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**PROPOSED DEVELOPMENT, ROUGHTON ROAD, CROMER, NORFOLK**  
**Independent Review of Transport Provisions.**

**PROPOSED DEVELOPMENT AT  
ROUGHTON ROAD, CROMER, NORFOLK  
Independent Review Transport Provisions**

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**Date:** October 2020

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# PROPOSED DEVELOPMENT ROUGHTON ROAD, CROMER, NORFOLK

## Independent Review of Transport Provisions

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- A. NCC Letter dated 17 September 2020

### Registration of Amendments

Revision and Date	Amendment Details	Revision Prepared By	Revision Approved By

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## 1.0 INTRODUCTION

- 1.1 I am Jonathan Paul Cage, a Chartered Civil Engineer with over 31 years of experience providing expert advice on Highway and Transportation Projects throughout the UK for public and private sector clients. I am a Bachelor of Engineering with Honours, a Master of Science and a member of the Chartered Institute of Highways and Transportation. I am also a member of the Institution of Civil Engineers.
- 1.2 I am the Managing Director and owner of Create Consulting Engineers Ltd who are an award winning multi-disciplinary transport, highway and environmental engineering consultancy with offices in Norwich, London, Glasgow, Milton Keynes and Chelmsford. I have extensive experience in the design of Highway and Access schemes, preparation of Transport Assessments, and providing expert witness advice on access strategies, accident schemes and general highway design.
- 1.3 I have previously provided Expert Highway Advice to a number of Local Planning Authorities when there were disputes/differences of opinion with the Highway Authority (including Norfolk County Council) and an independent second opinion was required.

### Details of Instruction

- 1.4 I have been instructed by Innova Property Ltd to undertake an independent review of the Transport Assessment and various technical submissions made by ADL their appointed transport consultant and the associated responses made by Norfolk County Council acting as Highway Authority in relation to the Outline Application for a mixed use scheme known as Land East and West of Roughton Road, Cromer NR27 0BF Application No PO/18/1551.

### Description of Scheme

- 1.5 The outline application is for a mixed use scheme which will consist of up to 185 homes, an Extra Care Home, supported living for adults with learning disabilities, a sports and leisure park, together with associated infrastructure.

### Scope of Report

- 1.6 The main purpose of the report is to provide an expert opinion on whether or not the Transportation and Access Package which has been proposed by ADL on behalf of the developer is sufficient to mitigate the impact of the scheme on the adjoining Highway Network and that the scheme complies with local and national highway policies.
- 1.7 The report will consider what has already been agreed with the Highway Authority and what issues are still in dispute, providing an expert view on whether or not these are justifiable concerns.

**Previous Involvement**

- 1.8 I have previously been involved with the development of this scheme, providing some very initial strategic advice in relation to a wider development proposal, which included the preparation of a short supporting statement which was submitted with formal representations to the Local Plan. All of the technical work which has been prepared in support of this application has been prepared by ADL Traffic and Highways Engineering Ltd.
- 1.9 I have had the opportunity to visit the site and observe the surrounding highway network in operation.

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## 2.0 SCHEME DEVELOPMENT

- 2.1 The first Transport Assessment submitted in support of the scheme was prepared by ADL Report Reference H1216 and was dated 22 September 2018. Since this submission a number of further revisions have been submitted which have attempted to try and answer the various concerns raised by Norfolk County Council (NCC). The latest version which has been submitted and responded to by NCC is Revision H, which was responded to by NCC in their letter dated 17 September 2020.
- 2.2 The Transport Assessment prepared by ADL is a professionally produced document which has covered all of the main aspects that would normally be considered within a Transport Assessment and has been carried out generally in accordance with the Department of Highways and Transport Guidelines and the requirements of Norfolk County Council.
- 2.3 From reviewing the correspondence between the applicant and NCC it would appear that whilst NCC raised some initial policy objections in their letter dated 11 December 2018, the objection letter lacked detail and did not provide much clarity on what were the Highway Authorities concerns. It took a number of exchanges between the parties before a more detailed and considered response from NCC was received dated 6 April 2020. The latest Transport Assessment Revision H was a direct attempt by the applicant to answer all of the outstanding queries, so that the scheme could move forward with an agreed mitigation package.
- 2.4 Unfortunately from reviewing the NCC letter dated 17 September 2020 which was in response to the latest submission it is clear that there are still areas of dispute between the parties. The following sections of this report will discuss these last few areas of dispute and provide an expert opinion on whether or not the Highway Authorities concerns are justified.

