their input, the BRA Alternative is also capable of refinement.
- 6.33 To avoid delays to the implementation of the Scheme BRA suggest that work on the Scheme, minus the new eastbound slip road, continue in parallel with taking forward the Alternative and that Orders are not made in respect of the new eastbound Slip-Road.
- 6.34 The Alternative Scheme would also have the benefit of avoiding Ightham Cottages and the Spirits Rest Horse Sanctuary.

CPRE

- 6.35 CPRE Kent recognises the importance of improving the current configuration of the Bean interchange.
- 6.36 Having two lanes reducing to one lane northbound at the merger on the B255 towards Bluewater at the Ightham Cottages roundabout while at the same time increasing the Hope Cottages roundabout to three lanes will create an additional pinch point with more traffic in the interchange. This will lead to higher PM_{2.5} air pollution levels at the Hope Cottages roundabout.
- 6.37 Increasing the number of vehicles with their engines idling runs counter to the Government's policies on climate change and air pollution. Leaving the Hope Cottages roundabout as two lanes would reduce the impact on the environment and Bean residents.
- 6.38 The Scheme will have a negative impact on the Bluewater shopping centre due to increased journey times.
- 6.39 The proposed eastbound slip road from the Bean interchange is contrary to the NPPF in terms of its impact on the openness of the Green Belt. The scheme also breaches NPPF 175c due to the loss of veteran trees.
- 6.40 The proposed slip road combined with the narrow lanes on an incline would combine to have an adverse effect on the strategic road network. Removing the slip road from the Scheme would also remove the need for creating narrow lanes on the A2 which would improve road safety as well as traffic flows.

- 6.41 The assessment of the Scheme does not include modelling of the peak flow on Sundays. It also fails to stress test the effects of the closure of the LTC and cannot be considered to be robust enough.
- 6.42 The concrete barriers on the B255 will lead to a fundamental change to the Bluewater road system. Highways England has failed to listen to CPRE Kent and local residents' local knowledge on how it will drastically affect people's travelling patterns and much of the impact will be felt outside the schemes study area.
- 6.43 The use of traffic lights on the roundabouts is based on some flawed assumptions which do not allow for peak flow traffic problems. Other Highways England projects show that traffic lights can even make congestion worse.
- 6.44 On the Ightham Cottages roundabout the combination of value engineering changes (MOD-1) A2 eastbound off-slip road, the B255 barrier, the traffic lights and the new pinch point being created has not been fully evaluated.
- 6.45 CPRE Kent fully supports the BRA alternative scheme. This has the potential to give greater benefits at a much lower cost; therefore it should be looked at in greater detail.
- 6.46 They fully agree with the House of Commons Science and Technology Select Committee in August 2019, namely that technology alone would not solve the emissions problem from transport. Investing in active and sustainable travel has been proven to reduce congestion and air pollution, thus should be integral parts of any road improvement scheme. For this reason, the proposed possible active travel improvements to the area included in the Designated Funds and Bean Triangle projects should have been included within the Scheme in order to assess whether it would provide any additional improvements for active travel in the area.
- 6.47 It is not clear from the evidence before the inquiry, what modelling methods have been used. There was reference to PCM, which has already been discredited. There was evidence of various models produced by Highways England. This appeared to rely on Interim Advice Note 170/12 v3.
- 6.48 This model states that it is to be used in combination with the published technical air quality guidance issued by Defra. It pre-dates the Volkswagen scandal. There is also reference to Highways England IAN 175/13, which in turn refers to the discredited PCM which appears to be part of the calculation. Yet, it is claimed, the "The risk of non-compliance with the EU Directive is low". No statement is made as to how the EU Directive is being interpreted or how this statement is backed by the modelling.
- 6.49 Highways England rely on air quality models which have either been discredited or which have been designed by themselves. The latter appear to have no verification or approval from either the UK Government or by the EU. Highways England have not been able to prove conclusively that they will be able to meet the level required in the Air Quality Directive. CPRE (Kent) consider that failing to reach the required level, would be in breach of the law.

- 6.50 Another concern that CPRE Kent has is the lack of urgency shown by the Applicant. Using their modelling, the levels of Nitrogen Dioxide will not comply with EU legal limits until 2023¹¹¹. In paragraph 72 of the ClientEarth (2) judgement¹¹² it is made clear that “the state must choose a route to the target which reduces exposure as quickly as possible”.
- 6.51 The Applicant states that there is not considered to be a significant adverse effect on the local air quality as a result of the Scheme. There is no evidence to support this claim other than which shows that there is already “substantial adverse” air quality impacts¹¹³. In table E12 of Appendix E [CD B2.5], it shows increasing levels as a result of the scheme at DA05 and at DA75 with level predictions, still over the limit, at DA14, DA20 and DA22.
- 6.52 There is no evidence to support this claim or the effect of the proposed noise barrier on air quality.
- 6.53 The Applicant states that there are not expected to be any significant adverse effects in terms of air quality and this is given as a reason for not considering any mitigation. With the evidence produced, there are still likely to be exceedances of Nitrogen Dioxide and therefore in law, there ought to be mitigation to reduce all the levels so that they are under the proscribed limit. To allow this application to go forward without any mitigation would be ignoring the EU Directive and the ClientEarth (2) case.
- 6.54 CPRE Kent produced evidence to the inquiry on two appeal decisions¹¹⁴ on two applications. The eighth main issue at the inquiry referred to was air quality.
- 6.55 In spite of the high levels of Nitrogen Dioxide that are already being experienced in the area and that there are likely to be high levels once the development is complete, there are no mitigation measures being suggested by the Applicant.
- 6.56 From the evidence submitted by the applicant to this inquiry it is clear that there has not been enough consideration given to air quality, not only on moral grounds but on legal grounds. The Applicant has ignored the strictures on safe air quality levels in both EU and UK law. These proposals are likely to have an adverse effect on air quality and a significant effect on human health. For these reasons the application should be dismissed.
- 6.57 They welcome the inclusion of a signalised east-west NMU crossing of the B255/A296 slip road within the scheme as proposed by MOD-5.
- 6.58 CPRE Kent retain their concerns over the impact of the proposed modifications to residents of Bean, who will be adversely impacted by increased delays on Bean Lane.

¹¹¹ HE/9/A Paragraph 2.4.6

¹¹² CPRE/SID/1

¹¹³ HE/9/A Paragraph 2.4.7

¹¹⁴ CPRE/SID/4 APP/V2255/W/15/30675553 and APP/V2255/W/16/3148140

Bean Parish Council [O.8, IP/3]

- 6.59 The points below include those issues not agreed in the SoCG and those made by Councillor Anna Munday of Bean Parish Council (BPC) in her submissions to the inquiry.
- 6.60 Twenty-five years ago, there was a clear distinction between the parishes from Dartford to Gravesend with notable green spaces separating them. Over the years significant development has taken place and now you would not realise you were leaving one parish to enter the next. The beauty of living in Bean is that the surrounding area is rural, and the Dartford Core Strategy strives to protect this environment.
- 6.61 This Scheme has shown a detrimental effect on the residents from the beginning and has gradually worsened over time.
- 6.62 Many years ago, when consultations were taking place for the Bluewater development, it was stated by both BPC and BRA that the Bean bridge would not support the increased traffic flow. BPC also lobbied for direct access to the Bluewater complex from the A2 which would have left local traffic unaffected. Their suggestions were disregarded, and they were told their concerns about the capacity of Bean bridge were unfounded, yet they were proven to be accurate within eighteen months of Bluewater opening. Local knowledge seemed to be of little consequence then, and now they find ourselves in the same position.
- 6.63 BPC understand the necessity to change the local road network to support the increasing traffic flow, but the Scheme does not address the causes of the congestion. The root cause of the current problems on the north side of the A2 is on Watling Street (A296) where the lanes bottle neck approximately a quarter of the way down. This has not been addressed and will worsen when the signal-controlled junction into Ebbsfleet Garden City is implemented. BPC do not believe the scheme will alleviate the queueing back up to Darent Valley Hospital.
- 6.64 On the south side of the A2, there are regular issues with cars coming off the A2 and queueing on the Bean South roundabout to go over the bridge and preventing residents or other motorists travelling north on Bean Lane (B255) from entering Bean South Roundabout. As a result of these problems there is now a 'Keep Clear' sign painted on the road which has made a small improvement but is often ignored and stopped on.
- 6.65 Originally Bean South Roundabout was to be signal controlled which would have made an enormous difference to the problem and was the only positive aspect of the scheme for the residents of Bean. This has now been removed. The resultant increased queue levels will be detrimental to local residents.
- 6.66 As Bean is located so close to the A2, residents are affected on an almost daily basis by the frequent accidents and congestion. If there is a problem at the Dartford Crossing then there is an impact on the A2 and many motorists cut through the country roads and through Bean to join the A2 at the Bean Interchange rather than queue westbound on the A2.

- 6.67 There are often accidents at the A2/M25 junction which also cause tailbacks. Residents encounter gridlocked traffic through the village and Betsham Road (B262) which is exacerbated by HGVs also trying to cut through the country roads where in places it is tight for two cars to pass, let alone HGVs. There are frequent accidents eastbound on the A2 between Bean and Ebbsfleet.
- 6.68 The intention to remove the hard shoulder on both carriageways and narrow the lanes to accommodate four lanes in each direction is of overwhelming concern regarding the negative impact BPC believe this will have.
- 6.69 BRA have provided an alternative scheme to Atkins and Highways England. This looks at the current root cause for congestion on the A296 where two lanes bottle neck and instead extends the two lanes up to the A2 and staggered slip road entry. There is merit to this suggestion, and it was one of the options disregarded prior to public consultation. Highways England acknowledges this suggestion yet are reluctant to model it for financial reasons. BPC fully support the need for this alternative to be modelled as it is a viable alternative in their opinion and worthy of investigation.
- 6.70 In summary, the one scheme that has been decided upon prior to public consultation does not meet the needs of residents and is of enormous detriment to the village. Leaving the village northbound on Bean Lane will become harder than it already is now that new Bean South Roundabout is to be de-signalised. Eleven homes have been compulsorily purchased already and a horse sanctuary for abused and vulnerable horses blighted in favour of a slip road onto the A2. The pressure on the sanctuary owner has been disgraceful and unsympathetic by some parties which is inexcusable. There has been a huge financial impact on the owner as a direct result of the actions of Highways England.
- 6.71 The CPO includes land to provide a turning head in the vicinity of 15 and 16 Hope Cottages (Plots 1/29a, 1/30a, 1/30b, 1/31a & 1/31b). However, it is unclear whether this is for the benefit of residents or for the contractor to access the pylon.
- 6.72 BPC consider that the benefits and disbenefits of the segregation barrier on the B255 have not been properly investigated. BPC were told that the segregation barrier was for safety reasons to stop weaving but it would seem that it is to force traffic to use the new on-slip. A consequence of the 'segregation barrier' would be a doubling of traffic on both southbound routes to the Bean North roundabout.
- 6.73 BPC disagrees that there is a compelling case in the public interest for the CPO. It considers the evidence that the Scheme is good value for money to be unsound and there is no evidence to indicate that the Scheme will meet its objectives.
- 6.74 The Scheme will fail to solve the main issue which is the volume of traffic on the A2. BPC also has concerns about the safety of the new eastbound on-slip given its proximity to the Watling Street (A296) merge.

J&B Construction [JB/1, JB/2]

- 6.75 J&B Construction do not object to the temporary licence working space in relation to Plots 6a or 6c. The permanent acquisition of Plot 6b is also acceptable.
- 6.76 The objection relates to Plot 6d where Highways England propose to grant access rights to Ebbsfleet Investment (GP) Limited or DTG Elliott & Son Ltd for reasons that are unnecessary for the objective of Highway's England's road improvement works included within the SRO.
- 6.77 There is currently no dedicated footpath or roadway serving the two parcels of land owned by Ebbsfleet Investment (GP) Limited and their partners and DTG Elliott and Son Ltd. Nor are there any covenanted or prescriptive rights of way over J&B Construction Ltd's land to these 2 parcels of land. It therefore follows, that there need not be any 'new means of access', that is not required for the scheme objectives.
- 6.78 They contest the legal powers for Highways England to include such access from one third party's land to another third party's land as part of the SRO/CPO. Such a proposal will blight J&B Construction Ltd's development opportunities and land value.
- 6.79 Highways England concurs there are no covenanted or prescriptive rights over J&B Construction Ltd land. To date there has been no boundary dispute or claim to any such rights in litigation or otherwise. Therefore, they fail to see how Highways England can proffer 'hypothetical rights' to the inquiry.
- 6.80 The issue of third-party access rights that hitherto does not exist is considered to be outside of the jurisdiction of 'compulsory purchase powers'.
- 6.81 It is accepted in case law, where the development of a site involves the improvement of the adjoining highway network, the authority needs to demonstrate that the acquisition of land for the highway improvements is directly related to the redevelopment proposed, and, has not merely been added into the order to provide a solution to an existing highway problem. In this instance it appears to be solely for the benefit of Highways England to placate Ebbsfleet Investment (GP) Limited and their partners & DTG Elliott & Son Limited to drop their objections to the Scheme.
- 6.82 J&B Construction dispute that there is 'no limitation' within the Highways Act. They understand, in fact, any such rights are not conferred by statute, but rather derived from case law to which there are a plethora of cases dating back to Year 1845.
- 6.83 The acquisition of the 'strip' as indicated in 8a of the CPO to the parcel of land adjacent to the 'Eastbound Entry Slip Road' is of little consequence to the owners, and does not warrant a 'new means of access', that hitherto does not exist, either physically, in covenant or even 'notionally', they submit.
- 6.84 The proposed road improvement works will leave Ebbsfleet Investment (GP) Limited and their partners & DTG Elliott & Son Limited in the same position they are in today. A wholly new means of access is required by way of a new road junction to parcels of land that appear to have no development potential and do not have any existing dedicated access.

- 6.85 Should access across J&B Construction Ltd land be granted, it would result in an illegitimate enhancement to Ebbsfleet Investment (GP) Limited and their partners & DTG Elliott & Son Limited's land, and could be seen as being tantamount to abuse of compulsory purchase powers. The Government has made it clear in policy guidance that CPOs must demonstrate a 'compelling case in the public interest' for orders to be confirmed.

7.0 THE CASES FOR ADDITIONAL REPRESENTATIONS

Ebbsfleet Development Corporation [R.18]

- 7.1 EDC has no comments in relation to MOD-1 or MOD-4.
- 7.2 *MOD-2* EDC does not object to the removal of Plot 1/4a. Of the alternative locations put forward EDC support Location 5, the former petrol filling station. Location 3 is subject to a temporary permission for use as a processing point for lorry drivers in relation to Brexit. Locations 1 and 6 are outside of the EDC boundary but lie within the open Green Belt and have not been previously developed. These sites are likely to give rise to unacceptable temporary visual impacts as well as increasing pressure for longer term development if used as a compound. This would raise concern in principle, but also as the open land South of the A2 serves an important role in providing access for new residents of the Garden City to the countryside that would be undermined by incremental development. No objection is raised to locations 2 or location 4 although location 4 would require an appropriate drainage solution to avoid contamination and surface water flooding.
- 7.3 *MOD-3* The effects of this proposed change would impact on the junction in terms of traffic. Whilst the Report suggests that the network will continue to operate within capacity under this modification no evidence in the form of modelling results has been provided. The removal of the proposed signals would remove the ability for traffic flows to be controlled in the event of an incident. However, EDC defer on this matter to Kent County Council in its role as highway authority.
- 7.4 *MOD-5* EDC welcomes the addition of a signalised pedestrian and cycle crossing on the northern arm of the A296/B255 roundabout. This would represent an improvement on the existing informal crossing arrangement and will provide less confident or less able road users with a designated place to cross. This crossing would be located about 45 metres from the desire line and represents a longer detour. For this reason, the new signal-controlled crossing should be in addition to the existing informal crossing. EDC supports the mitigation measures recommended by the safety assessment and assumes that these will form part of the final scheme¹¹⁵.

7.5 Kent County Council¹¹⁶

¹¹⁵ CD R.18

¹¹⁶ CD R.15

- 7.6 *MOD-1* would not appear to have a significant effect on the local highway network.
- 7.7 *MOD-2* The preference would be for locations 1, 4 and 5. Location 1 would have the benefit of being close to the A2 Bean junction. Location 2 is close to the Ebbsfleet junction but would require temporary traffic signals and the removal of the central reserve which would cause additional delay to the network. Location 3 may not be realistic since the car park has been allocated for use by HGVs until the end of 2020 due to Brexit. Location 4 has the advantage of being close to the A2 Ebbsfleet junction. Location 5 has the advantage of being close to the A2 Ebbsfleet junction, but due to its size it could only be a satellite compound. Location 6 is remote from the site and would result in additional trips and delay on both the local and strategic highway networks.
- 7.8 *MOD-3* The Report suggests the network will continue to operate with incapacity, but no evidence in the form of modelling results has been provided. The modified network has not been modelled using the Bluewater sensitivity scenario this was a key requirement for KCC for the main scheme.
- 7.9 *MOD 5* The introduction of a formal crossing for pedestrians and cyclists is acceptable, however the crossing does not meet the desirable 3 metre width or the absolute minimum visibility requirements. High level mitigation measures have been proposed and they should be discussed with KCC during the detailed design phase to ensure that the proposals would be acceptable in safety terms.
- 7.10 The crossing is also a significant distance from the desire line. Therefore, the retention of the existing informal crossing in addition to the signal controlled crossing should be considered so as not to deter NMUs from using this route.
- 7.11 The cumulative modelling, HE/SID/12 and HE/SID/13, indicates that the modifications would result in a marginal (1%) increase in journey times along two of the routes in the AM peak, and an increase of between 1 and 2% on two of the routes in the PM peak (2038 scenario). The queue data shows there is a slight reduction in overall queue length across the study area on both the KCC and Highways England networks. The results show there are large queues in the future scenario which are likely to be exacerbated by the proposed NMU crossing, however, they are still lower than the Do Minimum scenario¹¹⁷.

The BRA Alternative Scheme

- 7.12 It is considered that the A2 eastbound slip road should be retained since it removes the need for traffic from the south to use the north roundabout. The upgrade and realignment of the A296 to provide 2 lanes eastbound would help to address an existing congestion hotspot caused by the merging of two lanes

¹¹⁷ HE/SID/21

into one. KCC previously queried why this was not included in the scheme. A more detailed review of this proposal is supported.

- 7.13 It is not possible to assess the effect of the conversion of the A296 Bean Lane roundabout to a signal-controlled junction without the modelling information. Therefore it cannot be ascertained whether the roundabout would operate effectively. However, signalised roundabouts are to be avoided in general as they have very limited internal reservoirs for traffic and the added complication of U-turn movements.

Gravesham Borough Council

- 7.14 Gravesham Borough has no objection to MOD-1.
- 7.15 *MOD-2* The Borough Council has no direct comment on the removal of Plot 1/4a but does have observations on the alternative sites proposed. Some of these sites are in the Green Belt and have not been previously developed. The Council's experience of such sites is that after use they are claimed by landowners to be damaged and therefore suitable for development. Locations 3, 4 and 5 do not give rise to these issues. Location 2 is surrounded by Highway and in the control of Highways England and therefore although it is in the Green Belt the land use issues should not arise in the long term. Location 6 is split between Gravesham and Dartford Boroughs. The A2 is a clear Green Belt boundary in this area and whilst this site was next to the Channel Tunnel rail link (now HS1) it is not close to Ebbsfleet or Bean junction. Location 1 is also of significant concern.
- 7.16 *MOD-3* The Council is concerned about the de-signalisation of Bean South roundabout and whether the loss of the signals would prejudice the future control of traffic flows.
- 7.17 *MOD-5* would provide a safer route for NMUs and the Borough Council welcomes this proposed modification¹¹⁸.

