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SUMMARY OF PROOF OF EVIDENCE PROVIDED BY

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OF JACOBS UK LTD

PUBLIC INQUIRIES INTO:

THE ESSEX COUNTY COUNCIL (GILDEN WAY/SHEERING ROAD (B183) IMPROVEMENT/WIDENING/REALIGNMENT, A1025 NEW LINK ROAD FROM B183 TO M11 AND GRADE SEPARATED JUNCTION/ROUNDABOUTS AT M11 JUNCTION 7A SCHEME) (PHASE 1) COMPULSORY PURCHASE ORDER ("CPO")

and

THE ESSEX COUNTY COUNCIL (GILDEN WAY/SHEERING ROAD (B183) IMPROVEMENT/WIDENING/REALIGNMENT, A1025 NEW LINK ROAD FROM B183 TO M11) SCHEME) (CLASSIFIED ROAD) (SIDE ROADS) ORDER ("SRO")

and

THE HIGHWAYS ENGLAND COMPANY LIMITED (M11 HARLOW NORTH JUNCTION (7A) (SLIP ROADS, SPECIAL ROADS) SCHEME 2018 ("SPECIAL ROADS SCHEME")

National Transport Casework Team reference: NATTRAN/E/LAO

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1 Introduction

My Name is Paul Manamike and I am a Divisional Director at Jacobs's Croydon offices. I hold a Bachelor of Science Honours Degree in Civil Engineering and a Master of Business Administration(Construction and Project Management).

I am a Chartered Engineer (CEng) registered with the Engineering Council of the United Kingdom and a member of the Institution of Civil Engineers (MICE) as well as a Fellow of the Institution of the Zimbabwean Institute of Engineers (FZwIE).

I have 27 years of Civil Engineering experience 13 of which has been spent on Highways Major Projects in the UK and I have been involved with the M11J7A scheme since September 2014

2 Structure of evidence

My evidence addresses the scheme background, the need for the junction, the optioneering process and the engineering aspect of the scheme and explains that all engineering and construction aspects of the scheme have been considered in making the Compulsory Purchase Order (CPO). It also demonstrates that the land in the CPO order is required for the safe construction, future maintenance, tackle environmental impacts and operate the scheme for the duration of its design life.

3 Scheme background

Essex County Council(ECC), the promoting authority aim to improve urban connectivity, decongest Harlow Town , targeting the conduit through Harlow, the A414. They want to facilitate economic growth and housing development in the area and ensure that the infrastructure is of appropriate scale for the future growth. Their delivery partner, Highways England would require a resilient strategic network with high user satisfaction, smooth traffic flow, economic growth and an efficient transport network.

It is with these objectives in mind that ECC started developing the M11J7A scheme in 2013. The proposed scheme is a grade separated junction on the M11 motorway linked to Harlow through a westbound link cutting across arable farming land between M11 motorway and the B183. The scheme is designed with a future Northern Bypass in mind and the vertical and horizontal alignment addresses this aspect.

4 The need for the Junction

Harlow is strategically located close to the M11 and the M25 and the West Anglia West line. However, access to Harlow is restricted with only one connection to the strategic network .

With a huge number of inbound and outbound trips, the demand on the strategic network is high and is exacerbated by all trips from the surrounding Local District Councils being routed through the M11J7. Most studies carried out on the M11Junction 7 show that it has reached capacity and require upgrading. This has restricted growth in Harlow and Enterprise Zone has been capped in its growth until the transport network capacity has been improved. Improved access to the M11 is top priority for Harlow and the M11J7A scheme provides the solution.

5 Options identification and development

The M11J7A development has been aligned to the Highways England Project Control Framework Project life cycles Stages. There are four key stages, the pre-project, options, scheme development and scheme construction. The pre-project stages studies was all the work done pre-October 2013 and is partly summarised in the Options Assessment Report(OAR). In 2013,ECC appointed Jacobs to carry out further investigations of options and develop a scheme centred on providing a junction on the M11.

Six options were assessed using the highways assignment model for total vehicle hours, the cost benefit analysis and the early Assessment and Sifting Tool(EAST). This resulted in four options shortlisted for consideration, i.e. the M11J7A, the M11J7, the combination of the M11J7A and M11J7 and Northern Bypass. All these schemes have one resemblance in that they included the M11J7A as part of their development. The M11J7A was the first stage of development for the Northern Bypass. This meant that, subject to costs and economic limitations, the development of the M11J7A was not an exclusion of the other options and in fact it enabled those other options when they became necessary in the future.

The M11J7A option went through various iterations until the preferred route scheme design was established.

6 Consultations

Three public consultations events were held before the preferred route announcement. These were as follows;

- A Public Information Exhibition(PIE) held in January 2014,
- another PIE held in July 2015 and
- a formal public consultation(FPC) in May2016.

The consultations resulted in several design changes and refinement of the scheme. These included the speed limit on Gilden Way (B183) to 40mph, the various Traffic Management changes including HGV bans covering Harlow and church gate street and the improvement of the Non-Motorised Users (NMU) facilities throughout the scheme. Part of the Sheering road was converted into a Campions local access with a junction provided on the new A1025 link north of the Mayfield farm access. The strong

requirement for the Northern Bypass also resulted in a future proofed scheme. The horizontal and vertical alignment of the scheme was fixed by the levels of a future Northern Bypass.