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### 3.0 PROPOSED TRANSPORT IMPACT MITIGATION PACKAGE

- 3.1 The Highway Authority concern in relation to the delivery of this site is the potential impact of the traffic generated by the scheme on the roads to the south of the site including Roughton Road, Old Mill Road and Carr Lane, of which they did not believe was of sufficient standard to accommodate the additional traffic safely.
- 3.2 The applicant has contested this position and has argued that the Transport Assessment undertaken by ADL has demonstrated that the level of trip generation from the site is not significant and that whilst it accepts there will be a small increase it does not believe that it will be so severe that it will cause any detrimental harm to the operation of the network.
- 3.3 The Transport Assessment Rev H provides details of the transport impact mitigation package which is being put forward by the applicant to try and answer NCC concerns. This includes the following:
- Widening of Roughton Road to 5.5m wide to the south of the site
  - Extension of the 30mph speed limit on Roughton Road
  - Provision of a new 2m wide footway along the eastern side of Roughton Road from the site access to the existing footway system to the north
  - Junction Improvement at Carr Lane and the removal of the existing grass triangle, to provide much better manoeuvrability at the junction
  - One Way Shuttle working system on Old Mill Road
  - Junction improvement at Roughton Road and Felbrigg Road
  - Introduction of 30 mph limit on Felbrigg Road, with gateway features and flashing warning sign
- 3.4 In addition to the physical measures listed above the scheme is supported by a comprehensive Sustainable Travel Plan, which will help promote public transport use and provides additional support for pedestrians and cyclists.

#### **4.0 WHAT HAS BEEN AGREED TO DATE WITH NCC**

4.1 From reviewing the latest response from NCC dated 17 September 2020, it would appear that they do not object to a large proportion of the information provided including the following key components of the Transport Assessment. These are as follows:

- Trip generation of both residential and other uses
- Distribution and split north/south
- Site Access Arrangement
- Sustainability of the site in terms of connectivity to services
- Access to public transport, rail and bus
- Footway and Cycleway Links
- Accident and Safety Record
- Junction Capacity
- Travel Plan Provision
- Car Parking Arrangements

4.2 From the above it would appear that the majority of the components of the Transport Assessment have been accepted leaving only a few points relating to the highway network to the south of the site to be agreed.



## 5.0 NCC'S OUTSTANDING ISSUES

5.1 From reviewing the letter received from NCC dated 17 September in response to the submission of Rev H of the ADL Transport Assessment, this appears to focus on three main areas, all relating to the road network to the south of the site. These include the following:

- Carr Lane junction with Cromer Road/Roughton Road
- Old Mill Road
- B1436 Felbrigg Road junction with Old Mill Road

### **Carr Lane Junction with Cromer Road**

5.2 NCC concern at this junction relates to the visibility splay to the north. ADL have shown that a visibility splay of 45m can be achieved to the north, measured to a point 1m from the road edge in accordance with Manual for Streets 2 (MfS2). NCC believe that because Roughton Road is used as a bus route and that the carriageway is narrower than the desirable 6m wide it would seem likely that a vehicle travelling in the opposite direction to a bus will utilise the whole width of the carriageway and in that situation they do not feel it is appropriate to measure the visibility to an offset. NCC state that the visibility splay that can be provided to the road edge would be around 34m. Therefore they do not consider that acceptable visibility can be provided

### **Old Mill Road**

5.3 NCC are concerned that the edge build out required to enforce the proposed priority system at Old Mill has been relocated from the north to the south, which has reduced the intervisibility between the opposing vehicles using the road. It also results in vehicles from both directions passing close to the accesses within its length, increasing risk of collision with emerging vehicles.