Dartford Borough Council

- 7.18 The Council has no comment on MOD-1 or MOD-4.
- 7.19 *MOD-2* Some of the alternative sites proposed for the compound are located in the Green Belt and have not been previously developed. In the Council's experience such sites can after use give rise to pressure for development.
- 7.20 The Council requests that Location 1 is removed due to its location within the Green Belt and the ancient woodland to its immediate west, that provides an unbroken extent of open countryside between Bean junction and the hospital and adjacent housing further to the west.
- 7.21 Location 2 although in the Green Belt forms part of the A2 junction and therefore will not result in pressure for future development. The Council

¹¹⁸ CD R.14

support this location but would request that it is suitably screened during use as a compound since it is visible from the rural area to the south.

- 7.22 Location 3 has been granted temporary consent until December 2020 for use as a processing point for lorry drivers in relation to Brexit. Location 4 is identified for development in the Dartford Local Plan. The Council supports the use of this location however due to its proximity to the River Ebbsfleet it would require an appropriate drainage solution to avoid contamination of the river and groundwater.
- 7.23 Location 5 may not be of sufficient size to fulfil all the construction compound needs for the site. The Council is concerned that if it is used as a construction compound but remains under separate ownership it would lead to pressure for unsuitable development of this area. Location 6 is agricultural land within the Green Belt, part of the site is also a scheduled ancient monument. The site was previously used as a construction compound in connection with HS1 works and has now been returned to open countryside. The Council is concerned that if the land is used again as a construction compound it will reinforce the argument that it is suitable for development. The Council is also disappointed that due to the polytunnels on the neighbouring fields, the Applicant's assessment of the landscape impact of the construction compound in open countryside, designated as Green Belt, is reduced. The A2 provides a clear dividing line between the Borough of Dartford urban area and the Green Belt to the South. The Council would request that this suggested location is removed.
- 7.24 *MOD-3* The Council notes the comments from Kent County Council with regard to this modification, namely that the junction will work better with less queuing and delay during normal operation. The Council is concerned that there should be resilience within the Scheme to deal with congestion on the network which is a regular occurrence within the Borough. This is due either to seasonal peaks associated with Bluewater Shopping Centre or incidences on the wider strategic network. The signalised junction in the original scheme had the potential to allow for urban traffic management across the Borough and the Council is concerned to ensure that the proposed modification does not remove the ability to deliver this mitigation. The Council therefore reserves its position on this modification until the junction modifications have been assessed against the Bluewater sensitivity assessment.
- 7.25 *MOD-5* The Council welcomes the addition of a signalised pedestrian and cycle crossing on the northern arm of the B296/B255. This would provide a controlled facility to cross this arm of the junction and would connect National Cycle Network Route 1. The proposed crossing is about 45 metres from the desire line which is a longer detour than would be preferred¹¹⁹.

Environment Agency

¹¹⁹ CD R.16

- 7.26 In terms of MOD-2 the preference would be for a compound that is not sited within an inner Source Protection Zone. They would however, need detailed proposals for the final choice of preferred site, including any site investigation information, remedial requirements and drainage details ¹²⁰.

Jan Beckett [IP/2]

- 7.27 Betsham and the surrounding area is subject to severe gridlock whenever there is a queue on the A2. At least once a week in the morning, during the rush hour, there is an incident on the Swanscombe Cutting London bound which causes a tail-back. When this happens vehicles divert on to local roads causing congestion that adds greatly to the length of journeys.
- 7.28 During one week in August there were 4 days when the traffic queued back along the A2 due to various incidents.
- 7.29 Her journey to Bean in the absence of traffic is about 1 mile and would take about 2 minutes. An alternative route would involve a distance of 7.9 miles and can take over one and a half hours.

Duncan Wood, Chairman of Bean Residents Association and a Bean Parish Councillor [IP/4]

- 7.30 He has lived in his own home in one of the 11 Ightham Cottages. The only Scheme put forward involved the demolition of his home. Mr Wood and his neighbours suggested alternatives including, rebuilding the dwellings nearby, enlarging the roundabout to the west instead of the east and adopting a similar road layout to that being kept at Hope Cottages.
- 7.31 He didn't want to move but felt pressurised to get out and couldn't risk last minute eviction. He served a Blight Notice on Highways England. When this was accepted, he searched for something local. The only available property involved downsizing of dwelling and garden. A month delay occurred whilst an Energy Performance Certificate (EPC) Survey was carried out in case his home isn't demolished and is re-sold.

Linda Collins BRA [IP/5]

- 7.32 It is difficult to get out of Bean at Hope Cottages roundabout to go to Dartford and Greenhithe. Two lanes of traffic from the right in the morning makes joining the roundabout hard. The only chance to join is if someone from the bridge direction is heading to Bean.
- 7.33 The Scheme proposes to enlarge Hope Cottages roundabout to 3 lanes which will make this worse. The 'Give Way' road marking only helps when traffic from Medway direction starts to queue. Although Box junctions can help, they are only used with Traffic Lights, and these are not now proposed.

¹²⁰ CD R.17

Information to the inquiry shows that, without traffic lights, queues on Bean Lane are longer, whilst queues from Medway direction are less.

Chris Botten Resident of Hope Cottages [IP/6]

- 7.34 Highways England don't understand the problems here. He can't invite friends to visit at weekends as traffic is so bad. When Bluewater put cones out, only a few cars use the middle lane. Even when the Police direct them to use it, drivers just cut-in to one lane. Why would an extra two lanes help if few use one of them?
- 7.35 Why is it that new housing off St Clements Way has traffic lights when this is not proposed for Bean?
- 7.36 The contractor started to cut down trees at 3 am in the morning. The workers used Chain Saws with only helmet lights. The noise was so bad that neighbours stopped the work.

London Resort [LRCH/1B]

- 7.37 The London Resort (the 'Resort') is proposed to be a next generation entertainment facility which will be situated on the Swanscombe Peninsula in north Kent. The Resort will comprise a range of rides, entertainment, theatre, eSports, convention centre, retailing food & beverage and hotels, supported by the required transport and utilities infrastructure. The proposal would be the largest leisure scheme in the UK and one of the most expensively privately funded development projects.
- 7.38 The London Resort was designated as a Nationally Significant Infrastructure Project ('NSIP') and is in the Pre-Application phase. It lies entirely within the boundary of the EDC. The London Resort business plan has been recently reviewed leading to changes in the scheme content and visitor projections.
- 7.39 To inform Highways England of the likely trip generation associated with Gate 1, WSP have derived the below peak movements in and out of the site for a 'Design Day' of 27,000 visitors. A Design Day would cover roughly 20 days a year so 95th percentile – each of these 20 days occur on weekends during the high season.
- 7.40 The Highways England proposals for the Ebbsfleet Junction can be described as increasing the size of the roundabouts, installing traffic signal control and constructing a dual carriageway link between the roundabouts. This approach to improving the junction is similar to the emerging proposals for the London Resort, which is based on at-grade traffic signal-controlled roundabouts.
- 7.41 The Resort is keen to work with Highways England on the improvements to the A2(T) at Bean and Ebbsfleet and ensure the proposals have been stress tested to ensure that the London Resort (Gate 1) traffic can be accommodated.

Bluewater (Represented by Vectos)

- 7.42 The Saturday Sensitivity Test of Published Scheme (HE/SID/13) including all Modifications indicate that in 2038 there is a reduction in total delay across the

network and latent demand in comparison with the Do Minimum scenario. This is a benefit to the network.

- 7.43 Nevertheless, the Modification Test results clearly reduce the benefits in terms of latent demand when compared with the Published Scheme. The latent demand for the Modification Test 2038 is 1,223 vehicles, whereas the latent demand for the Published Scheme (Feb 2019) is just 519 vehicles.
- 7.44 From reviewing previous documents, it is clear that the overall benefits to the network of the Modification Test are less than would be brought about by the Published Scheme, although the Modification Reports only show the PM peak results. However, it is acknowledged that in comparison with the Do Minimum scenario, there is still a clear benefit to the scheme inclusive of the modifications.
- 7.45 Following the roundtable discussions, Bluewater are generally supportive of the Scheme and have not lodged an objection as part of this inquiry. They are supportive of MOD-1, which will significantly reduce the construction period. They are also supportive of MOD-5 (following confirmation of commitment to monitor the signals and perhaps amend signal timings if needed) as the safety of pedestrians / cyclists is paramount and Bluewater wishes to encourage walking and cycling as much as possible. In terms of the MOD-3 Report submitted to the inquiry it is noted that this change was brought about to improve performance, however it appears that overall, when taking the modifications in combination, the benefit of the scheme is reduced¹²¹.
- 7.46 It is noted that the AM peak hour has changed from 08:00 – 09:00 to 07:00 – 08:00 in the 2016 re-basing. It is understood that this is due to the desire to match with the AM strategic peak hours. Data suggests this is not reflective of the AM peak hour at Bluewater. However, overall the AM peak traffic flows are significantly less than the PM peak hour assessment (which reflects the overall network peak and Bluewater peak) and therefore this is not an issue which would warrant any objection.
- 7.47 Overall, the VISSIM outputs for the Published Scheme show no major concerns in regard to mean maximum queue lengths at the Bean North and South junctions, or at the A296 / Bean Lane roundabout (Bluewater Parkway roundabout is not reported).
- 7.48 It is acknowledged that MOD-5 will have a negative impact on traffic flows. Further analysis of the raw VISSIM output spreadsheets which include all Modifications shows that as a result of MOD-5, not only do the mean maximum queues increase significantly, but also the mean average queues. In documents HE/SID/12 and HE/SID/13, Highways England has suggested that whilst maximum queue lengths reach somewhere between 400-500m during both the PM 2038 and Saturday 2038 peak periods, this is due to the introduction of the NMU crossing and the queues dissipate quickly when this crossing is not in use. However, analysis of the raw queue results suggest that

¹²¹ HE/SID/23

this is not the case, as average queue lengths do not fall too far below the maximum, suggesting a consistent queue throughout both peak periods. However, this modification is proposed to encourage sustainable travel and ensure the safety of pedestrians and cyclists and therefore Bluewater are supportive of this modification, given that KCC has agreed to ongoing monitoring of the crossing and its effects on traffic flows¹²².

8.0 THE RESPONSE OF THE HIGHWAYS AGENCY

8.1 The material points made were:

Air Quality

- 8.2 The BRA alternative scheme, which is supported by CPRE is indistinguishable from the Promoted Scheme in terms of Air Quality at Hope Cottages.
- 8.3 The Applicant's analysis had been undertaken following the recognised DMRB guidance and confirmed that there were no significant adverse effects. Moreover, there was no non-compliance of the EU directive in respect of this area at the moment and a low risk of any future non-compliance.
- 8.4 The case law and appeal decisions submitted by CPRE was not on point. In the planning appeal decision, the expert evidence suggested that there would be moderate and serious adverse air quality effects. There are no significant adverse effects in this instance and at Hope Cottages there are decreases, albeit insignificant [HE/9A/4.3.3]. The ClientEarth litigation relates to national level plans and is, again, irrelevant.

BRA Alternative Scheme

- 8.5 Pursuing any alternative scheme will give rise to additional costs and delay. These costs are not just limited to the promoting authority but include the cost to existing and future communities who will continue to experience delay due to the increasing congestion. It is anticipated that an Alternative Scheme would involve a delay of at least 2 years.
- 8.6 The BRA Alternative would require new orders. The existing Orders could not be confirmed/made if the eastbound on-slip is deleted. There is no evidence to support such an approach and it is not underpinned by the submitted traffic modelling.
- 8.7 The Promoted Scheme works better in terms of traffic flow and economically. The relative journey time performance of the Alternative diminishes over time. Table 3 of HE/SID/24 shows the degree of betterment offered by the Promoted Scheme compared to the Alternative (inclusive of MOD 3) is greater in 2038 than it is in 2023.
- 8.8 Both schemes would increase capacity at the junctions, but, as Mr Shipley's evidence demonstrates, the Promoted Scheme does so more effectively and

¹²² HE/SID/31

- at lower cost. Although both schemes only provide one lane gain, if joining via Bean North it is a lane gain, if entering via Watling Street it is a merge.
- 8.9 Secondly, the merge under the Scheme is into 4 lanes (at Watling Street) and the traffic merging from Watling Street will be some 40% lower than at present. Under the Alternative the merge is into 3 lanes and the traffic using Watling Street will be at present levels or greater.
- 8.10 In addition, the BRA Alternative would involve a longer journey for anyone travelling from the direction of Bean wishing to enter the A2 eastbound.
- 8.11 The Alternative would involve the loss of deciduous lowland woodland along the southern boundary of the present Watling Street. This is of greater ecological value than the land impacted by the Scheme's eastbound on-slip which is generally improved grassland. Both impact on veteran trees but the Alternative impacts a greater number and trees of greater intrinsic value with one being an ancient tree.
- 8.12 The Alternative would further sever the Bean Triangle from the Garden City. That is contrary to the vision currently promoted by the EDC¹²³ and the general shift towards sustainable and active travel. The enlargement of Watling Street is likely to hinder and discourage pedestrians and cyclists.
- 8.13 The BCR for the Promoted Scheme is 1.84, compared to 1.45 for the Published Scheme¹²⁴. The BCR for the Alternative, but including MOD 3, is 1.22. Accordingly, the Promoted Scheme provides decisively better value for money than the Alternative.
- 8.14 The BRA proposal does not address the problems of capacity on the A2. Moreover, it also fails to address the loss of Ightham Cottages/Spirit Horse Sanctuary.

MOD-3

- 8.15 MOD-3 is the removal of traffic signals from Bean South roundabout. This confers very significant overall travel time and economic benefits. Mr Shipley's quantification dealing with maximum queue lengths shows that the impact on the arm of the roundabout coming from Bean is acceptable and, as already stated, the benefits massively outweigh the costs. Exiting Bean to go northwards over the bridge will be more difficult without traffic lights because they have to give way to traffic on the westbound off-slip. Bean residents, however, will benefit from de-signalisation whenever they return to the village from the north or from the east along the A2.
- 8.16 MOD-3 was published as a modification because of the significance of the change. The insertion or removal of traffic lights is not something which generally requires orders. Accordingly, it would be open to the highway authority to insert traffic lights should the impact on vehicles entering the

¹²³ CD I.8

¹²⁴ HE/SID/12 Table 6

south of the roundabout be regarded as unacceptable. An observation that the acceptability on the northern exit from Bean should be kept under review once operational would be a means of giving prominence to the understandable concern of the BRA re de-signalisation.

Hope Cottages

- 8.17 There has been close analysis of the noise and air quality implications for Hope Cottages and of visual amenity and the impact of the eastbound on-slip is negligible. Noise barriers will be placed between Hope Cottages and the junction. There is an application for the greening of the environmental noise barrier using designated funds.
- 8.18 In terms of air quality there are decreases in NO₂ at Hope Cottages, although these are categorised as insignificant [HE/9A/4.3.3].

Bluewater Sunday Traffic

- 8.19 The Applicant has modelled the impact of the Saturday peak hour traffic flows. Additional modelling to take account of MOD1, MOD 3 and MOD 5 has also been undertaken.
- 8.20 The Saturday peak is considered to be the busy period and is representative of both days. Neither KCC, nor Bluewater requested that the Sunday peak was modelled.

Ightham Cottages and Spirits Rest Horse Sanctuary

- 8.21 The demolition of Ightham Cottages is required to accommodate the changes to the roundabout and slip road.
- 8.22 To replace Ightham Cottages in the location suggested by BRA would require further loss of Green Belt as well as environmental assessments in terms of noise and air quality. Moreover, Highways England does not build houses.

Site Compound

- 8.23 Although the location of the site compound is not known, the report accompanying MOD-2 shows a number of alternative locations, these include 2 sites owned by Highways England. The assessment of these sites indicates the type of issues that may arise whether the eventual compound is located at one of these plots or another location close to the Scheme. The REAC which is secured by the CEMP provides the mitigation measures in relation to the compounds.

Segregation Barriers

- 8.24 The barriers would help with reducing weaving which can contribute to accident risks. It will also encourage more traffic to use the eastbound off slip. The barrier will be the subject of a Post Operating Performance Evaluation (POPE). The Applicant is willing to include BPC in the development of the POPE.

- 8.25 In addition, subject to an appropriate detailed design it may be possible to install the barriers for a trial period so that their impact on traffic performance can be reviewed¹²⁵.

Safety

- 8.26 The Scheme involves narrow lanes on the eastbound carriageway between Bean and Ebbsfleet for some 1.3km and on the westbound carriageway for 350 metres¹²⁶. The narrow lanes are required in order to accommodate constraints against widening i.e. ancient woodland, Sandy Lane underbridge and the listed footbridge. This constitutes a departure from Standards but was not something that caused concern during the first independent safety audit. Approval for that departure has been given.
- 8.27 The approval from departures procedure is a rigorous one. It is submitted that the Promoted Scheme is safe and constitutes an improvement over the status quo with moderate accident benefits forming part of the BCR.

Green Belt

- 8.28 The Scheme involves the loss of some Green Belt land. It is submitted that the Scheme represents appropriate development within the Green Belt. Should this not be the case then 'special circumstances' justify the development. Green Belt is not therefore a reason not to implement the Scheme and while it is a disadvantage it comes nowhere near to being of sufficient weight or importance to outweigh the other advantages of the Scheme over the Alternative.

Veteran Trees

- 8.29 The Scheme would have an impact on 3 veteran trees. The submitted Veteran Tree Compensation Strategy [L.14, L.15] would as far as practical minimise and compensate for the loss of these trees..

NMU Routes

- 8.30 BRA sought the provision of an additional footpath close to Hope Cottages. It is apparent that Highways England and the BRA were at cross purposes as to what was being requested. Craig Twyman confirmed that the creation of a footpath along the edge of the field/the embankment to Hope Cottages ought to be considered¹²⁷. Again, it is submitted that that could be added to the Scheme under designated funds.

J&B Construction CPO

- 8.31 The dispute is limited to Plot 2/6d on which Highways England intends to construct a PMA which would give access to J & B and its neighbours. The plot

¹²⁵ Craig Twyman EIC

¹²⁶ HE/2/B Paragraph para 3.3.4

¹²⁷ Craig Twyman EIC

is required as a working area for the Scheme, so its acquisition is necessary in any event. The dispute relates to how it will be offered back. J&B want the plot offered back without any rights of way granted over it in favour of its neighbours.

- 8.32 J&B do not wish the Scheme to be of assistance to his neighbours. That assistance will not be at J&B's expense because the land will be acquired anyway, and should the Right of Way devalue the plot then it will be cheaper for his client to acquire the same after the construction period should his client be minded to do so. So, detriment to his client is not in issue. At issue is the benefit to his neighbours. Absent a PMA provided by the Scheme a PMA could be provided but it would be at his client's gift and they could demand a ransom price.
- 8.33 The Land Registry plans to JB/1 show clearly that the neighbouring land was not landlocked until the road to access Ebbsfleet International was built in the 2000s. This PMA restores access which was lost as a result of that scheme. At the moment the need for vehicular access is only to maintain a water pipe. But the development potential of the Elliott land is no different to the J&B land.
- 8.34 The powers under s125 and 129 of the HA 1980 should be exercised in the public interest. Ransom strips are not in the public interest.
- 8.35 Any modification would, it is submitted, probably require an opportunity for the adversely effected landowners to make representations to the Secretary of State (SoS).

London Resort

- 8.36 London Resort did not object to the Scheme and submitted a Position Statement, as opposed to any evidence. Their position seems to be that they do not wish to frustrate the delivery of the Scheme; they have proposed no modification or alternative designs and are keen to work in cooperation with Highways England in respect of modelling.
- 8.37 The Scheme is not designed to accommodate London Resort traffic and thus any stress or sensitivity test is irrelevant to this inquiry or to the SoS's determination. London Resort stated that they were not even in funds for the application let alone in funds for implementation.
- 8.38 The extent to which the Scheme could accommodate London Resort traffic either in the short or medium terms is uncertain until the necessary modelling work has been done. It is conceivable that the Ebbsfleet junction could cope with the Gate 1 traffic in 2024. Thereafter, following the further development of the Ebbsfleet Garden City and the London Resort it is very unlikely that the Scheme could cope. It remains the case, therefore, that should the Development Consent Order be granted and implemented the Ebbsfleet junction would need to be modified.
- 8.39 It is important for the Scheme to proceed without delay because of the immediate need to enable and address the impacts of committed development in the Ebbsfleet Garden City.

