

**CAMBRIDGESHIRE GUIDED BUSWAY**

*To:* **Cabinet**

*Date:* **16<sup>th</sup> November 2010**

*From:* **Acting Executive Director: Environment Services**

*Electoral divisions:* **The Hemingfords and Fenstanton, St Ives, Papworth and Swavesey, Willingham, Cottenham, Histon and Impington, Waterbeach, East Chesterton, King's Hedges, Petersfield, Trumpington, Gamlingay.**

*Forward Plan ref:* **Not applicable** *Key decision:* **No**

*Purpose:* **This report sets down for consideration by Cabinet the progress being made towards opening of the Cambridgeshire Guided Busway.**

*Recommendation:* **Cabinet is asked to:**

**a) note that contrary to public statements made by the Contractor, they have been notified of both the nature of the defects and of appropriate means of rectifying them.**

**b) note that the Contractor's programmed completion date is considered unrealistic given the number of outstanding issues that they have yet to resolve.**

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## **1 BACKGROUND**

- 1.1 As reported previously, the Cambridgeshire Guided Busway construction contract should have been completed in February 2009. The Council and the contractor BAM Nuttall (BNL) agreed in 2008 that the contractor would work towards completing the northern section first. Unfortunately completion of this section has not been achieved as the contractor has not rectified six key areas of work which had been notified as defects under the contract.
- 1.2 These issues were set out in detail to Cabinet on 16<sup>th</sup> March 2010 and at each subsequent Cabinet meeting members have received reports advising on BAM Nuttall's progress on resolving these issues. At the meeting on 26<sup>th</sup> October members were advised that through BAM Nuttall's inaction the point had been passed where sectional completion was possible and the whole Busway was likely to be handed over by BAM Nuttall in or around January 2011 with the defects remaining.
- 1.3 Cabinet also noted that contingency plans were being made to address the defects. It is proposed to seek Cabinet approval for these plans at the 14<sup>th</sup> December meeting with a view to their implementation as early as possible after handover.

## **2 PROGRESS**

- 2.1 The six key defects which have prevented sectional completion are:
  - 1 River Great Ouse Viaduct Expansion Joints;
  - 2 St Ives Park and Ride (P&R) surface ponding;
  - 3 Maintenance track flooding;
  - 4 Guideway shallow foundations;
  - 5 Thermal expansion gaps between the guideway beams;
  - 6 Rubber tyre infill between the guideway beams.
- 2.2 The position in respect of the defects is as reported to Cabinet on 26<sup>th</sup> October, with the exception of the shredded rubber tyre infill which BNL have used to fill the space between the guideway tracks instead of gravel. BNL have now provided revised Risk Assessments, which address the Council's concerns. However, these cannot be formally accepted by the Council as they have not been formally submitted by BNL, as required under the contract, for reasons that are not clear.
- 2.3 One of the reasons why BNL say they are unable to rectify these defects (as well as denying that the items are defects in themselves) is that they claim to be unclear of what the Council wants and therefore how to address them. This has been a consistent line from BNL and

was most recently stated by the Chief Executive of BAM Nuttall who was interviewed by the BBC and made a number of statements in respect of the defects. This included:

*"I say alleged [defects] because the council has not clearly demonstrated that they are defects' and*

*"We said, 'If you tell us what to do we'll see if we can even do it for you', and the County Council won't even tell us what they think the solution is,"*

- 2.4 In fact it has been made clear to BAM Nuttall both why the works are defective and what the Council expects them to do to rectify the defects. Brief details of this are given below for the three key defects.

#### ***River Great Ouse Viaduct Expansion Joints***

- 2.5 The contract requires that all the bridges are designed in accordance with the Design Manual for Roads and Bridges (DMRB), a national standard, with which all contractors and designers working on highway projects are familiar. The relevant part of the standard states:

*"Systems for the drainage of surface water from bridges shall be so detailed that water is not allowed to fall freely from the bridge deck..."*

- 2.6 The guidance notes which accompany the standard advise extensively on this issue and in particular state:

*"By far the most serious source of damage is salty water leaking through joints in the deck"*

- 2.7 BAM Nuttall's original design submission included a joint that would have complied with the standard, but BAM Nuttall proceeded to construct the viaduct without sealed joints and as a result water was able to fall freely from the bridge deck onto the main steel beams of the bridge. BAM Nuttall have subsequently claimed that they cannot fully comply with the standard as a result of the particular nature of the guided busway. To assist them Atkins on the County Council's behalf have prepared a design of a joint seal that would meet the requirements of the national bridge design standards and the guideway specification. This was forwarded to BAM Nuttall in August of this year, not as an instruction, but as an illustration that a compliant design could be provided. To date, there has been no response.