### **B1436 Felbrigg Road junction with Old Mill Road**

5.4 NCC state that the B1436 Felbrigg Road provides a strategic link between the A140 and the A148, it is a main distributor road for the movement of vehicles in the Norfolk Hierarchy and there is no frontage development of facilities for sustainable travel particularly at the junction with Old Mill Road. As such NCC believe that there is clearly no sense of place and regardless of speed limit, and that neither MfS/MfS2 should apply and the road layout should accord with the requirements of Design Manual for Roads Bridges (DMRB).

5.5 This would appear to be a clear difference in the parties, where the applicant contests that MfS should be applied to this junction and NCC believe that we should be adopting DMRB.

- 5.6 NCC concerns relates to visibility in both directions and that they do not think that the Safe Stopping Distance requirement of 65m can be achieved for a 40mph vehicle speed on the approach to the junction from Roughton. In both circumstances they are quoting design standards recommended by DMRB.
- 5.7 The applicant believes that they have demonstrated that the scheme can comply with the visibility requirements of MfS in all aspects at this junction.

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## 6.0 REVIEW OF OUTSTANDING ISSUES

### Carr Lane Junction

- 6.1 From reviewing the applicants scheme drawing of this junction shown on H1216-204 Rev F this shows clearly that a visibility splay of 2.4m x 45m can be achieved to the north within the highway boundary with an offset of 1m from the kerb. It would appear though even if this visibility splay was drawn to the carriageway edge that a splay of 2.4m x 45m could still be achieved within the highway boundary. NCC have accepted that MfS standards should apply to this junction, therefore for a section of road with a 85<sup>th</sup> percentile recorded speed of 30 mph the required level of visibility can be provided.
- 6.2 This improvement to Carr Lane could be argued is not required due to the very low number of additional vehicles that this scheme will generate, the Transport Assessment confirms that only 9 additional 2 way traffic movements will be generated in the morning peak and 10 additional two way vehicle trips in the evening peak hour. This level of additional traffic would not be considered to have a severe residual impact and therefore no improvements would normally be required.
- 6.3 I therefore believe that by offering this improvement the applicant is going above and beyond what is required to mitigate the impact of the scheme and that NCC concerns are misplaced. The existing visibility at this junction is only 2.4m x 23m which is very poor and the proposed improvement would provide a greatly improved arrangement which would generally provide betterment over the existing situation.

### Old Mill Road

- 6.4 Old Mill Road is currently a bus route and the carriageway narrows where it passes a number of existing dwellings, resulting in it being very difficult for a bus and a vehicle to pass each other. To address this the applicant has proposed a “give way” shuttle working arrangement at the narrowest section. NCC have raised concerns that this improvement cannot be constructed within the highway boundary. ADL have prepared a number of cross sections along this section which show that this improvement can be delivered without third party land.
- 6.5 NCC are also concerned that this improvement as currently proposed would reduce inter-visibility between opposing vehicles and that the vehicles in both directions would be closer to the private access/drives.
- 6.6 Looking at the scheme as shown on ADL Drawing Number H1216-204 Rev F it has been clearly shown that there is sufficient forward visibility between opposing vehicles. The principle behind the scheme is that vehicles would give way to those going up the hill in an easterly direction. From reviewing the details these vehicles would be using the same route as they

already do when passing the existing accesses. Vehicles in the opposite direction will pass slightly nearer the existing accesses, however this could be readily addressed by moving the carriageway narrowing to the south, away from the access points.

- 6.7 In my view the introduction of a one way shuttle working system on Old Mill Road would provide a greatly improved arrangement to that which currently exists. At present it is difficult for two cars to pass safely at the narrowest section of Old Mill Road, this is especially an issue as it is a fairly regularly used bus route. The formalisation of priorities by the introduction of the shuttle working arrangement will greatly improve the safety of the current situation along this section of carriageway and more than adequately mitigates the impact of the proposed development traffic on this area.

### **B1436 Felbrigg Road/Old Mill Road Junction**

- 6.8 The current alignment of this junction has sweeping radius on the northern side of the junction resulting in vehicles leaving Felbrigg Road at speed then continuing up Old Mill Road in the same manner. The proposed scheme put forward by ALD realigns the existing junction and tightens up the northern radii which will help reduce the speed of vehicles turning into the junction and has eased the radius to the south of the junction enabling vehicles to turn left out of the junction easier. The realigned junction provides a visibility splay to the north west of 2.4m x 120m and the south of 2.4m x 70m.