9.0 INSPECTOR'S CONCLUSIONS

- 9.1 Bearing in mind the submissions and representations I have reported, I have reached the following conclusions, reference being given in square brackets [] to earlier paragraphs where appropriate.

Structure of Conclusions

- 9.2 These conclusions first set out the tests which the Orders must satisfy if they are to be made. I then consider the policy context of the Published and Promoted Schemes, including the relevant policies against which they should be assessed. In doing so I have had regard to the National Planning Policy Framework (NPPF), Planning Practice Guidance, National Policy Statement for National Networks and the Noise Policy Statement for England.
- 9.3 I then set out my conclusions in relation to the traffic and economics of the Scheme and the design of the Scheme. I then consider each of the proposed published modifications. The conclusions then deal with the environmental assessment of the Scheme, including the issues raised by Objectors and those who submitted representations to Highways England and the inquiry.
- 9.4 The BRA Alternative Scheme is then considered, followed by the consideration of issues arising from the CPO. The conclusions are then drawn together into recommendations on each of the Orders.
- 9.5 As set out in paragraph 2.5 above I have taken account of the ES, together with all other environmental information submitted in connection with the scheme, in arriving at my recommendations.

The Statutory Tests Against Which the Orders Need to be Assessed

- 9.6 The draft Trunk Road (Line) Order is drafted under Sections 10 and 41 of the Highways Act 1980. It would authorise the construction of a new section of trunk road or trunk road slip roads. The roads described in the draft Trunk Road Order would become trunk roads from the date when the Trunk Road Order comes into force.
- 9.7 The requirements of local and national planning policies and the requirements of agriculture must be borne in mind when making changes to the trunk road network. Furthermore, it is a requirement that the changes are expedient for the purpose of extending, improving or reorganising the national system of routes in England and Wales.
- 9.8 The SRO is made under Sections 14 and 125 of the Highways Act 1980. At the inquiry the Applicant sought permission to include Section 129 of the Highways Act within the SRO. This matter is considered below. These provisions allow the Secretary of State, by Order, to authorise the stopping up of any highway or PMA and the provision of any improved or replacement highway, footpath and PMA, or new means of access to premises adjoining or adjacent to a highway. The SRO would also provide for the transfer of the new highways to Kent County Council, the local highway authority as from the date on which Highways England notify the said Kent County Council that the new highway has been completed and it is open for through traffic.

- 9.9 It is a requirement that provision be made for the preservation of any rights of statutory undertakers in respect of their apparatus. Moreover, no stopping up order shall be made unless either another reasonably convenient route is available or will be provided before the highway is stopped up. Furthermore, the stopping up of a PMA shall only be authorised if the Secretary of State is satisfied that no access to the premises is reasonably required, or that another reasonably convenient means of access to the premises is available or will be provided.
- 9.10 The draft CPO is made under Sections 239, 240, 246, 249 and 250 of the Highways Act 1980 and Parts II and III of Schedule 2 to the Acquisition of Land Act 1981. For this Order to be confirmed, the land affected must be required for the construction or improvement of, or the carrying out of works to, a highway maintainable at public expense, or for the provision of buildings or facilities to be used in connection with the construction or maintenance of a highway maintainable at public expense. The powers extend to the acquisition of land to mitigate any adverse effect the existence of a highway would have on the surroundings of that highway. The powers also extend to the acquisition of rights over land.
- 9.11 The CPO would authorise the acquisition of land and rights for the construction and improvement of highways and new means of access to premises in pursuance of the Line Order and the SRO. It would also authorise the acquisition of land to enable mitigation measures to be implemented as an integral part of the scheme.
- 9.12 In addition to the tests detailed above, MHCLG Guidance on Compulsory Purchase Process and Crichton Down Rules (The Guidance)[E.3] points out that, for land and interests to be included in a CPO, there must be a compelling case for acquisition in the public interest; that this justifies interfering with the human rights of those with an interest in the land affected; that the acquiring authority has a clear idea of how it intends to use the land it seeks to acquire; that the acquiring authority can show that all necessary resources to carry out its plans are likely to be available within a reasonable timescale; and that the scheme is unlikely to be blocked by any impediment to implementation.
- 9.13 Some of the land required for the Scheme is Crown Land. Crown Land cannot generally be compulsorily acquired, however Section 327 of the Highways Act 1980 provides for a highway authority and the appropriate Crown authority to specify in an agreement that certain provisions of the 1980 Act – including the compulsory purchase powers – shall apply to the Crown.

The Policy Context

- 9.14 As set out above [2.1] the Applicant relies on permitted development rights by virtue of Class B of part 9 of Schedule 2 of the Town and Country Planning (General Permitted Development) England Order 2015.
- 9.15 In terms of trunk roads, the HA 1980 S10 (2) requires the Minister to take into consideration the requirements of national and local planning policy, including the requirements of agriculture, in making decisions.

- 9.16 National Planning Policy is set out in the NPPF. Further guidance is provided within Planning Practice Guidance (PPG).
- 9.17 The NPSNN is also relevant to the proposal. As confirmed at paragraph 1.4 it may be a material consideration in decision-making on applications that fall under the Town and Country Planning Act 1990 or any successor legislation.
- 9.18 NPSE sets out the Government's Noise Policy aims for England and is relevant to the Scheme.

Traffic and Economics – The Published Scheme

- 9.19 The Applicant's case in relation to traffic and economics is set out at paragraphs 4.81-4.92 above. The modelling indicates that with the Scheme there would be significant reductions in delay, particularly during the PM peak, and there would be improvements in latent demand.
- 9.20 It is generally agreed that improvements to the Bean and Ebbsfleet junctions are necessary to improve capacity, manage increases in traffic, and avoid adverse environmental effects.
- 9.21 The Scheme would reduce the overall journey time across the majority of routes assessed in both the opening and design years compared to the Do Minimum scenario. The reduction in journey time is much higher in the PM peak than other peaks, as more trips pass through the scheme in the PM peak [4.86].
- 9.22 For 2023 the total delay during the AM and PM peak hours is predicted to decrease by 24 seconds per vehicle for 2023 compared with the Do Minimum scenario. The 2038 Do Something model predicts an improvement in total delay of 100 seconds per vehicle in both the AM and PM peak hours [4.88].
- 9.23 The Scheme would increase the total number of trips passing through the modelled network by 150 vehicles in the AM and around 800 vehicles in the PM peak hour for 2023 compared with the Do Minimum scenarios. By 2038, the model predicts an increase of around 820 total vehicle trips in the AM peak hour and an increase of vehicle throughputs by approximately 1,020 vehicle trips in the PM peak hour [4.89].
- 9.24 The Bluewater peak hour sensitivity test predicts that by the 2038 forecast year the level of vehicle delay within the VISSIM network reduces by 37% with the Scheme in place [4.90].
- 9.25 Both CPRE and BRA consider that the Bluewater Sunday peak should be modelled. They submit that a similar number of vehicles visit Bluewater on a Sunday, but over a shorter time period [6.10,6.41]. There is no evidence to indicate that the Sunday peak hour traffic is significantly higher by comparison with a Saturday. Neither KCC, nor Bluewater raised these concerns. I am therefore satisfied that the Saturday peak is reasonably representative of Sunday traffic and further modelling is not necessary.
- 9.26 Both BRA and BPC submitted that the congestion on the roads around Bean was due to the volume of traffic on the A2 and this would not be addressed

by the Scheme [6.18,6.66]. This was not disputed by the Applicant. It was acknowledged that the Scheme would only partially contribute towards resolving the problems with the congestion on the A2. Notwithstanding this, it is evident that the Scheme would reduce delay on the network and also increase the capacity of the network [4.86,4.88,4.89]. Therefore it would have a beneficial impact on the network overall and assist with the additional traffic likely to be generated by Ebbsfleet Garden City.

- 9.27 Both BPC and BRA expressed concern regarding the safety implications of loss of the hard shoulder and the introduction of narrow lanes on the A2 [6.21,6.40]. Evidence from the Applicant explains that the principle of narrow lanes, together with the associated mitigation has been endorsed by the Safety Control Review Group [4.24]. On the basis of the Applicant's evidence, I am satisfied that the narrow lanes proposed would not represent a significant safety risk.
- 9.28 BPC and BRA were critical of the proposed segregation barrier [6.19, 6.72]. The Applicant's position is that the barriers would help with reducing weaving which can contribute to accident risks. It will also encourage more traffic to use the eastbound off slip. BRA and BPC suggest that it could add to the journey length for local people, particularly if travelling towards the hospital.
- 9.29 The Applicant proposes that the barrier would be the subject of a Post Operating Performance Evaluation (POPE) and is willing to include BPC in the development of the POPE [8.24]. It was also suggested that subject to an appropriate detailed design it may be possible to install the barriers for a trial period so that their impact on traffic performance can be reviewed [8.25].
- 9.30 Based on the local knowledge provided by BRA and BPC it would seem that the segregation barrier has the potential to increase delay along this part of the network in that most vehicles would be directed towards the eastbound off slip. Given the safety concerns of the Applicant the barriers may contribute to the avoidance of accidents. The possibility of a trial period as suggested by the Applicant [8.25] would enable the effect of the barrier on driver behaviour and congestion, particularly during peak periods for Bluewater shopping centre to be assessed. The operation of the barriers should be assessed once the Scheme is operational and any necessary remedial measures implemented.
- 9.31 The London Resort provided evidence of its anticipated visitor figures [7.39]. BRA considered that if the changes required to accommodate the traffic from London Resort are not taken into account further changes to the network may be required and this could give rise to further disruption for residents [6.18].
- 9.32 Although the Scheme has not been designed to accommodate the traffic from London Resort, the Applicant considers that the Ebbsfleet junction may be able to cope with the Gate 1 traffic in 2024 [8.38]. The London Resort is a Nationally Significant Infrastructure Project and is still at an early stage in the Development Consent Process. Hence there is no certainty as to when it may commence or be operational. There was general consensus that the Scheme was urgently required to address the impacts of local developments that are

either currently in construction or soon to be in construction and should not be delayed to accommodate the London Resort [5.1].

- 9.33 RTF18 also has implications for the economic benefits of the Scheme. The economic benefits of the scheme are assessed over a 60-year period and take account of savings in travel time, vehicle operating costs and user charges. Savings due to accidents are also taken into account as are the impacts of the scheme on greenhouse gas emissions, local air quality and noise.
- 9.34 Based on RTF18 the overall economic benefits of the Scheme would have a BCR of 1.47 [4.85].

Proposed Modifications

- 9.35 I shall start by considering the Modifications that comprise the Promoted scheme, namely MOD-1, MOD-2, MOD-3, MOD-4 and MOD-5.

MOD-1

- 9.36 MOD1 would reduce the construction time for the Scheme from 3 years to 19 months [4.36]. It would also provide cost savings due to the reduction in the extent of the works required as well as the shorter build time. There would also be significant environmental benefits due to the retention of the existing bank and planting. In terms of biodiversity it would deliver significant benefits over the published Scheme. The landscape benefits add further weight in favour of MOD-1 [4.41,4.42].
- 9.37 The proposal would increase the length of the queue on Bean North Bridge by 2 vehicles during the PM peak [4.39].
- 9.38 In terms of safety, although the Modification would not meet the standards within DMRB in two respects, there would be no deterioration in standards by comparison with the existing arrangements. The design has been reviewed in terms of its impact on safety and therefore there is no reason to doubt that it would be unsafe [4.37].
- 9.39 BRA provided anecdotal evidence on one accident and submitted video evidence of another¹²⁸. It would seem that one was due to the driver travelling in the wrong direction on the road and the other was due to excessive driver speed. Taken together with the Applicant's evidence [4.38], I am satisfied that these collisions were not a consequence of the road layout and design. Consequently, there is no evidence to suggest that MOD-1 would lead to a deterioration in highway safety by comparison with the Published Scheme.
- 9.40 BRA are concerned that it would leave the existing pinch point at this junction and therefore would not address the existing traffic issues to the same extent as the Published Scheme [6.1].

¹²⁸ RSA/SID/5

- 9.41 There would be a neutral impact in terms of noise and air quality [4.40]. Therefore, when the economic and environmental benefits of MOD-1 are weighed against the increase in queue length it is recommended that MOD-1 should be accepted.
- 9.42 MOD-1 would require amendments to the SRO and the Line Order. No amendments are required to the CPO. These matters are set out at Appendix C of R.1.

MOD-2

- 9.43 MOD-2 proposes the removal of Plot 1/4a which was to be the main construction compound for the Scheme. The Report accompanying this modification assesses 6 alternative compounds, however Location 3 is no longer available to the Applicant.
- 9.44 The Objection from Sarah and Darren Winchester (OBJ-14) was withdrawn on the basis that the Applicant issued a formal modification to the CPO in relation to Plot 1/4A. It is unclear from the representation¹²⁹ whether they understood that the inclusion of MOD-2 was a matter for the SoS, or alternatively believed that the submitted Scheme had been modified. The Objection was on the basis that the site benefits from a lawful use as a commuter car park, and that there is an extant planning permission (originally granted in 1976) for a hotel on the site. Should the SoS not accept MOD-2 the existing car park use would need to cease, and there could be a delay to the implementation of the hotel scheme. This would have implications for the human rights of the owners of Plot 1/4A. Although as landowners they would be entitled to compensation, if they were unclear that the acceptance of MOD-2 was a matter for the SoS, should the SoS be minded not to accept MOD-2 he may wish to satisfy himself that Sarah and Darren Winchester have had the opportunity to submit representations as to the implications of the Scheme for Plot 1/4A.
- 9.45 It is intended to use permitted development rights to provide the compound. The Applicant stated that the compound may be located at an alternative location to those reviewed and the Report indicates the issues that may arise in terms of the location of the compound¹³⁰. It was confirmed that any alternative location would be subject to the measures within the ES and the REAC.
- 9.46 No objections were received to the removal of Plot 1/4a itself. BRA considered that it would prevent the possibility of the site being used for the replacement of Ightham Cottages [6.2]. However, the SoR indicates that Plot 1/4a was required as a temporary working area and the use of this land to provide housing would be outside of the scope of the published Orders.

¹²⁹ HE/SID/3 Pages 7-9

¹³⁰ Roundtable session

- 9.47 Representations were made in relation to various locations put forward. There is general consensus that sites within the Green Belt should be avoided since the temporary use of such land can lead to future pressure for development [7.2,7.15,7.19,7.20]. Gravesham and Dartford Borough Councils have had experience of this problem in relation to other sites within their areas. It was however acknowledged that if such land was owned by the Applicant such pressures would be reduced [7.15].
- 9.48 In the light of the evidence from Dartford Borough Council and Gravesham Borough Council it is concluded that the proposed compound should not utilise Green Belt sites. In addition, ecologically sensitive sites such as Location 1 should be avoided if possible. Subject to this, and the mitigation strategy within the ES and the REAC, an alternative location for the construction compound would be unlikely to give rise to any significant environmental issues beyond those identified within the ES.
- 9.49 There was also concern at the roundtable sessions that some of the suggested sites were not conveniently located for the Bean junction, where the majority of works would take place. The Applicant explained that this would be a matter for the contractor.
- 9.50 Aside from the deletion of Plot 1/4a from the CPO no other changes to the Order are anticipated since the Applicant proposes to acquire the land required for the compound by agreement or use land already in its ownership. It is recommended that MOD-2 be accepted, but that the Applicant is strongly encouraged to avoid sites within the Green Belt.
- MOD-3*
- 9.51 MOD-3 proposes the de-signalisation of the Bean South roundabout. Evidence submitted by the Applicant suggests that this would provide significant savings in construction costs and also economic benefits in the longer term [4.61].
- 9.52 As noted by a number of parties the submitted report did not include any modelling information [7.3]. Both Gravesham Borough Council and Dartford Borough Council are concerned that in the absence of traffic lights the Scheme would be less resilient particularly at times of high traffic flow, either due to Bluewater traffic or other incidents [7.24,7.8].
- 9.53 Bean Parish Council and Bean residents were particularly concerned that the removal of the signals could make it more difficult for them to join the traffic on the roundabout than at present [6.64, 6.65,7.32,7.33]. Several local residents provided evidence to the inquiry regarding their day to day difficulties¹³¹. These included Mr Botten who explained that due to the difficulties he no longer invited visitors at weekends [7.34].

¹³¹ Linda Collins, Jan Beckett, Chris Botten

- 9.54 The B255 provides the main access from Bean village to the Strategic Road Network. The site visit took place mid-morning on a weekday. It was notable that the traffic seeking to leave Bean was queuing back beyond Turner Road, which is situated about 300m from the roundabout. I noted similar queues during my unaccompanied visit in the middle of the day on a Sunday. In these circumstances it is considered that an increase of 12 vehicles is significant, particularly given the difficulties that residents currently experience when leaving the village. These difficulties are likely to increase at times when the traffic flow is greater due to events/seasonal fluctuations at Bluewater and when there is other disruption on the network.
- 9.55 The modelling submitted by the Applicant in relation to this modification (HE/SID/12 & 13) takes account of all of the proposed design modifications. Consequently, no modelling evidence was put before the inquiry as to the impact of this change on the Bean roundabout.
- 9.56 The Applicant suggests that should problems occur it would be open to KCC as the Local Highway Authority to install traffic lights if these were considered necessary. It is also suggested that the acceptability of this access should be kept under review [4.63]. In practice should problems arise, they are likely to take a considerable period of time to resolve. A scheme would need to be prepared and funding secured and a programme for its implementation at an already busy junction would be necessary. As a consequence, residents of Bean would also be likely to endure any adverse effects for a considerable period of time, and this would follow the inevitable and largely unavoidable adverse impacts during the construction period. For this reason, the option of adding traffic signals at a later date is not ideal.
- 9.57 As acknowledged by the Applicant the increased queuing could also impact on air quality and noise at Hope Cottages [4.59,4.60]. However, there is no evidence as to what these impacts would be.
- 9.58 It is acknowledged that this modification would provide financial benefits and time savings across the network, but these need to be weighed against the considerable disbenefits to Bean residents, the potential for increased air and noise pollution and the possible loss of resilience.
- 9.59 Accordingly, having regard to the concerns expressed by Dartford and Gravesham Borough Councils, and Bluewater in terms of resilience, and the problems currently experienced by Bean residents, it is considered that on the basis of the available evidence that MOD-3 should not be accepted.
- 9.60 Should the SoS disagree with this conclusion it would not be necessary to make any changes to the published Orders. It is however recommended that the traffic impacts at the Bean South roundabout be kept under review, and also that further air quality modelling should be undertaken to assess the effect of this modification on Hope Cottages.
- MOD-4*
- 9.61 The removal of Plots 2/9a, 2/10/a and 2/11a is non-controversial and did not give rise to any objections or representations. Changes would be required to

the CPO, but the Line Order and SRO would be unaffected by this modification. It is recommended that this modification be accepted.

- 9.62 Should the SoS be minded not to accept this modification the Objection from Elliot's Springhead Nurseries would not be overcome. The concern is that the land over which it is intended to acquire rights is also the only entrance to the public parking area and insufficient was provided to the Nurseries by the Applicant as to the extent of any works or access required. Therefore the SoS may wish to satisfy himself as to the extent of the access sought and provide Springhead Nurseries with an opportunity to comment on any implications for their business.