7 The Design

The M11J7a is connected to the M11J7A by a Grade Separated Junction(GSJ). The GSJ is connected to the Campions roundabout by a link road which cuts across arable land sandwiched between the B183 and the M11 motorway.

Gilden Way Junctions have been reconfigured to improve safety by converting them into left in and left out only. The new Gilden Way (B183) reclassified as A1025 is designed as (2+1) to improve traffic flow because of the increased traffic . There will be 2 lanes westbound and one lane east bound towards the M11J7A GSJ. This is because of the funnelling effect as traffic comes into Harlow. A 2.5m footway/cycle track runs on the north side of the Gilden Way eastwards and is connected to the southern footpath and footways by four Toucan crossings. A design speed of 70kph was used for the Gilden Way and earthworks slopes of 1:2 in certain stretches to avoid land take.

Phasing

The initial link road design was divided into two phases, Phase 2a and Phase 2b. Phase 2a was the westbound diverge from the future bypass and phase 2b, the east bound merge to the future bypass. It was established during planning application that the scheme would be constructed in phases for both economic and needs reasons.

The link road for construction is designed as a Dual Urban All-Purpose road (D2UAP). This phased design scheme is an elaboration of the Phase 2a. It is subject of an alternative planning application. There is no change to the redline boundary modification of the phase 2a.

GSJ

The two dumbbells at the GSJ have been designed with an inscribed circle diameter(ICD) of 60m and Single Span Multi-Girder Composite Deck has been designed for the M11J7A overbridge.

To connect to the M11J7A four slip roads connect to the Dumbbells east and west of the M11. The northbound merge has been designed as a motorway single lane merge with a full hard shoulder known as type B. This has been designed as a departure from standards to reduce costs and land take of implementing a lane gain merge. The southbound diverge type B with a ghost island is also a departure from standards since a compliant diverge was a lane drop. To the south of the GSJ, the northbound diverge is a type A and the southbound merge is also a type A. Departures from Standards have been approved by the Highways England.

8 Developing the CPO plans

The CPO plans were developed by superimposing the scheme boundary on a map and establishing the construction methodology in order to establish both permanent and temporary land take. Initially the scheme layout for CPO included phase 2b. Discussions with land owners resulted in removing phase 2b from the CPO to minimise the permanent land take.

Two categories of land were identified as necessary for the scheme:

a) Land required for the scheme and for construction, future maintenance, safety and efficient operation on a permanent basis that will remain as highways land; and

b) Land required to facilitate construction of the scheme comprising provisions for accessing the site and haul routes, laid down areas for materials and plant storage, working space and construction compound.

These two categories are shown on drawing titled Public Inquiry Construction Site layout B3553F05-0I00-1060 included with my evidence.

The land included in the CPO is required for the M11J7A scheme.

9 Constructability

The scheme has been developed in conjunction with construction experts to show construction viability. A construction phasing plan and construction methodology has been developed and reports are appended in this proof of evidence. A specific Traffic Management plan has been produced for both the M11 section of the works and Gilden Way

10 Objection

All land included in the Compulsory Purchase order (CPO) is required for road construction, essential mitigation measures or temporary works associated with the construction in which case it will be returned to the owner at completion of the works.

As shown on the drawing *Public Inquiry Construction Site layout B3553F05-0I00-1060*, soil storage areas are critical to the building of the scheme. The scheme construction involves importation of large volume of fill material up to 155 000 c.u.m. Also upwards between 74000 c.u.m and 100 000 c.u.m will come from cut areas. Topsoil will be stored as well for use in landscaping the embarkments and planting of trees. Calculations using an earthworks calculator show that at least the 38900 square metres is required for storage of cut and fill material.

The lands land below the sheering hall subway is required for the widening of the subway to accommodate the slip roads on either side of the M11. Evidence has been submitted which show that the land take was minimised by applying for departures from standards for the merge and diverge.

The scheme does not preclude future connections by the developers, who would need to obtain their planning approval for their development masterplans.

11 Construction costs, funding and viability

In 2018 the scheme cost was revised down to £72m as a pre-tender estimate with the following break down ;

Cost limit (Ex VAT- ECC have said they do not pay VAT)	£65.4m
Land costs and part 1 claims	£6.6 m
Total	£72.0m

12 Conclusions

12.1 All land included in the Compulsory Purchase order (CPO) is required for road construction, essential mitigation measures or temporary works associated with the construction in which case it will be returned to the owner at completion of the works.

12.2 The existing M11J7 and the network cannot meet the demand trips of travel from Harlow and its associated areas. The existing infrastructure prohibits housing growth and the economic development of Harlow. ECC has followed a process of identifying this need and developing a scheme to address their objectives. They have followed the processes required to achieve a planning permission and a commitment to future funding, via Scheme Business Case. They now require powers to secure land and construct the M11J7A scheme.

12.3 This evidence has shown that the scheme proposed represents the optimum means of meeting ECC's stated objectives and no alternative, considered or suggested, better meets this requirement.

12.4 As stated in 12.1 all of the land shown in the CPO is required to provide the scheme, including necessary mitigation measures.

12.5 The Scheme would enhance the facilities provided for Non-Motorised Users; providing them with an improved network of footways and cycleways.

Statement of truth

This proof of evidence is true to the best of my knowledge and I have also made clear where I have relied on others for information. Signature…….....