- 6.9 One key issue which appears to be in dispute between the parties is whether or not MfS is an appropriate standard to use when assessing design standards for this junction. In my view MfS 2 is quite clear and states in paragraph 1.3.2:

*“It is therefore recommended that as a starting point for any scheme affecting non-trunk roads, designers should start with MfS”*

It goes onto state in paragraph 1.3.3:

*“It is further recommended that DMRB or other standards and guidance is only used where the guidance contained in MfS is not sufficient or where particular evidence leads a designer to conclude that MfS is not applicable”*

In my view there is no particular evidence or local context at this junction which would require the use of design standards such as DMRB, which are specifically developed for the design of Trunk Roads, (which in Norfolk is the A11 and the A47) to be adopted instead of MfS.

- 6.10 On this basis the visibility splay provided in both directions at the junction with a 40 mph speed limit comply with the Safe Stopping Distance (SSD) recommended in MfS2 of 70m. Therefore there is no issue with visibility when exiting the junction and the proposed new arrangement improves on the current situation which has already be shown to operate safely

- 6.11 The final issue which NCC are concerned about in relation to this junction is the approach from Roughton village and the forward visibility around the bend in relation to any vehicle waiting to turn right into the junction. The existing hedge on the inside of the bend often gets overgrown which makes visibility around the bend difficult and therefore NCC have installed a queue ahead warning sign just as you approach the bend.
- 6.12 Using MfS2 ADL has calculated that the SSD on this section of carriageway should be 56.19m.
- 6.13 At the moment the available forward visibility around the bend is around 50m, however if the hedge was trimmed back within highway and managed more regularly, it is possible to achieve the 56m SSD as required by MfS2.
- 6.14 NCC do not believe that MfS is applicable in this location as it is a rural road and part of the strategic route network. It should be noted that in MfS within para 10.1.3 it states:
- “Inspectors at public inquiries have accepted that SSD guidance in MfS1 applies to non-residential streets. At an appeal into a development of 100 dwellings, accessed from the B5215 Leigh Road in Wigan, the Inspector concluded that MfS1 did apply, notwithstanding the volume of traffic (approximately 1,700 vph peak times) or the classification of the highway (part of the Strategic Route Network)”*
- 6.15 The B1436 Felbrigg Road has nowhere near this level of vehicle movements with a maximum of 998 vph in the peak hour recorded in ADL report, therefore it is clear that the SSD requirements outlined in MfS should be applied in this situation. On this basis with the trimming back of the hedge within highway the scheme can be demonstrated to comply with the requirement of MfS.

### **Proposed 30 mph Speed Limit**

- 6.16 Although it has been shown that the scheme can comply with MfS for a 40 mph design speed, the applicant believes that the introduction of a 30 mph speed limit on this section of Felbrigg Road will help reduce speeds in both directions towards the bend discussed above and help to improve the overall safety of the area. Both Roughton and Felbrigg have 30 mph limits and therefore the introduction of a further section in this location would not be out of character. The speed limit proposal was to be supplemented by some physical measures keeping in character with the rural area which was to include gateway features, some roundels on the carriageway and a section of high friction surfacing on the approach to the junction. In addition a flashing queue ahead “warning sign” has been proposed on the approach from Roughton village.
- 6.17 NCC are objecting to this proposal stating that it does not meet the criteria for the Norfolk Speed Management Strategy which targets 30 mph speed limits at developed areas, requiring almost continuous frontage development exceeding 400m in length. They also state that the

observed 85<sup>th</sup> percentile speed observed at the junction was around 40 mph, which in their view suggest an acceptable level of compliance with a 30 mph speed limit is unlikely. They also go on to state that the speed limit proposal includes enhanced gateway signs and repeater signs with coloured surfacing and roundel markings. They believe that the proposed enhancements suggest an awareness that a 30 mph speed limit would not be appropriate. They also think that the proposed flashing warning sign is not considered appropriate at this location and could cause a distraction to drivers.