MOD-5

- 9.63 At present there is no signalised crossing for NMUs wishing to travel east-west. The introduction of a signalised NMU crossing is generally supported by those making representations in relation to this modification [7.4,7.9,7.17,7.25,7.45]. In addition, the objection from the Dartford and Gravesham Cycling Forum(D&GCF) and Mr Gary Outram are withdrawn on the basis of this modification. In the absence of this modification D&GCF maintain their objection on the grounds that safety for NMUs crossing the B255 southbound slip road north of the A296 roundabout has not been improved. D&GCF believe that the design guidance in Interim Advice Note 195/16 supports its view that the speed and volume of motor traffic using the slip road are such that a courtesy crossing arrangement is unsafe¹³². This view is supported by the recent assessment of the location by Sustrans, as part of their review of the National Cycle Network¹³³. D&GCF consider that a safe signalised crossing for NMUs of the B255 southbound slip road to the A296 roundabout should be provided. It is appreciated that the proposed crossing lies some distance north of the desire line, but due to the difficulties of providing a signalised crossing in the position of the existing informal crossing point [4.68] this is considered to be an appropriate solution.
- 9.64 Whilst the proposed NMU crossing would not meet the minimum visibility standard, subject to the measures set out in the MOD-5 Report [R.12 section 2.4] it would not give rise to any significant safety concerns.
- 9.65 Given that the Applicant proposes to retain the existing NMU crossing [4.68] the distance of the proposed signalised crossing from the desire line is considered acceptable.
- 9.66 The proposed crossing is likely to increase traffic delays and queues [4.71]. If the queues caused by the signals were found to be excessive and gave rise to other adverse impacts on the network KCC would be able to remove them.

¹³² DGCF/1/A

¹³³ DGCF/1/B

- 9.67 As outlined by the Applicant [4.73] this modification is unlikely to alter the assessments within the ES. Nor would it require any changes to the submitted Orders [4.72].
- 9.68 The proposed crossing would accord with the NPSNN in terms of its commitment to sustainable travel and its intention to invest in developing a high-quality cycling and walking environment to bring about a step change in cycling and walking across the country. Section 9 of the NPPF also seeks to promote sustainable travel, including walking and cycling. The provision of the signalised crossing would also support the Ebbsfleet Garden City objective to create and improve safe, integrated and accessible transport systems, with walking, cycling and public transport systems designed to be the most attractive form of local transport¹³⁴.
- 9.69 Whilst MOD-5 would give rise to increased delays on parts of the network, this must be weighed against the benefits for pedestrians and cyclists, as well as the policies at national and local level that support sustainable transport. Overall, it is concluded that MOD-5 should be accepted.

Cumulative Assessment of MOD-1, MOD-3 and MOD-5

- 9.70 Taken together MOD-1, MOD-3, and MOD-5 would provide benefits over the Do Minimum scenario in terms of delay and the capacity of the network which is able to accommodate a greater number of trips.
- 9.71 HE/SID/12 predicts lower delays for the modification test compared to the Do Minimum RTF18 scenario in the 2023 and 2038 AM peak hours. A greater number of trips are able to pass through the modelled area within the peak hour [4.76]. In addition, a higher number of trips are able to access the network within the peak hour compared to the Do Minimum. Hence the Scheme increases capacity across the modelled network as a whole [4.77].
- 9.72 When the Saturday Sensitivity test is included the overall network delays for the design year of 2038 would be significantly lower by comparison with the Do Minimum scenario, with many more vehicles able to enter the network [4.78].
- 9.73 As noted by Bluewater, the Modification Test results clearly reduce the benefits in terms of latent demand when compared with the Published Scheme [7.43]. There would also be a reduction in the overall benefits of the Scheme by comparison with the Published Scheme [7.44]. Accordingly, taken together MOD-1, MOD-3 and MOD-5 do not provide any significant benefits in terms of vehicle delay and network capacity by comparison with the Published Scheme. Nevertheless, there would be clear benefits in terms of MOD-1 and MOD-5 as outlined above.

¹³⁴ CD F.8 Section 2

Landscape

- 9.74 Paragraph 170 of the NPPF recognises the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services. Amongst other matters, paragraph 127 requires proposals to be sympathetic to local character and history, including the surrounding built environment and landscape setting.
- 9.75 The NPSNN paragraph 5.157 advises that the SoS should consider whether the project has been designed carefully, taking account of environmental effects on the landscape, siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.
- 9.76 With regard to visual impact paragraph 1.158 states that the SoS will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development.
- 9.77 The existing junctions at Bean and Ebbsfleet will increase in size and extent. The type of development proposed is of a similar nature to the highway infrastructure which already exists. At Bean there would be a loss of existing highway screening vegetation, planted at the time of the previous junction improvements, and which was just reaching its design objectives.
- 9.78 The mitigation relies on advance planting on Crown Estate land. In time this will mitigate the loss of the existing planting and assist with integrating and screening the Scheme, but it will take a number of years for it to achieve this aim. The vegetation to the embankments planted to screen the Bluewater Scheme has only recently met its design objectives. When the proposed mitigation is taken into account there would be a moderate adverse effect on the landscape. For this reason it is imperative that the advance planting takes place as soon as possible, and that all practical measures, as set out in the REAC are implemented to minimise and mitigate the impact of the Scheme on the landscape.
- 9.79 As noted by the Applicant, there would be a large adverse effect on the residents of 6-16 Hope Cottages, some of which lie very close to the carriageway [4.111]. Whilst the timber barrier would assist with mitigating some of these effects, it would not provide any benefit for 15 and 16 Hope Cottages [4.112]. The effect on these properties would be particularly severe. Whilst the timber barrier would provide some mitigation there would remain an adverse effect on the occupants of Hope Cottages.
- 9.80 There are practical difficulties with providing a green barrier at this location which would assist with mitigating the adverse effects of the Scheme. It is proposed that this will be delivered through designated funds rather than an integral part of the Scheme. Should the green barrier not be deliverable for any reason, the residual impacts on these residents would remain adverse particularly for 15 and 16 Hope Cottages.

- 9.81 There would also be a loss of high-quality amenity planting at Ebbsfleet. However, the mitigation planting would have an immediate effect, and in the context of the new development occurring in the immediate vicinity, I share the Applicant's view that by year 1 there would be a slight adverse effect, reducing to neutral by year 15[4.113].

Biodiversity

- 9.82 Paragraph 170 of the NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by, amongst other matters, protecting sites of biodiversity or geological value and soils and also by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- 9.83 Paragraph 175 advises that if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused. It also advises that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.
- 9.84 The Planning Practice Guidance provides further guidance in relation to biodiversity and veteran trees. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. The Planning Practice Guidance explains that biodiversity net gain complements and works with the biodiversity mitigation hierarchy set out in NPPF paragraph 175a. Habitat improvement should be a genuine additional benefit and go further than measures already required to implement a compensation strategy¹³⁵.
- 9.85 The Planning Practice Guidance also advises that the direct and indirect impacts on ancient woodland and ancient or veteran trees should be considered when assessing development proposals and the scope for avoiding or mitigating adverse impacts. When assessing whether 'wholly exceptional reasons' exist that may justify a loss or deterioration of ancient woodland, ancient trees or veteran trees, it will not be appropriate to take any compensation measures into account¹³⁶.
- 9.86 NPSNN at paragraph 5.25 states that development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. As with the NPPF it adopts a hierarchy of avoidance, mitigation and compensation.

¹³⁵ ID: 8-024-20190721

¹³⁶ ID: 8-033-20190721

- 9.87 NPSNN resists development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided.
- 9.88 Paragraph 5.3.6 states that applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how these will be secured. It lists the factors applicants should demonstrate in terms of habitat protection during construction, habitat restoration and habitat creation and enhancements.
- 9.89 The Applicant has had regard to the potential biodiversity impacts of the Scheme and has sought to avoid or minimise such impacts during the design process [4.101]. The Applicant's approach is underpinned by the principles within paragraph 175 of the NPPF and other guidance. In addition, the terms of Highways England licence require it to minimise the environmental impacts of operating, maintaining and improving its network and to seek to protect and enhance the quality of the surrounding environment¹³⁷.
- 9.90 As set out in the Applicant's evidence, the Scheme has the potential to have direct and indirect effects on biodiversity during construction and operation and includes the loss of veteran trees.
- 9.91 During construction there would be no habitat loss affecting Darenth Wood SSSI, the Ebbsfleet Marshes Local Wildlife Site, or the ancient woodlands at Darenth Wood, The Thrift, Parkhill Wood and two other small areas of ancient woodland or loss of vegetation directly adjacent to these receptors [4.116].
- 9.92 There would be permanent habitat loss in relation to lowland mixed deciduous woodland, broadleaved plantation woodland, semi-improved grassland, poor semi-improved grassland, amenity grassland and arable farmland. In addition, there would be temporary habitat loss comprising broad leaved plantation woodland, poor semi-improved grassland and scrub adjacent to Ebbsfleet junction [4.118].
- 9.93 Compensation for this loss of habitat would comprise areas of native broadleaf woodland, species rich grassland, scrub, native hedgerow and ponds. Together these areas would increase the total area of terrestrial and aquatic habitats and improve the biodiversity value of the Scheme. The LEMP provides for the maintenance, management and monitoring of these habitats. The inclusion of MOD-1 should further reduce the impact of the Scheme on these habitats [4.131].
- 9.94 The Scheme has the potential to result in indirect impacts through habitat degradation due to air, dust, water and groundwater pollution. The mitigation

¹³⁷ HE/5/B Elizabeth Brown POE Section 2.2

measures set out in the CEMP should avoid any significant residual adverse effects [4.117].

- 9.95 During operation the Scheme has the potential to result in indirect impacts on the Darenth Wood SSSI due to habitat degradation arising from air and groundwater pollution. However, traffic is predicted to decrease in this location so such impacts should be avoided. The scheme also has the potential to result in indirect impacts to Ebbsfleet Marshes LWS during operation. The implementation of best practice guidelines in the design of the surface water drainage systems is secured by the CEMP. As a consequence, significant residual adverse effects would be unlikely [4.123,4.126].

Veteran Trees

- 9.96 The draft scheme involved the removal of 12 veteran trees. Following a design review the number of veteran trees to be lost has been reduced to 3, T032, T036, and T057, which will be directly impacted by the works. The Applicant has continued to review the effect of the scheme on these trees, including the consideration of alternative designs, and concluded that it is not possible to avoid direct impacts on them. The veteran tree compensation strategy forms part of the SoCG with Natural England [O.1] and includes monitoring measures.
- 9.97 On the basis of the submitted evidence I conclude that the loss of these trees is unavoidable, therefore, in accordance with paragraph 175(c) of the NPPF and paragraph 5.32 of NPSNN the SoS will need to determine whether the benefits of this scheme are considered to be wholly exceptional to warrant the loss of irreplaceable habitat. Should the SoS be minded to approve the Scheme then he must be satisfied that the proposed compensatory strategy is suitable.

Bats

- 9.98 There is potential for direct impacts on roosting bats. No roosts were identified within the survey area, however only 4 of the 11 dwellings to be demolished at Ightham Cottages were surveyed due to access issues. A dusk emergence survey was completed in August 2019. The Applicant considered that any bat roosts present within these properties would have been identified during the dawn re-entry and dusk emergence surveys [4.128]¹³⁸.
- 9.99 There were also problems with the dusk survey, since it only covered the front elevations of No.s 1-2 Ightham Cottages and the front and rear elevations of No.s 7-9 due to access restrictions. In addition, the survey was discontinued 40 minutes after sunset, rather than the recommended 2 hours due to concerns raised by a neighbour. Therefore, the survey did not represent best practice¹³⁹.

¹³⁸ CD B.1 paragraph 7.5.5

¹³⁹ CD B.1 paragraph 7.5.5

- 9.100 The Applicant categorises all of the Ightham Cottages as holding 'Low Potential' to support roosting bats [4.128]. The evidence from the desk studies, together with the disturbance from traffic noise and artificial lighting and the findings of the surveys support this assessment.
- 9.101 There would also be potential for direct impacts affecting the foraging and commuting habitat through temporary and permanent vegetation clearance during construction [4.125, 4.185]. However, the availability of the retained habitat outside of the construction area, and subject to the implementation of the mitigation measures within the REAC, significant residual adverse effects would be unlikely. There is also some potential to cause temporary disturbance to foraging and commuting bats during construction due to indirect impacts such as noise and/or lighting. Again, the relevant mitigation measures secured through the REAC should avoid any significant residual adverse effects.

Dormice

- 9.102 There would be direct impacts (i.e. habitat loss) affecting nesting, foraging and commuting habitat and the potential for killing, injury and disturbance to individuals during construction. These works would need to be the subject of a European Protected Species mitigation licence from Natural England. A draft licence was submitted to Natural England. Based on the evidence available to the inquiry, there is no reason to suppose that the licence application will not be approved [4.122].
- 9.103 These measures include compensatory habitat creation (and advanced planting) to replace native broadleaved woodland and scrub, maintenance of habitat connectivity, and all construction work affecting hazel dormouse habitat would be carried out under a Natural England mitigation licence. There are also large areas of high quality alternative native broadleaved woodland (including ancient woodland) and scrub available outside of the construction area, which it is considered would reduce the overall effects on hazel dormice. However, due to the temporary loss of hazel dormouse habitat, this would result in a slight adverse temporary effect on the conservation status of hazel dormice [4.129,4.131].
- 9.104 There is a potential for indirect impacts on birds, reptiles and badgers due to the loss of habitat and foraging territory during the construction phase. Through the REAC the Outline Environmental Management Plan (OEMP) provides for compensatory habitat creation and advance planting to replace the areas that would be lost [4.131]. Subject to the mitigation measures in the OEMP/REAC there should be no significant residual adverse effects.
- 9.105 The Scheme has the potential to cause disturbance to foraging and commuting bats and hazel dormouse during the operational period due to lighting [4.125]. Subject to the implementation of appropriate mitigation measures secured by the OEMP significant residual effects would be unlikely. Balanced against this possible harm, the Scheme has the potential to result in beneficial impacts through the implementation of habitat creation. This will provide an extension to an improved connectivity between native broadleaf woodland and scrub.

Air Quality

- 9.106 The NPPF states that planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of AQMAs and Clean Air Zones, and the cumulative impacts from individual sites in local areas.¹⁴⁰
- 9.107 NPSNN explains that it is government policy to bring forward targeted works to address existing environmental problems on the Strategic Road network including air quality.¹⁴¹ It acknowledges that increases in emissions of pollutants during the construction or operation phases of projects on the national networks can result in the worsening of local air quality.¹⁴²
- 9.108 There are 4 AQMAs within the air quality study area, including AQMA 4 (Bean interchange), which was declared for exceedances of NO₂ (40ug.m³ measured as an annual mean) [4.139].
- 9.109 During construction the Applicant acknowledges that there is potential for increased emissions of dust, including at some sensitive receptors. However, it is considered that subject to the measures within the REAC, secured by the CEMP, significant residual effects would be unlikely [4.143].
- 9.110 The SoCG with Dartford Borough Council [O.5] confirms that it is satisfied with the assessment methodology with regard to air quality and the commitment set out within the Outline Environmental Management Plan (OEMP) to work with the Council's Environment Health Officers with regard to the detailed design of the scheme, the potential for further surveys and the impacts arising during construction.
- 9.111 The measures within the REAC include regular water-spraying and sweeping of unpaved and paved roads to minimise dust and remove mud and debris. The various commitments are set out at AQ1 of the REAC, and I agree that the measures set are likely to be effective in terms of managing any increases in dust arising from the construction of the Scheme.
- 9.112 When assessed using the Highways England IAN 170/12v3 LTTE6 method, 11 of the 75 selected human health receptors are expected to exceed the national annual mean NO₂ objective of 40 µg/m³, both with and without the Scheme. Although receptors R6, R17, R41, R51, R52, R56, R57 and R58 would continue to exceed the national annual mean NO₂ objective of 40 µg/m³, these receptors would experience a reduction in NO₂ emissions both with and without the Scheme. With the exception of R17, the difference with and without the Scheme would be imperceptible (less than 0.5 µg/m³). R17 is located adjacent to the new on-bound slip road and the Scheme would

¹⁴⁰ NPPF paragraph 181

¹⁴¹ NNNPS paragraph 3.5

¹⁴² NNNPS paragraph 5.3

- increase emissions by 2 µg/m³. With the Scheme the NO₂ emissions at these locations would range from 43.0 µg/m³ to 66.9 µg/m³¹⁴³.
- 9.113 Receptors R53, R54, and R55 would experience an increase in NO₂ emissions compared to at present without the Scheme. The Scheme would make an imperceptible difference to these emissions.
- 9.114 The majority of receptors with an exceedance are located within the Dartford AQMA No.1.¹⁴⁴ Accordingly when assessed in accordance with IAN 174/13 [G.19] the change arising from the Scheme is not significant.
- 9.115 Three of the 11 receptors are also expected to exceed the national 1-hour mean NO₂ objective, both with and without the Scheme. These receptors are all located within the Dartford AQMA No.1[4.146].
- 9.116 There are two other receptors, both located along the A2, with a 'small' increase in annual mean NO₂ concentrations. In both cases the reason for the increase in concentrations is an increase in traffic with the Scheme on the section of the A2 between the junctions. However, R11 is not actually representative of any residential properties in the illustrative masterplan for the Eastern Quarry development site but has been positioned near to the A2 as a worst case [4.147].¹⁴⁵
- 9.117 Therefore, whilst these receptors would continue to exceed the NO₂ limits, this would be the case with or without the Scheme. Notwithstanding this, the Scheme would fail to contribute to an improvement in air quality in accordance with the policies within the NPPF. As noted by CPRE there are already substantial adverse air quality impacts within the area [6.56]. The two locations where CPRE suggest that the Scheme would exacerbate existing air quality (DA05 and DA750) are both at the location of Ightham Cottages which will be demolished as part of the Scheme.
- 9.118 CPRE consider the models relied upon by the Applicant are outdated and have either been discredited or have not been verified by an external organisation or body [6.49]. The reference to discredited models relates to the use of PCM. However, as explained by Vicki Sykes the PCM model was considered too optimistic and therefore Highways England rely upon IAN 170/12 v3 [4.144]. Whilst this is likely to be more robust than the models referred to by CPRE, it has not been independently verified and therefore full weight cannot be attributed to it. Nonetheless it provided the only evidence in relation to predicted emissions before the inquiry and was subject to verification tests by the Applicant. Moreover, no alternative model was suggested by any party.

¹⁴³ B.2.4 Appendix E Air Quality Table E17

¹⁴⁴ HE/9/A Vicki Sykes POE Summary Section 2.4

¹⁴⁵ ES Chapter 5 Paragraph 5.7.12

- 9.119 CPRE submitted an appeal decision¹⁴⁶ that it considered raised similar issues to the Scheme. The submitted appeal decision was subject to a Court of Appeal Decision¹⁴⁷ in so far as it relates to air quality. The Scheme materially differs from the submitted appeal case in that the development proposed in that case would have given rise to a further worsening of air quality by comparison with the no development scenario. In respect of this Scheme, although air quality may worsen at some locations the difference would be imperceptible in the Do Something scenario relative to the Do Minimum scenario.
- 9.120 The ClientEarth (2) case¹⁴⁸ found that emissions should be reduced in the shortest possible time. Whilst at some receptors the levels would remain in excess of 40 µg/m³, the Scheme would not increase the level of emissions to a perceptible extent. Nor would it conflict with or reduce the effectiveness of any air quality measures within the local AQMA plan. To this extent it would accord with paragraph 120 of the NPPF.
- 9.121 No mitigation measures specific to air quality are proposed by the Applicant. It is suggested that the proposed noise barrier at Hope Cottages may be beneficial to air quality, but no evidence has been submitted to indicate its effectiveness. Moreover, it would not extend in front of 15 and 16 Hope Cottages, the properties closest to the carriageway.
- 9.122 Overall, the Scheme would not adversely affect air quality. Nonetheless it would fail to address existing exceedances including at those locations where air quality is likely to decline significantly with or without the Scheme, such as R53, R54 and R55. In these locations NO₂ concentrations would increase from 60.5 µg/m³, 62.3 µg/m³ and 52.4 µg/m³ to 61.3 µg/m³, 70.9 µg/m³ and 59.3 µg/m³ respectively¹⁴⁹.
- 9.123 CPRE consider that the Scheme would increase PM_{2.5} at the Hope Cottages roundabout and that leaving the roundabout as two lanes would be beneficial to air quality.
- 9.124 CPRE refers to the need for active travel improvements to assist with tackling air quality [6.46]. It suggests that such measures should be included in the Scheme rather than rely on designated funds. MOD-5 includes a new NMU route which is an integral part of the Scheme. Other measures in relation to NMUs include the Sandy Lane underpass and the public footpath which it was agreed during the course of the inquiry may be possible to deliver.
- 9.125 An additional footpath was only proposed during the course of the inquiry. It would fall within the Applicant's land, and the Applicant indicated that it could be pursued through designated funds. Given that it was only proposed at the

¹⁴⁶ CPRE/SID/4

¹⁴⁷ CPRE/SID/2

¹⁴⁸ CPRE/SID/1

¹⁴⁹ B2.4 Appendix 2 Air Quality Table E17

inquiry it is clearly not possible for it to form part of the Published or Promoted Scheme.

Noise

Construction Noise

- 9.126 On the basis of the Applicant's revised assessment in relation to construction noise the adverse impacts are predicted at properties within 50m of the works. These include Hope Cottages and the nearest properties within the new developments at Ebbsfleet Valley [4.157]. Some works carried out by contractors have already given rise to significant disturbance to residents at Hope Cottages [7.36].
- 9.127 For night time works a significant adverse effect is predicted at all properties within 100m. The Applicant explains that these night-time works would be limited to essential works only, including installing the bridge deck over the A2 at Bean and tie in works [4.156].
- 9.128 The Construction Environmental Management Plan (CEMP) provides for temporary noise barriers between the works and residential properties. Such barriers would reduce noise levels by about 10dB. The REAC also provides for a S61 Notice under the Control of Pollution Act. This would provide the relevant local authority with greater control over noise, particularly at night time and should assist with reducing the environmental impacts of noise.

Operational Noise

- 9.129 NPSNN confirms that government policy is set out in the Noise Policy Statement for England (NPSE).
- 9.130 The NPSE recognises that noise exposure can impact on quality of life. It refers to emerging evidence that long-term exposure to some types of transport noise can additionally cause an increased risk of direct health effects. It sets out three aims. These are:
- Avoid significant adverse impacts on health and quality of life;
 - Mitigate and minimise adverse impacts on health and quality of life; and
 - Where possible contribute to the improvement of health and quality of life.
- 9.131 The NPSE refers to the WHO concepts for establishing noise effects. LOAEL (Lowest Observed Adverse Effect Level) is the level above which adverse effects on health and quality of life can be detected. It adds the concept of SOAEL (Significant Observed Adverse Effect Level) and defines this as the level above which significant adverse effects on health and quality of life occur.
- 9.132 Paragraph 170 of the NPPF, states that new and existing development should be prevented from contributing to, being put at unacceptable risk from, or being adversely affected by unacceptable levels of noise pollution. Paragraph 180 states that planning decisions should ensure that new development is

appropriate for its location taking into account the likely effects of pollution on health. In doing so decisions *“should mitigate and reduce to a minimum, potential adverse impacts resulting from new development, and avoid noise giving rise to significant adverse impacts on health and quality of life”*, referencing the NPSE.

- 9.133 Planning Practice Guidance (PPG) provides further guidance in relation to the Government’s approach to noise. It explains that it is important to look at noise in the context of the wider characteristics of a development proposal, its likely users and its surroundings, as these can have an important effect on whether noise is likely to pose a concern¹⁵⁰.
- 9.134 It states that it should be identified whether the overall effect of the noise exposure (including the impact during the construction phase wherever applicable) is, or would be, above or below the SOAEL and the LOAEL for the given situation¹⁵¹.
- 9.135 It explains that where noise exceeds SOAEL it causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is predicted to be above this level the planning process should be used to avoid this effect occurring, including by the use of appropriate mitigation such as by altering the design and layout. It concludes that while such decisions must be made taking account of the economic and social benefit of the activity causing or affected by the noise, it is undesirable for such exposure to be caused¹⁵².
- 9.136 The Applicant’s assessment of operational noise considers the magnitude of change at sensitive receptors and the absolute noise levels predicted in the opening year and future assessment year of the Scheme [4.165]. It includes any existing noise mitigation measures that will be retained or replaced by the Scheme, as well as new measures included in the Scheme design.
- 9.137 The magnitude of the change in road traffic noise levels in the short-term and the long-term, is assessed using the descriptors provided in DMRB HD213/11 [4.165]. The absolute noise levels predicted at noise sensitive receptors in the opening year and future assessment year of the Scheme have been compared with the SOAEL and the LOAEL. The LOAEL and SOAEL values used by the Applicant are set out at Table 6.6 of the ES [B.1].
- 9.138 At present 1,849 residential properties exceed the LOAEL during the day and 3,197 exceed the LOAEL at night. With the Scheme by 2038, it is predicted that 1,574 residential properties would exceed the LOAEL during the daytime and 3,193 properties would exceed it at night time [HE/SID/15][4.174].

¹⁵⁰ PPG ID: 30-002-20190722

¹⁵¹ PPG ID: 30-003-20190722

¹⁵² PPG ID: 30-005-20190722

- 9.139 In terms of significant effects at present 221 properties exceed the SOAEL during the day, 312 exceed this level at night time. With the scheme by 2038 it is predicted that there would be 215 residential properties that exceed the SOAEL during the day with 301 properties exceeding the SOAEL at night [4.175].
- 9.140 Therefore on the basis of the Applicant's assessment although some properties would still exceed SOAEL, particularly at night time, even after mitigation there would be a reduction in the number of these properties. This would represent an improvement over the existing situation. Notwithstanding this the Applicant's approach to SOAEL is not consistent with NPSE, NPSNN, the NPPF or the Planning Practice Guidance.
- 9.141 The Applicant's noise assessment sets the daytime LOAEL threshold at 50dB L_{Aeq} in accordance with the WHO Guidelines for Community Noise, 1999 (CNG). The threshold of 40dB L_{night} at night was taken from the WHO Night Noise Guidelines (NNG) for Europe, 2009. SOAEL was set at 68dB $L_{A10-18hr}$ during the day and 55dB L_{night} at night, in line with the Noise Insulation Regulations, 1975 (amended 1988) and the WHO Night Noise Guidelines for Europe, 2009 respectively [4.152].
- 9.142 National policy as a whole seeks to avoid significant adverse impacts on health and quality of life. The CNG guidelines were updated and superseded by the Environmental Noise Guidelines (ENG) for the European Region in October 2018. These also complemented the NNG. Section 3.1 of the ENG sets out the recommendations in terms of traffic noise. The Guidelines strongly recommend that average noise exposure to road traffic should be 53dB L_{den} , as road traffic noise above this level is associated with adverse health effects. For night noise exposure, it is recommended that noise levels produced by road traffic should be below 45dB L_{night} , as road traffic noise above this level is associated with adverse effects on sleep.
- 9.143 The day time threshold used by the Applicant significantly exceeds this level. Those receptors experiencing noise levels in excess of this threshold would experience a SOAEL as defined by NPSE, contrary to the aims of the policy, as well as NPSE, The NPPF, NPSNN and The Planning Practice Guidance.
- 9.144 As noted by the Applicant the L_{den} value used in the ENG is not directly comparable with the daytime L_{Aeq} , as it takes into account the noise level over the full 24hr period and includes penalties for night time and evening noise [4.172]. Notwithstanding this, the SOAEL figure used by the Applicant significantly exceeds the evidence-based recommendations within the ENG. It therefore is likely to have under-estimated the number of properties subject to SOAEL.
- 9.145 The Applicant's assessment shows a reduction in the number of dwellings subject to SOAEL [4.166], and on this basis the proposal would not conflict with the policies in the NPPF. However, the assessment is based on a much higher SOEAL threshold than suggested by ENG. On the basis of the evidence submitted to the inquiry it is not possible to ascertain whether if the ENG threshold was used whether there would be a similar decrease in the number of properties subject to SOAEL.

- 9.146 On the basis of the submitted evidence it is unclear whether the Scheme would add to the number of properties subject to a SOAEL as defined by NPSE. It therefore cannot be concluded whether any further or additional mitigation measures are necessary. Should the SoS be minded to confirm the Orders it is recommended that a further noise assessment based on SOAEL as defined in NPSE and having regard to ENG should be undertaken, and any necessary mitigation measures be provided.

Green Belt

- 9.147 The proposal would result in the loss of about 6ha (of which 2.6ha is required for environmental mitigation) of Green Belt land¹⁵³. The area of Green Belt required for the Scheme is predominantly located to the north of Bean village and close to the existing road network. The area that is required for advance planting would not affect the openness of the Green Belt or represent inappropriate development. The remaining areas would be impacted by the Scheme itself which it is considered represents local transport infrastructure since one of its primary objectives is to facilitate the housing development within Ebbsfleet Garden City.
- 9.148 Paragraph 133 of the NPPF states that the Government attaches great importance to Green Belts. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. The NPPF is also clear that inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.
- 9.149 The Applicant submits that the proposal does not represent inappropriate development. Should it be concluded to the contrary it is submitted that very special circumstances exist to justify the impact of the Scheme on the Green Belt [8.28]. Since the Scheme is permitted development it is not necessary to assess whether it is inappropriate development. Development that is not inappropriate should not be regarded as harmful either to the openness of the Green Belt or to the purposes of including land in the Green Belt ¹⁵⁴.
- 9.150 Nonetheless, the HA 1980 S10 (2) requires the Minister to take into consideration the requirements of national and local planning policy, including the requirements of agriculture, in making decisions [9.15]. Consequently, although the proposal is not inappropriate development the aims of Green Belt policy as set out the NPPF are relevant to such consideration.
- 9.151 The proposal would reduce the openness of the Green Belt, particularly through the provision of the proposed slip road. It would also conflict with the

¹⁵³ HE/11/B Sarah Wallis POE paragraph 3.2.2

¹⁵⁴ *Lee Valley Regional Park Authority, R (on the application of) v Epping Forest District Council & Anor (Rev 1)* [2016] EWCA Civ 404

purposes of the Green Belt in so far as they seek to safeguard the countryside from encroachment. Balanced against this, it would support urban regeneration, by encouraging the recycling of derelict and other urban land at Ebbsfleet Garden City in accordance with one of the other purposes of the Green Belt.

- 9.152 In these circumstances the loss of and harm to the Green Belt considered to be acceptable.

Historic Environment

- 9.153 Paragraph 184 of the NPPF confirms that historic assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations. Paragraph 193 states that when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). Any impact on a heritage asset should be weighed against the public benefits of the proposal.
- 9.154 The NNNPS adopts a similar approach. It reiterates the need for a heritage statement and states that any potential impact should be viewed in light of social, environmental and economic benefits arising as a result of the Scheme. Substantial and total harm of a designated heritage asset should only occur in wholly exceptional circumstances.
- 9.155 The Applicant's approach is to avoid any potential impacts through careful design and provide for preservation *in situ*. Where impacts are unavoidable The Applicant will develop strategies to ensure no additional significant effects are caused to the historic environment resource¹⁵⁵. An Archaeological Management and Mitigation Strategy (AMMS) will ensure preservation either *in situ* or by recording known heritage assets within the Scheme and enable identification and preservation by record of any hitherto unrecorded archaeological remains.
- 9.156 The scheme is located within an area rich in archaeological remains from the Palaeolithic through to the Roman and early medieval periods. The area also has a recognised potential for Lower Palaeolithic and early Holocene archaeology and palaeoenvironment [4.133,4.134].
- 9.157 The applicant has identified the potential for the Scheme to harm the archaeological assets within the area, although it considers that the harm would not be significant [4.135].
- 9.158 A signed SoCG between the Applicant, Historic England and Kent County Council Heritage was submitted to the inquiry [O.3]. At the time of the

¹⁵⁵ B.1 ES Chapter 11 Paragraph 11.7.1

inquiry most matters were agreed between the parties, but there remained a number of unresolved issues.

- 9.159 Historic England and KCC identify a need for a programme of non-intrusive and intrusive archaeological work in order to understand more about those areas within the development site which have not been subject to previous investigation¹⁵⁶. There is also concern that the ES fails to adequately describe and assess the potential for, and character of, Palaeolithic and Late Mesolithic sites in general. The Applicant states that some of this information will only be available as the detailed design progresses and would be addressed as part of the AMMS.
- 9.160 Historic England and KCC also express concerns about some of the assumptions within the ES including the extent of deep modern disturbance at Ebbsfleet and the impact of the Scheme on waterlogged archaeological remains along the River Ebbsfleet¹⁵⁷. The need for further information in relation to the Romano-British remains is also identified¹⁵⁸.
- 9.161 A number of Historic England's outstanding concerns can only be addressed once further design and investigative work has been undertaken. The Scheme will largely be contained within the existing alignment of the A2 with lane widening at the associated roundabouts, the addition of slip roads and a bridge parallel with the existing crossing at Bean. The area close to Ebbsfleet, where the potential for archaeological remains is greatest, has been subject to assessment in the context of Ebbsfleet Valley development and the Channel Tunnel Rail works in the past. Whilst it would have been preferable for a more detailed assessment of the potential for, and character of, Palaeolithic and Late Mesolithic sites in general to be provided within the ES, I am satisfied that the AMMS, which is an evolving document, would provide for sufficient safeguards in relation to the matters raised by Historic England and KCC.
- 9.162 Overall, I am satisfied that any archaeological assets will be conserved in a manner appropriate to their significance, and that any residual harm would be outweighed by the public benefits of the Scheme. As such the Scheme would not conflict with the policies within the NPPF or NNNPS.
- 9.163 I have also had regard to the effect of the Scheme on the Grade II listed Swanscombe Bridge. The Scheme has been designed with narrow lanes to avoid any direct impact on the bridge. Although there will be changes to the arrangement of the carriageway at this point the Scheme would not alter the setting of the bridge. I conclude that the proposal would not give rise to any harm to the Swanscombe Bridge or its setting.

¹⁵⁶ O.3 SoCG p20

¹⁵⁷ O.3 SoCG p34 -36

¹⁵⁸ O.3 SoCG p39

Bean Residents Association Alternative Scheme

- 9.164 The BRA Alternative Scheme has clearly involved considerable work and effort on the part of Bean residents to address the areas where they foresee problems arising with the Published and Promoted Schemes and also to resolve existing problems. Notwithstanding this, it is not a detailed scheme and has not been subject to a detailed assessment in a similar manner to the Published and Promoted Schemes. Any alternative scheme would be likely to require detailed design work, a traffic assessment, and considerations of the costs and benefits. It would also be necessary to prepare new Orders for the Alternative Scheme, undertake the necessary consultation and possibly the need to hold a further inquiry. Overall the extent of the delay would be considerable. The Applicant suggests that it could add at least two years to the programme [4.180] and I do not consider this to be an unreasonable view.
- 9.165 The Alternative Scheme would also involve the costs of preparing a detailed scheme and the associated stages outlined above. The delay would also have a cost in terms of the delivery of housing. It is apparent that the Ebbsfleet Garden City housing development is continuing to progress. As set out in the Applicant's case for the Scheme the improvements are necessary to address congestion and improve capacity, particularly in the light of the new housing coming forward [4.4].
- 9.166 BRA suggested that it may be possible to modify and confirm the Orders other than the part that relates to the proposed slip road. It was submitted that this approach would enable the Scheme to progress whilst further work was carried out in relation to the proposed modification [6.33]. This would not be a practical way forward for a number of reasons. There is no certainty that any new Orders in relation to the BRA Alternative would be confirmed. Furthermore, such an approach would be likely to have traffic impacts on the Published and Promoted Schemes similar to those described by the Applicant [4.180].
- 9.167 Local residents submitted evidence in relation to the existing levels of congestion at Bean Junction and stated that it was getting worse, and had deteriorated even over the last two years [7.27,7.32,7.34]. Ebbsfleet Development Corporation, Dartford Borough Council and Gravesham Borough Council all stated that the Scheme is urgently required to address the impacts of local developments that are either currently in construction or soon to be in construction¹⁵⁹. They were all keen to avoid any delay to the Scheme.
- 9.168 These considerations add weight in favour of the Published and Promoted Schemes that would be deliverable within a shorter time frame and at a lower cost.

¹⁵⁹ EBB/1, DTC/1, GBC/1

- 9.169 By 2023 the Promoted Scheme would perform marginally better than the BRA Alternative. In most locations the effect would be neutral, the greatest differences would be during the PM peak where there would be a 3% improvement to route 1 westbound, but a 4% deterioration at route 2 eastbound. By 2038 the differences will increase. Again, the greatest differences would be during the PM peak where the Alternative would perform less well than the Promoted Scheme. With the exception of Route 1 west bound the differences would be relatively minor with 8 of the 12 journeys assessed experiencing delays of less than 20 seconds¹⁶⁰.
- 9.170 In terms of cost, the Promoted Scheme would perform better in terms of BCR [4.192]. It is noted that this difference is assessed over a 60-year period. It includes not only the build costs, but also the costs in terms of journey time. The BRA Alternative has not been fully designed and therefore the costs may differ from those put forward by the Applicant. It may be possible to refine the Scheme and reduce the costs as suggested by the BRA, but at the present time the costs provided by the Applicant provide the only basis for comparison.
- 9.171 The Alternative would avoid the narrow lanes on the A2 and the loss of the hard shoulder. BRA consider that this would be a safety benefit [6.25]. Evidence submitted by the Applicant indicates that taken together with other mitigation measures the narrow lanes would pose a low safety risk to road users and that the principle of such lanes has been endorsed by the Safety Control Group [4.24]. Therefore, whilst avoiding narrow lanes may deliver some benefits it would not be significant in terms of safety.
- 9.172 With the BRA Alternative the merge between the A296 and the A2 would not meet the usual standards, but as acknowledged by the Applicant it would be better in terms of safety by comparison with the existing arrangements [4.181]. I therefore conclude that neither scheme gives rise to significant safety concerns.
- 9.173 In terms of biodiversity, the BRA Alternative would also require the loss of an area of woodland, whereas the eastbound on slip would occupy improved grassland. The BRA Alternative would require the removal of 7 veteran trees, including one ancient tree, whereas refinements to the Applicant's Scheme has reduced the loss to 3 veteran trees [4.185]. The NPSNN paragraph 5.3.2 strongly resists the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Paragraph 175 of the NPPF has a similar intent.
- 9.174 I conclude that the Promoted and Published Schemes would have a lesser impact in terms of biodiversity. When the loss of the veteran and ancient trees are taken into account the benefits of the Published and Promoted Schemes are even greater.