- 6.18 Reviewing these comments and looking at the location of this junction, when compared to other similar areas on the same route, it would appear that NCC are being inconsistent with the application of their standards. The neighbouring village Felbrigg has a 30 mph speed limit which has gateway features on its approach, and has very little continuous frontage, with the only small groups of properties bunched together fronting the B1436 and the majority being very well set back around a village green.
- 6.19 Whereas on the approach to the Old Mill Road junction from Roughton there is a significant stretch of frontage properties either side of the road right up to Mill Hill, where the properties then continue on the northeast side of the road up to the cluster around Old Mill Road. Drawing Number H1216-301 rev A shows clearly the extent of Felbrigg Road which is currently the subject of a 30 mph speed limit within Felbrigg Village, and shows clearly the relatively small amount of frontage. This when compared to the proposed new 30 mph limit proposed around the Old Mill Road junction and Boundary Farm, shows frontage properties stretching for almost 600m between Jarvis Plantation and Old Mill Road. The proposed new speed limit has been shown to enclose the whole of this section.
- 6.20 With respect to NCC comment that with an observed speed of 40 mph at the junction that vehicles are less likely to comply with a 30 mph limit if introduced makes no sense. Clearly this is generally a good sign that vehicles are generally keeping within the current speed limit for this stretch of road, however there is no evidence to suggest that if the speed limit was reduced to 30 mph with appropriate signage and markings that vehicles would not comply to this new limit in this location.
- 6.21 I am also surprised regarding NCC comment regarding the flashing warning sign being potential distraction to drivers. The whole point of flashing warning signs is to be a distraction, so that the driver notices it early and takes account of the upcoming hazard. This in my view would be far preferable to the current warning arrangements on the approach to the junction, of a standard triangular warning sign which for most of the year becomes overgrown and partially hidden within a hedge. It is to be noted that the use of flashing warning signs has already been used on this section of road within Felbrigg Village warning drivers of a sharp bend.
- 6.22 Overall reviewing the comments made by NCC, I believe that the introduction of a 30mph limit in this area would generally be a good thing, at the moment there are no footway facilities in

this area of Roughton and when you consider the number of properties along Felbrigg Road and Old Mill Road, there is clearly going to be a number of pedestrian movements which currently have to be on carriageway. The area around Boundary Farm has a post box and a village information board, however there is only a small verge available at this location. To introduce a 30 mph limit will reduce vehicle speeds in this area, making it considerably safer for pedestrians to access this area whether using Mill Hill to avoid the bend or along Felbrigg Road.

- 6.23 The introduction of the speed limit along this section of road would not look out of place in this area and would help to maintain the safe operation of the junction.

### **Safety Audit**

- 6.24 It is to be noted that all of the proposals put forward by the applicant have been independently safety audited and no major issues have been identified. Any comments raised by the Audit Team have been addressed and where appropriate measures have been included to take account of their concerns.

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## 7.0 RECOMMENDATIONS/CONCLUSIONS

7.1 NCC have stated in their letter dated 17 September that NPPF paragraph 108 requires that the assessment of sites should ensure that:

*b) safe and sustainable access to the site can be achieved for all users; and*

*c) any significant impacts from the development on the transport network (in terms of capacity and congestion) or on highway safety, can be cost effectively mitigated to an acceptable degree.*

7.2 They do not, however, quote the next paragraph which I think is the most relevant when determining this application. Paragraph 109 of the NPPF states:

*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.*

7.3 Taking this in to account the two key aspects we therefore need to consider are, is there an unacceptable impact on highway safety and is the residual impact on the road network severe.

7.4 From reviewing the various responses to the Transport Assessments, NCC have accepted that the development would not create any issues in terms of capacity at any of the surrounding junctions on the network.

7.5 We are then left with their concerns about the standard of the highway network to the south of the site and its ability to deal with additional vehicle movements. As discussed in Section 6.0 of this report the three main areas that they still have concerns about are Carr Lane, Old Mill Road and the junction of Old Mill Road/B1436 Felbrigg Road. All of these can be shown to operate within appropriate design standards and the mitigation package put forward by the developer more than adequately deals with any outstanding safety issues.

7.6 On this basis the requirements of Paragraph 109 have been fully met and I can see no reason why this development should not be permitted on Highway Grounds.