¹⁶⁰ HE/SID/24 Tables 1-3

- 9.175 I appreciate that it may be possible to refine the BRA Alternative to reduce some of these impacts, but on the basis of the evidence submitted to the inquiry, I am not satisfied that this would be achievable. The A296 is constrained by the quarry on one side and the Bean Triangle businesses on the other. Given the need to provide access and parking facilities for these businesses I am doubtful that there would be sufficient scope to modify the BRA Alternative to reduce the impacts on trees and biodiversity.
- 9.176 There was support for the BRA Alternative from Bean Parish Council [6.69] and CPRE [6.45]. It is acknowledged that there is a bottle neck at this location where two lanes merge into one. Residents consider that the BRA Scheme would address this existing problem and also take traffic further from Bean village. KCC also acknowledge that this part of the A296 is an existing congestion hot spot and supports a more detailed review of the BRA Alternative [7.12]. Notwithstanding this, it considers that the new east bound off slip should be retained, and there may be difficulties achieving the lane gain associated with the BRA Alternative in addition to the one associated with the Scheme ¹⁶¹.
- 9.177 It is evident that there would be some benefits from the arrangement proposed by the BRA in so far as it would help to address existing congestion problems on this part of the A296. The Alternative would however, require significant additional work. The A296 accommodates a number of businesses reliant on large vehicles, there is also a layby used for lorries on the eastbound side of the road. In addition, it is proposed that access is provided to the Eastern Quarry site, including routes suitable for use by NMUs.
- 9.178 The practicality of accommodating these various elements, whilst at the same time increasing traffic flow and speed along this part of the A296 would require significant additional work, including detailed consideration as to how the various changes to the existing layout would impact on NMUs. It is an aspiration of the Bean Triangle Environmental Improvement Strategy [I.8] to reduce the sense of severance and disconnection experienced within the existing Bean Triangle. In addition, it seeks to encourage a greater number of NMU journeys and to provide linkages between the emerging Garden City, Bean village and the area of rural Dartford. The increased level of traffic arising from the BRA Alternative has the potential to undermine these aims.
- 9.179 Whilst the BRA Alternative may provide benefits in terms of addressing an existing traffic bottle neck, and increasing the separation from Bean Village, there is insufficient information available to assess the implications of the Alternative on the remainder of the network and on Ebbsfleet Garden City.
- 9.180 The available information suggests that the BRA scheme would be comparable in terms of safety. Whilst it would perform less well in terms of traffic flow, the difference from the Promoted Scheme is not so great as to

¹⁶¹ CD R.15 letter from KCC

add significant weight against it. However, taken together, the additional cost of the BRA Alternative, together with the effects on biodiversity, including the veteran trees, and the considerable delays to the Scheme as a whole outweigh the benefits. Notwithstanding this, in the light of the comments from BPC and KCC which confirm that this part of the A296 is an existing bottleneck, and KCC's support for a more detailed review of this proposal the SoS may wish to explore the benefits of widening the A296, outside the scope of the current Scheme [6.69, 7.12].

CPO

9.181 In order to confirm a CPO the decision maker has to be satisfied that:

- There is a compelling case in the public interest;
- The acquiring authority has taken reasonable steps to acquire all of the land and rights in the Order by agreement;
- The purposes for which the compulsory purchase order is made justify interfering with the human rights of those with an interest in the land affected;
- The acquiring authority has a clear idea of how it intends to use the land which it is proposing to acquire;
- That the necessary resources required to achieve the end justifying acquisition are likely to be available within a reasonable time-scale;
- That there are no physical or legal impediments which are likely to block the scheme.

9.182 The CPO includes a schedule and plan of the land the Applicant seeks to acquire outright and that over which it seeks to acquire rights. In accordance with the Guidance the CPO is accompanied by a Statement of Reasons [A.8]. Although the Statement of Case refers to a Book of Reference this has not been provided.

9.183 The Applicant's case in relation to the CPO is set out at paragraphs 4.193-4.205 above. Before concluding on whether the CPO meets the tests above there are a number of issues in relation to the CPO to be considered. These relate to the SoR and the Applicant's approach to temporary possession and the acquisition of rights; the modification sought to the SoR; and Plot 2/6d.

9.184 The CPO Guidance requires the acquiring authority to prepare a SoR which should be as comprehensive as possible. Prior to the commencement of the inquiry the Applicant was invited to comment on an apparent inconsistency between the SoR and the CPO [Misc/2]. The inconsistency was due to a number of plots where Appendix A to the SoR indicated that the Applicant was seeking a temporary working licence, when the Schedule to the CPO indicated that the land would be acquired outright. In addition, there were a number of plots listed at Appendix A where it is indicated that the Applicant was seeking to acquire rights, but in some cases the CPO Schedule indicated that they would be acquired outright.

9.185 The Applicant's response to this is at HE/SID/1. In summary the Applicant's approach is to acquire the plots required as temporary working areas outright, and then to offer them back to the owners once they are no longer

- required. In terms of the plots required for the creation of third party rights a similar approach is used.
- 9.186 It is evident from the SoR paragraph 4.20 that where the land is acquired by agreement that consideration will be given to a temporary period where the plots are identified for such purpose in the SoR. It is recognised that at the present time there are no powers under the HA 1980 that allow for the temporary acquisition of land, and for this reason the outright acquisition of land may be necessary. With regards to the creation of third-party rights the Applicant explained that it was usual for it to acquire the land outright [4.201].
- 9.187 This approach is not made explicit in the SoR. Indeed, paragraph 9.2 states that "*The purpose for which each plot of land is required is described in Appendix 1 to this Statement.*" It is accepted that the Applicant is subject to the Crichel Down Rules [E.3]. These set out non-statutory arrangements under which surplus government land which was acquired by, or under a threat of, compulsion should be offered back to former owners, or their successors.
- 9.188 On this basis, land required as a temporary working area should be surplus to requirements once the Scheme is complete and should not have materially changed in character. Therefore there should be no reason why it would not be offered back to the previous owners. A similar consideration would apply to land over which the Applicant seeks to create third party rights.
- 9.189 Notwithstanding this, the Town and Country Planning (General Permitted Development) Order 2015, confers extensive permitted development rights on Highways England, the Applicant, and it may be that, whilst the beneficial owner of the land, it chooses to create other rights. The possibility of doing so was referred to by the Applicant when seeking to include a temporary works licence in relation to Plots 2/6d and 2/7d, where it was suggested by the Applicant that even if the acquisition of these plots for the creation of rights was not confirmed, they could create such rights whilst they had possession of the land for temporary works.
- 9.190 Whilst the SoR is a non-statutory document the Guidance suggests that it should be as comprehensive as possible, and it seems reasonable that the public and other parties should be entitled to rely on its contents.
- 9.191 Paragraph 3.2 of the SoR states that the Applicant has further sought to minimise the extent of compulsory acquisition through the acquisition or creation of rights instead of outright acquisition where appropriate. However, seeking to acquire land outright and returning it once rights have been created does not minimise the extent of land to be acquired.
- 9.192 The SoS will need to satisfy himself that the differences between the SoR and the Schedule of the CPO do not give rise to any confusion or injustice, and that if the plots to be acquired are to be used for purposes other than set out in Appendix A of the SoR there could be a breach of Human Rights in that the landowners would not have had the opportunity to make representations.

- 9.193 At the inquiry the Applicant requested to amend Appendix A of the SoR to include *"Also required as a temporary licence working space in connection with the construction of the scheme works"* in relation to Plots 2/6d and 2/7d [4.204]. It was also requested that the SRO be amended to include S129 of the HA 1980 [4.205]. The Applicant did not submit an amended SoR or SRO to the inquiry, but the suggested text is provided at HE/SID/29.
- 9.194 The Guidance [A.8] explains that, amongst other matters, the Statement of Reasons should include an explanation of the use of the particular enabling power; an outline of the authority's purpose in seeking to acquire the land; and a statement of the authority's justification for compulsory purchase, with regard to Article 1 of the First Protocol to the European Convention on Human Rights, and Article 8 if appropriate.
- 9.195 To include an additional purpose within the SoR and seek to add additional powers to the SRO without any consultation or the agreement of the parties affected raises concerns in relation of openness, fairness and transparency. It is unclear as to whether there is any legal impediment to such an approach, since all of the land affected by the change is included within the Order. There is likely to be a breach of Article 6 of the European Convention on Human Rights (ECHR) in that a party could be deprived of their land but not have the opportunity for a fair and public hearing.
- 9.196 The adding of an additional reason to the SoR in relation to 2 plots would affect the owners of these plots. There is an outstanding objection from the owner of Plot 2/6d (J&B Construction). Should the SoS decide that there is not a compelling case in the public interest in so far as the acquisition of these rights is concerned, the owner would still be deprived of her/his land for reasons they were unaware of and did not have the opportunity to comment on, agree by negotiation, or object to.
- 9.197 Excluding the suggested change to the SoR could have implications for the construction programme, in so far as it may restrict the available working area. It would however, be open to the Applicant to seek a temporary working licence by agreement if this was considered to be necessary or essential. Therefore, excluding this modification from the SoR would be unlikely to impact unduly on the implementation of the Scheme.
- 9.198 The Applicant suggested that whilst it is the owner of the site, it would be open to it to grant the third-party rights even if they were not included in the Order. This would happen without the affected parties having an opportunity to comment on this matter. Such an approach would be contrary to the rules of natural justice. It would also be inconsistent with the Guidance in that the Applicant has not sought to acquire these interests by agreement but has simply added to interests as set out in the SoR. The SoS may wish to satisfy himself as to the legal position should this arise. I consider that there would be likely to be implications for human rights issues arising from such a course of action.

Plot 2/6d

- 9.199 In respect of plots 2/6d it is proposed to create vehicular rights of access for the benefits of J&B Construction Limited (the owner), Ebbsfleet Investment (GP) Limited and their partners (owner of Plots 2/7a, 2/7b, 2/7c, 2/7d) and DTG Elliott & Son Limited (owner of Plot 2/8a), as well as all those persons having rights to cross the owner's land. In respect of Plot 2/7d it is proposed to create the same rights with the exception of J&B Construction.
- 9.200 J&B Construction objects to this power on the basis that the proposed route cuts through the centre of their land holding, which includes plots 2/6a,2/6b,2/6c, & 2/6d, and that the parties concerned do not benefit from such rights at present [6.77,6.78].
- 9.201 The Applicant confirmed that there was no evidence to indicate that these landowners currently benefited from any rights across the land concerned other than to maintain a water pipe¹⁶². Any existing rights over Plot 2/6d would be unaffected by the proposal, since the Applicant does not seek to extinguish them.
- 9.202 The Applicant's position is that this land was not landlocked until the access to Ebbsfleet International was built in the early 2000s and that the proposed PMA would restore the access that these plots previously benefited from [8.33]. The Applicant also submitted that the right of way across Plot 2/6d would facilitate the development of these plots which would be in the public interest. It would also prevent the Applicant from creating a ransom strip to this land. The Applicant stated that should the right of way devalue Plot 2/6d there would be no loss to J&B Construction since this would be reflected in the value of the land once it is offered back.
- 9.203 The SRO does not stop up the access to these plots and therefore it is not necessary for it to provide an alternative PMA to them. The SoR indicates that these plots are only needed as a working area and therefore the Scheme will not affect access to them.
- 9.204 Any loss of access to Plots 2/7a, 2/7b, 2/7c, 2/7 & 2/8a occurred as a consequence of a previous Order. No evidence was submitted to the inquiry to indicate the basis of compensation at that time. Access across Plot 2/6d to the adjoining plots is not necessary to mitigate the effects of the Scheme. Whilst there may be some public benefit if the adjoining plots were to be developed these would need to be balanced against any disbenefit to Plot 2/6d in terms of any constraints it may place on the future development of that site. This is essentially a private matter between two landowners.
- 9.205 The Applicant suggests that any modification would, it is submitted, probably require an opportunity for the adversely affected landowners to make representations to the SoS. Since there would be no loss of access to the

¹⁶² Stephen Binkuweir Response to Inspector's question

land concerned as a consequence of the Scheme it is not clear how these land owners would be adversely affected.

9.206 I therefore conclude that Plot 2/6d should be removed from the CPO.

Other CPO tests

9.207 If the SoS is satisfied that there would not be any injustice arising from the differences between the Schedule to the CPO and the SoR, I am satisfied that the Applicant has taken reasonable steps to acquire the land and rights as set out in the SoR by agreement. Negotiations with landowners have continued and a number of objections were withdrawn shortly before and during the inquiry [1.5, 1.7, 1.8, 1.9, 4.15].

9.208 In the case of Plots 2/6d and 2/7d, where the Applicant seeks to add additional reasons for acquiring land, for the reasons given above, I do not consider that it has sought to acquire the land by agreement.

9.209 The overall purpose of the CPO is to facilitate the Scheme, which in turn is necessary in order to accommodate the traffic from the planned housing and employment at Ebbsfleet. The public benefits of the Scheme include the delivery of 15,000 new houses and 30,000 jobs on land that has largely been previously developed. In this regard the proposal would accord with the aim of the NPPF to make as much use as possible of such land. It would also support the NPPF's aim of significantly boosting the supply of housing. Much of this housing would be provided within Ebbsfleet Garden City that has sustainability, including reducing the need to travel and the promotion of sustainable transport, at its heart. The Scheme would also assist with addressing the existing problems of congestion on the local road network [4.5, 5.1]. The SoS will need to determine whether these benefits justify an interference with human rights.

9.210 The landowners will be entitled to compensation, but the case for the CPO of Plot 2/6d is not justified for the reasons given above. Should the SoS conclude that MOD-2 and MOD-4 are acceptable, Plots 1/4a, 2/9a, 2/10a and 2/11a should also be removed from the Order.

9.211 The Scheme has been designed on a preliminary basis and design work has continued since the publication of the Scheme. I am therefore satisfied that the Applicant has a clear idea of how it intends to use the land. There has been a process of on-going design and modification.

9.212 The Applicant submitted a Funding Statement [HE/SID/2]. RIS 2015 makes provision for the funding of the Scheme. The funding is reliant on a contribution of £45 Million from Ebbsfleet Development Corporation, this in turn is reliant on developer contributions [4.199]. BRA questioned whether such contributions would be forthcoming [6.13]. There is no reason to suppose that the funding would not be available, and that MHCLG would not underwrite the £45m third party contribution [4.199]. There is no reason to conclude that the necessary resources will not be available to implement the Scheme.

9.213 There will be a need for some Crown Land to implement the Scheme as well as licences from NE. Evidence submitted to the inquiry [4.202, 4.203], suggest that there is no reason that this will not be forthcoming. On this basis there is no reason to suppose that there are any legal or physical impediments to the Scheme.

SRO

9.214 At the inquiry the Applicant sought to add S129 of the HA 1980 to the SRO [4.205]. Neither the SoR or the Statement of Case refer to S129.

9.215 Sections 125(1)(b) of the HA 1980 provides for the provision of a new means of access only where it replaces one stopped up under s125(1)(a) (to the same premises). Whereas Section 129(1)(b), is not limited to circumstances where an existing means of access is being stopped up and it can relate to "any" premises.

9.216 Since the SRO makes provision to replace any access that is stopped up, it is not necessary to add s129 to the SRO. Moreover, to amend the SRO without consultation would seem to be contrary to the rules of natural justice.

9.217 The Schedule to the SRO proposes the stopping up of the access from the A2260 Ebbsfleet east roundabout to the site of former Springhead Service Station and demolished properties known as Helinside, Vagniac and Lyndhurst, southwards for a distance of 5 metres (marked 'b' on Site Plan 2). This land is in the ownership of J&B Construction and comprises Plots 2/6a,2/6b,2/6c & 2/6d on the CPO.

9.218 In addition to these Plots the new means of access proposed would serve Plots 2/7a, 2/7b, 2/7c, 2/7d & 2/8a. Since there is no evidence to suggest that these plots currently benefit from a right of access across J&B land and it is recommended above that plot 2/6d be removed from the CPO, it is recommended that access 3 and 4 as shown on the Schedule and Site Plan 2 inset 3 be removed from the SRO. Moreover, since the access to these sites would not be stopped up under the SRO unless the SRO is amended, it would not be possible to create it.

Summary

9.219 The Scheme is necessary to support the future economic and housing growth at Ebbsfleet Garden City, as well as within the wider area.

9.220 The Scheme would provide benefits in terms of overall journey time and the capacity of the network. These benefits would still be realised when the Bluewater Saturday traffic is taken into account.

9.221 The Scheme would not give rise to any significant safety concerns. The impact of the segregation barrier on driver behaviour is unclear and should be reviewed once the Scheme is operational.

9.222 MOD-1 would deliver benefits in terms of build time and cost as well as environmental benefits, and it is recommended that it accepted. Although MOD-5 would introduce delays to the network, this is outweighed by the

- benefits of providing a controlled crossing for pedestrians and cyclists. MOD-3 would provide some financial benefits as well as benefits in terms of journey times. However, these benefits are outweighed by the delays that would be experienced by Bean residents. It is therefore recommended that MOD-3 should not be accepted.
- 9.223 MOD-2 and MOD-4 are considered to be acceptable for the reasons given above [9.50,9.61]. Nevertheless, the Applicant should be strongly encouraged to avoid sites within the Green Belt as alternative construction compounds.
- 9.224 Although the Scheme would not have an adverse effect on air quality, it would fail to address existing exceedances including at those locations where air quality is likely to decline significantly, such as R53, R54 and R55.
- 9.225 Taking account of the proposed mitigation measures there would be a large adverse effect on the residents of 6-16 Hope Cottages which it would not be possible to fully mitigate. Whilst there would also be an adverse effect at Ebbsfleet once the landscaping starts to mature the effect would be neutral.
- 9.226 The Scheme would result in some loss of habitat, but this would be compensated for through areas of habitat creation. Together these areas would increase the total area of terrestrial and aquatic habitats and improve the biodiversity value of the Scheme. The inclusion of MOD-1 would further reduce the impact of the Scheme on these habitats.
- 9.227 I conclude that the loss of the veteran trees is unavoidable, therefore, in accordance with paragraph 175(c) of the NPPF and paragraph 5.32 of NPSNN, the SoS will need to determine whether the benefits of this scheme are considered to be wholly exceptional to warrant the loss of irreplaceable habitat. Should the SoS be minded to approve the Scheme then they must be satisfied that the proposed compensatory strategy is suitable. The Compensation Strategy is appended to the SoCG with Natural England [O.1]. Natural England is satisfied that the Applicant has incorporated its comments into the current version of the Veteran Tree Compensation Strategy¹⁶³. These measures will be secured by the OEMP/REAC. On the basis of the available information, it would seem that the Compensation Strategy includes all reasonable steps, including the translocation of the trees, although it is acknowledged by the Applicant that this is unlikely to be successful¹⁶⁴.
- 9.228 There would also be potential for direct impacts affecting the foraging and commuting bats. However, given the availability of the retained habitat outside of the construction area, and the implementation of the mitigation measures within the REAC, significant residual adverse effects would be unlikely.

¹⁶³ O.1 SoCG page 19

¹⁶⁴ L.13 Paragraph 3.28

- 9.229 There would be direct impacts on dormice affecting nesting, foraging and commuting habitat and the potential for killing, injury and disturbance to individuals during construction. These works would need to be the subject of a European Protected Species mitigation licence from Natural England. Based on the evidence available to the inquiry, there is no reason to suppose that the licence application will not be approved.
- 9.230 On the basis of the submitted evidence it is unclear whether the Scheme would add to the number of properties subject to a SOAEL as defined by NPSE. It therefore cannot be concluded whether any further or additional mitigation measures are necessary. Should the SoS be minded to confirm the Orders it is recommended that a further noise assessment based on SOAEL as defined in NPSE and having regard to ENG should be undertaken, and any necessary mitigation measures be provided.
- 9.231 Overall the Scheme would give rise to the loss of Green Belt land as well as harm to the openness of the Green Belt [9.151, 9.152]. When weighed against the benefits of the proposal this harm is considered to be acceptable [9.209].
- 9.232 Subject to the measures in the AMMS the Scheme would be unlikely to give rise to any significant harm to heritage assets [9.162, 9.163]
- 9.233 The available information suggests that the BRA Alternative would be comparable in terms of safety. Whilst it would perform less well in terms of traffic flow, the difference from the Promoted Scheme is not so great as to add significant weight against it. However, taken together, the additional cost of the BRA Alternative, together with the effects on biodiversity, including the veteran trees, and the considerable delays to the Scheme as a whole outweigh the benefits. Notwithstanding this, in the light of the comments from BPC and KCC which confirm that this part of the A296 is an existing bottleneck, the SoS may wish to explore the benefits of widening the A296, outside the scope of the current Scheme [6.69, 7.12].

Conclusion on the Line Order

- 9.234 The draft Trunk Road (Line) Order is drafted under Sections 10 and 41 of the Highways Act 1980. It would authorise the construction of a new section of trunk road or trunk road slip roads. The roads described in the draft Trunk Road Order would become trunk roads from the date when the Trunk Road Order comes into force.
- 9.235 In terms of the Line Order, I consider that the benefits of the Scheme in terms of journey time and network capacity, and the facilitation of new housing and jobs would outweigh any residual environmental impacts once the mitigation measures proposed are taken into account. In reaching this conclusion I have taken account of the unavoidable loss of the three veteran trees. The SoS will need to determine whether the benefits of this scheme are considered to be wholly exceptional to warrant the loss of this irreplaceable habitat and whether the proposed compensatory strategy is suitable.

- 9.236 The Scheme forms part of the Kent Thameside Strategic Transport Programme (STP) and is needed to support future growth in the Thames Estuary growth area. I conclude that the changes are expedient for the purpose of extending, improving or reorganising the national system of routes in England and Wales.
- 9.237 I conclude that having regard to local and national planning policy, including the requirements of agriculture, the scheme would be in the public interest [4.18, 4.21, 6.39, 9.68, 9.74, 9.82, 9.83, 9.84, 9.85, 9.86, 9.89, 9.97, 9.106, 9.117, 9.120, 9.132, 9.133, 9.140, 9.143, 9.145, 9.150, 9.162, 9.163, 9.173, 9.209, 9.226]. I also consider that, subject to the SOS being satisfied with regard to the loss of the veteran trees and Compensation Strategy [9.235], the adverse environmental impact would be proportionate to the benefits of the Scheme, having regard to the mitigation proposed.
- 9.238 The DfT has suggested amendments to the text of the Order [R.9.1] and this should be included in the Order. I conclude that the Order should also be modified to accommodate MOD-1. The necessary amendments are set out at R.3

Conclusion on the SRO

- 9.239 It is a requirement that provision be made for the preservation of any rights of statutory undertakers in respect of their apparatus. Moreover, no stopping up order shall be made unless either another reasonably convenient route is available or will be provided before the highway is stopped up. Furthermore, the stopping up of a PMA shall only be authorised if the Secretary of State is satisfied that no access to the premises is reasonably required, or that another reasonably convenient means of access to the premises is available or will be provided.
- 9.240 With regard to the statutory criteria to be satisfied, I am mindful that provision is being made for statutory undertakers' apparatus within the proposal, and that liaison between the Applicant and the companies affected is on-going.
- 9.241 Amendments to the SRO are necessary to accommodate MOD-1. These are set out at Document R.2. In addition, I determined above that access 3 and 4, as shown on the Schedule and Site Plan 2 inset 3, be removed from the SRO [9.218].
- 9.242 I conclude that where a highway or PMA is to be stopped up the SRO as modified would provide a reasonably convenient alternative route or access, as described in the schedules and plans of the SRO.

Conclusion on the CPO

- 9.243 The Applicant requests the CPO be modified to take account of MOD-2 and MOD-4. The amendments in respect of MOD-2 are set out at R.7 and those in respect of MOD-4 are set out at R.11. In addition, DfT requires changes to the text as set out at R.10.2.

- 9.244 The CPO should also be modified to remove Plot 2/6d from the Order for the reasons given above.
- 9.245 Evidence submitted to the inquiry [4.203] indicates that The Crown Estate will agree to the sale of the land needed for mitigation. Notwithstanding this, agreement had not been reached by the close of the inquiry. Accordingly, the SoS may wish to satisfy himself that agreement has been reached with the Crown Estates since it is not possible to CPO Crown Land without their agreement. The SoS should also satisfy himself that the differences between the SoR and the Schedule of the CPO do not give rise to any confusion or injustice, and that if the plots to be acquired are to be used for purposes other than set out in Appendix A of the SoR there would not be a breach of human rights.
- 9.246 Subject to the amendments above, and the SoS being satisfied on the other matters, I consider that the purposes for which the CPO is promoted justifies interfering with the human rights of those with an interest in the land affected, having regard to the provisions of Article 1 of the First Protocol to the European Convention on Human Rights incorporated into the Human Rights Act 1998.
- 9.247 I have found above that the Applicant has a clear idea of how the land to be acquired would be used and a reasonable expectation that the necessary resources would be available to carry out its plans within a reasonable timescale. Subject to agreement with the Crown Estates I consider that there would be no impediment to prevent it proceeding to carry out its plans. If the SoS is satisfied in relation to the matters at paragraph 9.245 above, I conclude that there is a compelling case in the public interest for the CPO.

10.0 RECOMMENDATIONS

- 10.1 Subject to the SoS being satisfied with regard to the matters set out in paragraph 9.235, I recommend that the A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Slip Roads and Roundabouts) Order 20.. should be modified as indicated in paragraph 9.238 above, and that the Order so modified should be made.
- 10.2 Subject to the SoS being satisfied with regard to the matters set out in paragraph 9.239 and 9.240, including the modification to the Order, I recommend that the A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Side Roads) Order 2019 should be modified as indicated in paragraph 9.241, and that the Order so modified should be confirmed.
- 10.3 Subject to the SoS being satisfied with regard to the matters set out in paragraphs 9.245 & 9.246, I recommend the A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) Compulsory Purchase Order 2019 be modified in accordance with paragraphs 9.243 and 9.244 above, and that the Order so modified should be confirmed.

Lesley Coffey

INSPECTOR

Appendix A

APPEARANCES

For Highways England:

Emyr Jones of Counsel

He called:

Stephen Binkuweir	Project Manager
Elizabeth Brown	Environmental Mitigation
Caroline Ford	Biodiversity & Ecology
Alan Ford	Heritage
Chris Kennedy	Construction Manager
Craig Shipley	Traffic Modelling and Economics
Victoria Stewart	Noise
Victoria Sykes	Air Quality
Craig Twyman	Scheme Design
Angela Wade	Landscape
Sarah Wallis	Planning

For Bean Residents Association

Ashley Johnson

Linda Collins (Also appeared as a local resident)

For Bean Parish Council

Councillor Anna Munday

For CPRE

Richard Knox Johnson

Hilary Newport

For J&B Construction

Jason Dodds

Interested Persons

Duncan Wood

Jan Beckett

Chris Botten

Roundtable Session 1 – Proposed Modifications

(In addition to those listed above)

Georgina Stephens	Vectos (Representing Bluewater)
Tony Chadwick	Gravesham Borough Council
Ouranian Prentza	Highways England
Robert Murphy	Highways England
Michael Jessop	Ebbsfleet Development Corporation

Roundtable Session 2 Traffic modelling

(In addition to those listed above)

Georgina Stephens	Vectos (Representing Bluewater)
Tony Chadwick	Gravesham Borough Council
Richard Hutchings	London Resort

Roundtable Session 3 Bean Residents Alternative Scheme

Representatives of the Applicant's team and Bean Resident Association

DRAFT AND MADE ORDERS	
A.1	The Highways England A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Side Roads) Order 2019 – Public Notice
A.2	The Highways England A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Side Roads) Order 2019
A.3	The A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Slip Roads and Roundabouts) Order 20.. – Public Notice
A.4	The A2 Trunk Road (Bean and Ebbsfleet Junction Improvements) (Slip Roads and Roundabouts) draft Order 20[o], (the "Line Order") - Booklet
A.5	The Highways England (A2 Trunk Road Bean and Ebbsfleet Junction Improvements) Compulsory Purchase Order 2019 – Public Notice
A.6	The Highways England A2 Trunk Road Bean and Ebbsfleet Junction Improvements Compulsory Purchase Order 2019, (the "CPO") - Booklet (Order and Schedule)
A.7	The Highways England A2 Trunk Road Bean and Ebbsfleet Junction Improvements Compulsory Purchase Order 2019, (the "CPO") - Booklet (Plans)
A.8	Statement of Reasons accompanying the Orders, January 2019
ENVIRONMENTAL STATEMENT AND OTHER DOCUMENTS ACCOMPANYING THE ORDERS	
B.1	Environmental Statement Volume 1: Main Text, February 2019
(B2) Environmental Statement Volume 2: Technical Appendices, February 2019	
B2.1	<u>B.2 - Volume 2 Appendix A Scoping Opinion Responses</u>
B2.2	<u>Volume 2 Appendix B Outline Environmental Management Plan</u>
B2.3	<u>Volume 2 Appendix C Habitats Regulations Assessment Screening</u>
B2.4	<u>Volume 2 Appendix D Major Accidents and Disasters</u>
B2.5	<u>Volume 2 Appendix E Air Quality</u>
B2.6	<u>Volume 2 Appendix F Noise and Vibration</u>
B2.7	<u>Volume 2 Appendix G Biodiversity</u>
B2.8	<u>Volume 2 Appendix G.2 Biodiversity Ecology Survey Reports</u>
B2.9	<u>Volume 2 Appendix G.4 Biodiversity Options Phase 1 Ecology Report</u>
B2.10	<u>Volume 2 Appendix G3 Badger Report</u>
B2.11	<u>Volume 2 Appendix H Road Drainage and the Water Environment</u>
B2.12	<u>Volume 2 Appendix H.2 Drainage Strategy</u>
B2.13	<u>Volume 2 Appendix H.3 Water Framework Directive</u>
B2.14	<u>Volume 2 Appendix H.4 Flood Risk Assessment</u>
B2.15	<u>Volume 2 Appendix I Landscape and Visual</u>
B2.16	<u>Volume 2 Appendix J Geology and Soils</u>
B2.17	<u>Volume 2 Appendix J.3 Hydrological Risk Assessment</u>
B2.18	<u>Volume 2 Appendix J2 Envirocheck Report Part 1</u>

B2.19	<u>Volume 2 Appendix J2 Envirocheck Report Part 2</u>
B2.20	<u>Volume 2 Appendix J2 Envirocheck Report Part 3</u>
B2.21	<u>Volume 2 Appendix J2 Envirocheck Report Part 4</u>
ENVIRONMENTAL STATEMENT AND OTHER DOCUMENTS ACCOMPANYING THE ORDERS	
B2.22	<u>Volume 2 Appendix J2 Envirocheck Report Part 5</u>
B2.23	<u>Volume 2 Appendix J2 Envirocheck Report Part 6</u>
B2.24	<u>Volume 2 Appendix K Cultural Heritage</u>
B2.25	<u>Volume 2 Appendix K.2 Archaeology DBA</u>
B2.26	<u>Volume 2 Appendix K.3 Kent Archaeology Evaluation</u>
B2.27	<u>Volume 2 Appendix M People and Communities</u>
B2.28	<u>Volume 2 Appendix N Climate</u>
B2.29	<u>Volume 2 Appendix O Assessment of Cumulative Effects</u>
B2.30	<u>Volume 2 Appendix P Veteran Tree Survey</u>
B3.1	<u>B.3 - Volume 3 Figures Chapter 1 and 2 (Part 1)</u>
B3.2	<u>Volume 3 Figures Chapter 1 and 2 (Part 2)</u>
B3.3	<u>Volume 3 Figures Chapter 1 and 2 (Part 3)</u>
B3.4	<u>Volume 3 Figures Chapter 1 and 2 (Part 4)</u>
B3.5	<u>Volume 3 Figures Chapter 5</u>
B3.6	<u>Volume 3 Figures Chapter 6 (Part 1)</u>
B3.7	<u>Volume 3 Figures Chapter 6 (Part 2)</u>
B3.8	<u>Volume 3 Figures Chapter 7</u>
B3.9	<u>Volume 3 Figures Chapter 8</u>
B3.10	<u>Volume 3 Figures Chapter 9 (Part 1)</u>
B3.11	<u>Volume 3 Figures Chapter 9 (Part 2)</u>
B3.12	<u>Volume 3 Figures Chapter 9 (Part 3)</u>
B3.13	<u>Volume 3 Figures Chapter 10</u>
B3.14	<u>Volume 3 Figures Chapter 11</u>
B3.15	<u>Volume 3 Figures Chapter 13 and 15</u>
B.4	Environmental Statement Volume 4: Non-Technical Summary, February 2019
B.5	Preliminary Design Drawings list, February 2019
B5.1	Preliminary Design Drawing number 1
B5.2	Preliminary Design Drawing number 2
B5.3	Preliminary Design Drawing number 3
B5.4	Preliminary Design Drawing number 4
B.5.5	Preliminary Design Drawing number 5
B5.6	Preliminary Design Drawing number 6
B5.7	Preliminary Design Drawing number 7
B5.8	Preliminary Design Drawing number 8
B5.9	Preliminary Design Drawing number 9
B5.10	Preliminary Design Drawing number 10
B5.11	Preliminary Design Drawing number 11

B5.12	Preliminary Design Drawing number 12
B5.13	Preliminary Design Drawing number 13
B5.14	Preliminary Design Drawing number 14
B5.15	Preliminary Design Drawing number 15
B5.16	Preliminary Design Drawing number 16
B.6	Transport Data Package
B.7	Transport Modelling Package
B.8	Transport Forecasting Package
B.9	Transport Economics Package
B.10	Outline Environmental Management Plan
CONSULTATION DOCUMENTS	
C.1	Report on Public Consultation, September 2018
C.2	Scheme Assessment Report (August 2017)
C3.1	Scheme Assessment Report Volume 2: Drawings – part 1 (August 2017)
C3.2	Scheme Assessment Report Volume 2: Drawings – part 2 August 2017)
C3.3	Scheme Assessment Report Volume 2: Drawings – part 3 (August 2017)
C.4	Report on Consultation (May 2017)
C.5	Technical Appraisal Report Volume 1 (January 2017)
C.6	Technical Appraisal Report Volume 2 - drawings (January 2017)
C.7	A2 Bean and Ebbsfleet Junction Improvements Statement of Case, May 2019
LEGISLATION	
D.1	Highways Act 1980 (relevant extracts)
D.2	Town and Country Planning Act 1990 (relevant extracts)
D.3	Acquisition of Land Act 1981 (relevant extracts)
D.4	Human Rights Act 1998 (relevant extracts)
D.5	Control of Pollution Act 1974 (relevant extracts)
D.6	Natural Environment and Rural Communities Act 2006 (relevant extracts)
D.7	Wildlife & Countryside Act 1981 (relevant extracts)
D.8	Countryside and Rights of Way Act 2000 (relevant extracts)
D.9	Ancient Monuments and Archaeological Areas Act 1979 (relevant extracts)
D.10	Planning (Listed Building and Conservation Areas) Act 1990 (relevant extracts)
D.11	Climate Change Act 2008 (relevant extracts)
D.12	Protection of Badgers Act 1992 (relevant extracts)
D.13	Wild Mammals (Protection) Act 1996 (relevant extracts)
D.14	Town and Country Planning Development Management Procedure (England) Order 2015
D.15	The Air Quality Standards Regulations 2010 (SI 2010/1001) (relevant extracts)

D.16	The Air Quality (England) Regulations 2000 (SI 2000/928) (relevant extracts)
D.17	Environmental Noise (England) Regulations 2006 (SI 2006/2238) (relevant extracts)
D.18	Hedgerows Regulations 1997 (SI 1997/1160) (relevant extracts)
D.19	Anti-Pollution Works Regulations 1999 (SI 1999/1006) (relevant extracts)
D.20	Environmental Damage (Prevention and Remediation) (England) Regulations 2015 (SI 2015/810)
D.21	Flood Risk Regulations 2009 (SI 2009/3042)
D.22	The Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154) (relevant extracts)
D.23	Conservation of Habitats and Species Regulations 2017 (SI 2017/1012) (relevant extracts)
D.24	Construction (Design and Management) Regulations 2015 (SI 2015/51) (relevant extracts)
D.25	Contaminated Land (England) Regulations 2006 (SI 2006/1380) (relevant extracts)
D.26	The Compulsory Purchase (Inquiries Procedure) Rules 2007
D.27	The Highways (Inquiries Procedure) Rules 1994
D.28	The Control of Noise (Code of Practice for Construction and Open Sites) (England) Order 2015 (relevant extracts)
NATIONAL PLANNING POLICY AND GUIDANCE	
E.1	National Planning Policy Framework 2019
E.2	National Networks National Policy Statement 2014
E.3	Guidance on compulsory purchase process and the Crichel Down Rules (2019)
E.4	Ministry of Housing, Communities & Local Government (2014) Guidance: Environmental Impact Assessment
LOCAL AND REGIONAL PLANNING POLICY	
F.1	Kent Thameside Strategic Transport Programme (STP) and Appendices
F1.1	Kent Thameside Strategic Programme (STP) Appendix A
F1.2	Kent Thameside Strategic Programme (STP) Appendix B
F1.3	Kent Thameside Strategic Programme (STP) Appendix C
F1.4	Kent Thameside Strategic Programme (STP) Appendix D
F.2	Kent County Council Transport Plan (2016-2030)
F.3	Dartford Borough Council Core Strategy Local Plan (2011)
F.4	Dartford Borough Council Development Policies Plan (2017)
F.5	Dartford Five Year Deliverable Housing Land Supply 2018
F.6	Gravesham Borough Council Local Plan Core Strategy (2014)
F.7	Gravesham Five Year Deliverable Housing Land Supply Statement 2017-2022
F.8	Ebbsfleet Development Corporation Ebbsfleet Implementation Framework, 2017
F.9	Vision for Kent 2012-2022
DESIGN STANDARDS, ADVICE AND GUIDANCE NOTES	

G.1	Design Manual for Road and Bridges (DMRB) Volume 11, Section 3, Part 7 HD 213/11 Noise and Vibration
G.2	Design Manual for Road and Bridges (DMRB) Volume 11: Environmental Assessment Section 2 Part 5
G.3	Design Manual for Road and Bridges (DMRB) 45/09 (HA, 2009)
G.4	Design Manual for Road and Bridges (DMRB) HD 103/06
G.5	Design Manual for Road and Bridges (DMRB) Volume 11, HD 22/08
G.6	Design Manual for Road and Bridges (DMRB) Volume 11, Section 3, Part 2 HA 208/07 Cultural Heritage
G.7	Design Manual for Road and Bridges (DMRB) HA 205/08
G.8	Design Manual for Road and Bridges (DMRB) Volume 11, Section 3, Part 8
G.9	Design Manual for Road and Bridges (DMRB) Volume 11, Section 3, Part 9 Vehicle Travellers
G.10	Design Manual for Road and Bridges. (DMRB) Volume 5, Section 2, Part 5 Walking, Cycling & Horse Riding Assessment and Reviews
G.11	Design Manual for Road and Bridges. (DMRB) Volume 11, Section 3, Part 1 Air Quality: HA 207/07
G.12	Design Manual for Road and Bridges. (DMRB) Volume 11, Section 2, Part 5: Assessment and Management of Environmental Effects
G.13	Design Manual for Road and Bridges (DMRB) Volume 11, Section 3, Part 4
G.14	Design Manual for Road and Bridges (DMRB) Part 1, Traffic Appraisal
G.15	Design Manual for Road and Bridges (DMRB) Volume 11, Section 4, HD 44/09
G.16	Highways England IAN (Interim Advice Note) 125/15
G.17	Highways England IAN (Interim Advice Note) 170/12 v3
G.18	Highways England IAN (Interim Advice Note) 175/13
G.19	Highways England IAN (Interim Advice Note) 174/13
G.20	Highways England IAN (Interim Advice Note) 149
G.21	Highways England IAN (Interim Advice Note) 185/15
G.22	Highways England IAN (Interim Advice Note) 195/16
G.23	Highways England IAN (Interim Advice Note) 135/10 Landscape and Visual Effects Assessment
G.24	Design Manual for Road and Bridges (DMRB) Volume 10, Section 4, HA 80/99
G.25	Design Manual for Road and Bridges (DMRB) Volume 11, Section 2, Part 2 HA 202/08
G.26	Highways England IAN (Interim Advice Note) 130/10 (2010) Ecology and Nature Conservation: Criteria for Impact Assessment
G.27	DMRB, Volume 11, Section 3, Part 6: land use
TRANSPORT & TRAFFIC	
H.1	Department for Transport Road Investment Strategy (2014)
H.2	Road to Good Design 2018
H.3	Transport Analysis Guidance (Department for Transport) DfT 2018

H.4	A2BE Saturday Operational Assessment Technical Note (Highways England)
H.5	Kent Corridors to M25 Route-Based Strategy
H.6	RTF18 Sensitivity Test Technical Note
H.7	TAG Unit M3-1
H.8	TAG Unit M4
H.9	Department for Transport's 'Value for Money Framework'
H.10	Gravesham No LTC Scenario
H.11	Transport Orders Guidance
LANDSCAPE & VISUAL DOCUMENTS	
I.1	Guidelines for Landscape and Visual Impact Assessment (GLVIA) 3rd edition, 2013
I.2	An approach to Landscape Character Assessment, Natural England 2014
I.3	Trees in relation to Design, Demolition and Construction Recommendations BS5837:2012
I.4	Natural England's 'Veteran Trees Initiative: Specialist Survey Method'
I.5	Defining and surveying veteran and ancient trees' - Fay, 2007
I.6	Landscape Institute Advice Note 01/11
I.7	Landscape and Ecological Mitigation Strategy
I.8	Ebbfleet Development Corporation (EDC) Environmental Improvement Strategy for the Bean Triangle (Arcadis) January 2019
NOISE & VIBRATION DOCUMENTS	
J.1	DEFRA, Noise Policy Statement for England (NPSE) March 2010
J.2	Planning Practice Guidance Noise (PPGN) 2016
J.3	Department of Transport and the Welsh Office Calculation of Road Traffic Noise (CRTN) (1988)
J.4	World Health Organisation (WHO) Community Noise Guidelines (1999)
J.5	World Health Organisation (WHO) Night Noise Guidelines for Europe (2009)
J.6	British Standards Institution (2009) BS 5228:2009 + A1:2014 Code of practice for noise and vibration control on construction and open sites, Part 1: Noise
J.7	World Health Organisation (WHO) Environmental Noise Guidelines for European Region 2018
AIR QUALITY DOCUMENTS	
K.1	National Air Quality Plan 2017
K.2	Highways England Air Quality Strategy 2017
K.3	Dartford Borough Council Air Quality Action Plan (AQAP) 2002
K.4	Gravesham Borough Council Air Quality Action Plan (AQAP) 2004
K.5	DEFRA's (Department for Environment, Food and Rural Affairs) Local Air Quality Management - Technical Guidance LAQM.TG (16)
K.6	Air Quality Management Area (AQMA) Mapping (Defra 2017)
K.7	Gravesham Local Authority Local Air Quality Management (LAQM) Report 2017
K.8	2019 NO ₂ projections Data

K.9	Gravesham Borough Council 2018 Air Quality Annual Status Report
K.10	Gravesham Borough Council 2019 Air Quality Annual Status Report
K.12	Dartford Borough Council 2017 Air Quality Annual Status Report
K.13	Dartford Borough Council 2018 Air Quality Annual Status Report
K.14	Defra data sets
K.15	Clean Air Strategy 2019
K.16	The Climate Change Act 2008 (2050 Target Amendment) Order 2019
ECOLOGY	
L.1	Dormouse Conservation Handbook 2 nd edition. Bright, P.W. (2006)
L.2	Badgers surveys and mitigation for development projects survey methods
L.3	Ancient Woodland Inventory
L.4	Hazel or common dormice surveys and mitigation for development projects survey methods
L.5	Habitat Translocation - a best practice guide (CIRIA C600)
L.6	Veteran Trees: A guide to good management (Natural England IN13, 2000)
L.7	Principles of tree hazard assessment and management (Research for amenity tree) Lonsdale, D. 2013)
L.8	CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland
L.9	British Standards Institution (2014) (BS) 5837:2012 Trees in relation to design, demolition and construction - recommendations
L.10	Highways England Biodiversity Plan (2015)
L.11	Kent's Biodiversity Action Plan (BAP)
L.12	UK Biodiversity Action Plan (BAP)
L.14	Report to Natural England Design Review Regarding Veteran Trees
L.15	Veteran Trees Compensation Strategy Technical Note
HERITAGE DOCUMENTS	
M.1	Standards and guidance for historic environment desk-based assessment: Chartered Institute for Archaeologists (CIfA, 2017)
M.2	Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (Historic England, formerly English Heritage, 2008)
M.3	Managing Significance in Decision-Taking in the Historic Environment Historic Environment Good Practice Advice in Planning Note 2 (Historic England 2015)
M.4	Preserving Archaeological Remains Decision-taking for Sites under Development (Historic England, 2016)
M.5	The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning Note 3, 2nd edition (Historic England, 2017)
M.6	Kent Historic Environment Record (KHER)
M.7	Historic England's National Heritage List for England (NHLE)
M.8	Archaeological Management and Mitigation Strategy (AMMS)
MISCELLANEOUS DOCUMENTS	

N.1	British Standard 4428:1989 Code of practice for General Landscape Operations
N.2	CIRIA Environmental Good Practice on Site (2010)
N.3	Highways England: Strategic Business Plan 2015 to 2020
N.4	Environmental Assessment Report 2016 (Highways England)
N.5	Highways England Delivery Plan 2015 - 2020
N.6	A2BE Traffic Management Plan
N.7	Highways England Licence 2015
N.8	Highways England A2BE Stage 3 Buildability Report
N.9	Environmental Statement Errata
N.10	Bean Residents Association response to Stage 3 Statutory Public Consultation 2018
STATEMENTS OF COMMON GROUND	
0.1	SOCG Highways England and Natural England
0.2	SOCG Highways England and Environment Agency.
0.3	SOCG Highways England Historic England Kent County Council Heritage
0.4	SOCG Highways England and Kent County Council
0.5	SOCG Highways England and Dartford Borough Council
0.6	SOCG Highways England and Gravesham Borough Council
0.7	SOCG Highways England and Ebbsfleet DC
0.8	SOCG with Bean Parish Council
STATUTORY OBJECTORS AND NON-STATUTORY OBJECTORS CORRESPONDENCE	
P.1	Correspondence between Highways England and Dartford and Gravesham Cycling Forum
P.2	Correspondence between Highways England and CPRE Kent
P.4	Correspondence between Highways England and Bean Residents Association
P.5	Correspondence between Highways England and Vodafone
P.6	Correspondence between Highways England and WT Investments, Darren Winchester and Sarah Winchester
P.7	Correspondence between Highways England and UK Power Networks
P.8	Correspondence between Highways England and Neil Thomas Elliott and DTG Elliott & Son Limited
P.9	Correspondence between Highways England and Gary Outram
P.10	Correspondence between Highways England and Marston's Plc
P.11	Correspondence between Highways England and Bean Parish Council
P.12	Correspondence between Highways England and Toine Napier
P.13	Correspondence between Highways England and Gravesham Borough Council
P.14	Correspondence between Highways England and J & B Construction
P.15	Correspondence between Highways England and Phillip Jenns
P.16	Correspondence between Highways England and Ashleigh and Jason Topping
P.17	Correspondence between Highways England and Woodland Trust

P.17.1	Further Correspondence between Highways England and Woodland Trust
P.17.2	Further Correspondence between Highways England and Woodland Trust 26 Sept 19
P.18	Correspondence between Highways England and National Grid
REPRESENTATION CORRESPONDENCE	
Q.1	Correspondence between Highways England and Historic England
Q.2	Correspondence between Highways England and GTC
Q.3	Correspondence between Highways England and Vectos
Q.4	Correspondence between Highways England and Dartford Borough Council
Q.5	Correspondence between Highways England and Natural England
Q.6	Correspondence between Highways England and EDC
Q.7	Correspondence between Highways England and Neil Fuller
Q.8	Correspondence between Highways England and Southfleet Parish Council
Q.9	Correspondence between Highways England and David Lock Associates
Q.10	Correspondence between Highways England and Environment Agency
Q.11	Correspondence between Highways England and Kent County Council
Q.12	Correspondence between Highways England and CBRE
SCHEME MODIFICATIONS AND ALTERNATIVES	
R.1	Detailed Modification MOD-1 – Report, August 2019
R.2	Detailed Modification MOD-1 – Amendments required to the Made Side Roads Order, August 2019
R.3	Detailed Modification MOD-1 – Amendments required to the Draft Line Order, August 2019
R.4	Detailed Modification MOD-1 – Letter accompanying the Report and Amended Plans, issued to Objector and Representation Parties, 06 August 2019
R5	Alternative Proposal by Bean Residents Association
R5.1	BRA Alternative-Upgrade A296_ Omit e-b slip (original PDF from 10 September list)
R5.2	Alternative Proposal by Bean Residents Association
R5.2.1	Note to accompany BRA Proposal
R5.3	Veteran Trees
R5.4	Environment Constraints of BRA Alternative
R5.5	Statutory Undertakers
R.6	MOD-2: Removal of Plot 1/4A and alternative locations for site compounds - Amendments required to the Made CPO
R.7	MOD-2: Removal of Plot 1/4A and alternative locations for site compounds - Amendments required to the Made CPO
R.8	MOD-3: De-signalisation of Bean South Roundabout Report
R.9.1	Amendment DFT-01 – Memo on the Line Order text alterations required by DFT
R.9.2	Amendment DFT-01 – Amendments required to the Draft Line Order

R.9.3	Amendment DFT-01 – Mark-Up identifying in red the changes to the Order text (for information)
R.10.1	Amendment DFT-02 – Memo on the CPO text alterations required by DFT
R.10.2	Amendment DFT-02 – Amendments required to the Made Compulsory Purchase Order
R.10.3	Amendment DFT-02 – Mark-Up identifying in red the changes to the Order text (for information)
R.11.1	Modification (MOD-04) Removal Plots 2/9a, 2/10a and 2/11a from CPO - Memo
R.11.2	Modification (MOD-04) Removal of Plots 2/9a, 2/10a and 2/11a – Amendments to the CPO Plans
R.12	Modification (MOD-05) B255/A296 NMU Crossing – Report
R.13	Highways England report on BRA alternative.pdf
R.14	Letter from Gravesham BC – dated 1 October regarding Modifications
R.15	Letter from Kent CC – dated 27 September 2019 regarding Modifications
R16	Letter from Dartford Council regarding Modifications 30th September
R17	Letter from the Environment Agency regarding Modifications dated 30 September
R18	Letter from EDC dated 27 September 2019 regarding Modifications

INQUIRY DOCUMENTS

HIGHWAYS ENGLAND (HE)	
HE/1/A	Summary Proof of Evidence of Stephen Binkuweir – Overview of the scheme
HE/1/B	Proof of Evidence of Stephen Binkuweir – Overview of the scheme
HE/2/A	Summary Proof of Evidence of Craig Twyman - Highways Engineering
HE/2/B	Proof of Evidence of Craig Twyman - Highways Engineering
HE/3/A	Summary Proof of Evidence of Craig Shipley - Traffic and Economics
HE/3/B	Proof of Evidence of Craig Shipley - Traffic and Economics
HE/3/C	Appendices to the Proof of Evidence of Craig Shipley - Traffic and Economics
HE/4/A	Summary Proof of Evidence of Chris Kennedy - Construction
HE/4/B	Proof of Evidence of Chris Kennedy - Construction
HE/4/C	Appendices to the Proof of Evidence of Chris Kennedy - Construction
HE/5/A	Summary Proof of Evidence of Liz Brown - Environmental Design and Mitigation
HE/5/B	Proof of Evidence of Liz Brown - Environmental Design and Mitigation
HE/5/C	Appendices to Proof of Evidence of Liz Brown - Environmental Design and Mitigation

HE/6/A	Summary Proof of Evidence of Angela Wade - Landscape and Visual Summary
HE/6/B	Proof of Evidence of Evidence of Angela Wade- Landscape and Visual Proof
HE/6/C	Appendices to Proof of Evidence of Angela Wade - Landscape and Visual Proof
HE/7/A	Summary Proof of Evidence of Caroline Ford - Biodiversity
HE/7/B	Proof of Evidence of Caroline Ford - Biodiversity
HE/8/A	Summary Proof of Evidence of Alan David Ford - Historic Environment
HE/8/B	Proof of Evidence of Alan David Ford - Historic Environment
HE/9/A	Summary Proof of Evidence of Vicki Sykes - Air Quality
HE/9/B	Proof of Evidence of Vicki Sykes - Air Quality
HE/10/A	Summary Proof of Evidence of Vicky Stewart - Noise and Vibration
HE/10/B	Proof of Evidence of Vicky Stewart - Noise and Vibration
HE/10/C	Appendices to Proof of Evidence of Vicky Stewart - Noise and Vibration
HE/11/A	Summary Proof of Evidence of Sarah Wallis - Planning
HE/11/B	Proof of Evidence of Sarah Wallis - Planning
HE/12	Rebuttal Proof of Evidence from HE regarding the Proofs of Evidence from Bean Residents
HE/13/A & B	HE response to London Resort Statement
HIGHWAYS ENGLAND (HE) SUPPLEMENTARY INQUIRY DOCUMENTS	
HE/SID/1	Response to Inspector's note of 25 September (Misc/2)
HE/SID/2	Funding Statement 1/10/19
HE/SID/3	Status of all objections/Representations
HE/SID/4	Key points summary to facilitate BRA Alternative
HE/SID/5	Opening Statement on behalf of HE
HE/SID/6	Collision Note
HE/SID/6A	Explanation Note – Collision Data - Craig Twyman
HE/SID/7	Responses to Inspector's Questions on 1 October 2019
HE/SID/8	Publishing of Modifications
HE/SID/9	Clarification regarding cost budget and BCR RE MOD 1
HE/SID/10	NMU Safety Risk Assessment regarding MOD5
HE/SID/11	Letter from Ebbsfleet regarding Scheme Contribution from EDC
HE/SID/12	Assessment of Published Scheme including all modifications
HE/SID/13	Saturday Sensitivity Test of Published Scheme including all modifications
HE/SID/14	Response to the Inspector's Comments on air quality
HE/SID/15	Noise Response to the Inspector's Comments
HE/SID/16	Highways England's Approach to Private Means of Access.
HE/SID/17	Plan showing Bean Roundabout Cross section for EDM Proof – Liz Brown
HE/SID/18	Veteran Trees and Infrastructure
HE/SID/19	Ightham cottages BAT emergence survey report
HE/SID/20	Outline Environmental Management Plan - Update of the REAC

HE/SID/20.1	Outline Environmental Management Plan - Further Update of the REAC
HE/SID/21	Kent County Council response to SID/12 and 13
HE/SID/22	Major Improvements Projects
HE/SID/23	Vectos response to HE/SID/12 & 13
HE/SID/24	Comparison of all Modification Test vs Bean Residents Association Alternative Journey Times
HE/SID/25	Highways England Proof of Evidence Errata
HE/SID/26	Note on Noise Insulation and Acoustic Comparison of Windows.
HE/SID/27	HE response to the Inspector on CPO and Statement of Reasons
HE/SID/28	Plans of longitudinal and cross sections drawings for A2 and Ebbsfleet Junction Improvements
HE/SID/29	Plot 2/7 and other third party rights plots
HE/SID/30	Environment Noise Barrier and Veteran Trees – Images
HE/SID/31	Modelling Review Response to Inquiry – Vectos
HE/SID/32	Land Plot 2/6d – Elliott and EIGP access requests
HE/SID/33	Note on Applicability of the Crichel Down Rules.
HE/SID/34	Explanation to Table 1 Route 1
HE/SID/35	Closing Submissions by Highways England
RSA/1/A	Proof of Evidence by Bean Resident Association
RSA/1/B	Appendices to the Proof of Evidence by Bean Resident Association
RSA/1/C	Rebuttal Proof of Evidence to HE
RSA/SID/1	Photograph – dated 4 May 2019
RSA/SID/2	S106 Contribution report (EDC 019-023 Annex H)
RSA/SID/3	Differences in quoted numbers regarding HE/1/B
RSA/SID/4	A2 Incidents at Lane Drops and Buildability
RSA/SID/5	Dash Cam incident, Ightham cottages r/a 28 February 2017 – no link
RSA/SID/6	Part of Inspector's report
RSA/SID/7	Closing submissions
CPRE/1/A	Proof of Evidence submitted by CPRE
CPRE/1/B	Appendices to Proof of Evidence by CPRE
CPRE/SID/1	High Court Judgment – 2/11/16 – Client Earth No2) v SoS for the Environment, Food & Rural Affairs & Major of London, Scottish Ministers, Welsh Ministers and SoS for Transport
CPRE/SID/2	High Court Judgment – 12/9/2016 – Gladman Developments Ltd & SoS for Communities & Local Government & Swale Borough Council and CPRE Kent
CPRE/SID/3	High Court Judgment between Gladman Developments Limited & SoS for Communities & Local Government & Swale Borough Council and CPRE Kent
CPRE/SID/4	Appeal Decision 9 January 2017. London Road, Newington, Kent ME9 7NL. Gladman Developments against Swale Borough Council
CPRE/SID/5	Closing submissions (writing only)
DGCF/1/A	Written Statement by Dartford & Gravesham Cycling Forum
DGCF/1/B	Appendices to the Written Statement by Dartford & Gravesham Cycling Forum

LRCH/1/A	Summary Position Statement on behalf of London Resort Company Holdings Limited
LRCH/1/B	Position Statement on behalf of London Resort Company Holdings Limited
EBB/1	Letter from EDC in response to the Position Statement regarding London Resort
DTC/1	Letter from Dartford BC in response to the Position Statement regarding London Resort
KCC/1	Letter from Kent County Council in response to the Position Statement regarding London Resort
GBC/1	Letter dated 8 October in response to London Resort Position Statement.
CE/1	Letter from Savills on behalf of the Crown Estate dated 24 September
JB/1	Letter and documents dated 4 October 2019
JB/2	Response to HESID/16
JENN/1/A	Statement on behalf of Mr P Jenns
JENN/1/B	Appendix to Statement on behalf of Mr P Jenns
JENN/SID/1	Letter withdrawing objection by Mr Philip Jenns
NG/1	Letter of withdrawal from National Grid dated 3 October 2019
RTS/1	Roundtable Session Agenda: Applicant's Proposed Modifications
RTS/2	Roundtable Session Agenda: BRA Alternative Scheme
RTS/3	Roundtable Session: Transport Forecast/Modelling
Misc/1	Pre-Inquiry notes
Misc/2	Note from the Inspector to HE requesting information.
IP/1	Statement from Mr Ashley Johnson
IP/2	Statement from Jan Beckett
IP/3	Statement from Cllr Anna Munday
IP/4	Statement from Duncan Wood
IP/5	Statement from Linda Collins
IP/6	Statement from Chris Botten

Appendix C

Abbreviations

AQMA	Air Quality Management Area
BCR	Benefit to Cost Ratio
BPC	Bean Parish Council
BRA	Bean Residents Association
CEMP	Construction Environmental Management Plan
CPO	Compulsory Purchase Order
CPRE	Campaign to Protect Rural England
DMRB	Design Manual for Roads and Bridges
DfT	Department for Transport
EDC	Ebbsfleet Development Corporation
ENG	Environmental Noise Guidelines
ES	Environmental Statement
HA 1980	Highways Act 1980
HE	Highways England
KCC	Kent County Council
LEMP	Landscape and Ecological Management Plan
LOAEL	Lowest Observable Adverse Effect Level
LTC	Lower Thames Crossing
LWS	Local Wildlife Site
NMU	Non-Motorised User
NO ₂	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPSNN	National Policy Statement for National Networks
NPSE	Noise Policy Statement for England
OEMP	Outline Environmental Management Plan
PCM	Pollution Climate Mapping
PM ₁₀	Particulate Matter – concentration of particles that are less than or equal to 10 micrometres in diameter
PMA	Private Means of Access
POPE	Post Operating Performance Evaluation
REAC	Register of Environmental Actions and Commitments
RTF	Road Traffic Forecast
SLTL	Segregated Left Turn Lane
SOAEL	Significant Observable Adverse Effect Level
SoCG	Statement of Common Ground
SoR	Statement of Reasons
SoS	Secretary of State
SRO	Side Roads Order
SSSI	Site of Special Scientific Interest
µg/m ³	Micrograms per Cubic Metre
WHO	The World Health Organisation