#### ***St Ives Park and Ride surface ponding***

- 2.8 The car park has been built with a gradient of 1 in 200 or less and as a result water lies on the surface and does not drain away. The relevant clauses of the contract state:

*“Falls shall be arranged so that surface water does not collect where pedestrian traffic will occur”. and*

*“For drainage purposes, the desirable minimum gradient of the finished road level in the parking area shall be 1:60”*

- 2.9 BAM Nuttall's quality submission which formed part of their tender stated in respect of Park and Ride sites that they would:

*“Keep drainage low points away from parking bays”.*

- 2.10 There have been extensive discussions with BAM Nuttall about potential solutions and, as reported to Cabinet in September, BAM Nuttall have produced a revised design that introduced a series of gradients within the car park. They have been advised that this solution would be acceptable but are refusing to implement it without a formal instruction.

### ***Maintenance track flooding***

- 2.11 The Contract states that:

*“The Contractor shall comply with the documents provided in the following hierarchy:- The TWA Order as made by the Secretary of State...”*

- 2.12 The contract goes on to list other documentation but the Transport and Works (TWA) Order is first in the hierarchy.

- 2.13 The plans and section that form part of the Order show the levels of both the guideway and the maintenance track. In order to meet Environment Agency concerns over flood risk, the maintenance track was to be located at the toe of the embankment. This obligation was passed on to BAM Nuttall through the contract and the illustrative drawings provided to BAM Nuttall show the level of the toe of the embankment, which is consistent with the Transport and Works Order level of the maintenance track.

- 2.14 As an illustration on the east side of the River Great Ouse Bridge the maintenance track should have been built at a level of around 5m above Ordnance Datum (AOD) which was the toe of the former railway embankment. BAM Nuttall have instead built the maintenance track at the level of the bottom of the ditch which ran alongside the old embankment. As a result in places this section has been built as low as 3.8m AOD. In consequence this particular area is underwater for more than half of the year.

- 2.15 BAM Nuttall were advised that this was not acceptable prior to construction.

- 2.16 BAM Nuttall should have resolved the issue by constructing the maintenance track at the levels required by the Transport and Works

Order, in accordance with the contract. However, as this may be expensive the Council has indicated to BAM Nuttall that a lower level might be acceptable provided they can demonstrate that the frequency and duration of flooding is not significantly worse. BAM Nuttall are refusing to proceed with this work without an instruction.

- 2.17 Members will see from the above that both the nature of the defect and the acceptable solutions have been made clear to BAM Nuttall, contrary to their statement.
- 2.18 Members should also be aware that the nature of the Contract with BAM Nuttall is that if the Project Manager, who must act impartially, considers that there is a defect then the Contractor is required to rectify it whether they agree with him or not. If the Contractor is subsequently able to demonstrate that they are right then they would be entitled to a Compensation Event.

### **3 Southern Section**

- 3.1 The sections of bus only roadway at either end of the southern section, which link the guideway through Hills Road bridge to the railway station and through Hauxton Road Bridge to Trumpington Park and Ride, are complete. At the time of writing Traffic signals, CCTV, and most of the street lighting has been installed and work is underway on the maintenance track and topsoiling, all of which should be complete by the time of the meeting. Landscape planting was programmed to start on 1<sup>st</sup> November but had not commenced at the time of writing. Arrangements are in hand for the installation of real time information and ticket machines at the bus stops by the Council's contractors.
- 3.2 The latest BAM Nuttall programme was received on 1st November. This shows that the completion date for the southern section works, remains at 17<sup>th</sup> December 2010.
- 3.3 As reported at the last two meetings work at Shelford Road Bridge is critical to the programme. The Contract states in respect of Shelford Road Bridge :  
  
*'Shelford Road Bridge - Existing overbridge ... Existing structures shall be inspected and assessed and repaired or strengthened to give a residual design life of 40 years.'*
- 3.4 As reported to Cabinet on 28<sup>th</sup> September BAM Nuttall had been reminded of this requirement eighteen months ago but the work did not appear in their programme until September of this year.
- 3.5 BAM Nuttall have carried out repairs to the brickwork of the bridge but coring required to assess the strength of the bridge deck, originally programmed for early September was only undertaken on 28<sup>th</sup> and 29<sup>th</sup> October. There is no provision in BAM Nuttall's programme for any work that might arise as a result of the testing and subsequent

assessment. This therefore represents a significant risk to BAM Nuttall achieving their proposed completion date.

- 3.6 Previous reports to Cabinet have raised concerns over BAM Nuttall not providing construction certificates until their proposed completion date. Despite earlier statements to the contrary this still appears to be the case. The latest programme shows the first construction certificate being issued by BAM Nuttall on 19<sup>th</sup> November. This is for work at the Station Forecourt which has been complete except for some very minor works since the early summer. A significant number of certificates are shown in the programme being issued on 17<sup>th</sup> December, BAM Nuttall's last working day before their Christmas break. A completion certificate will not be issued to BAM Nuttall until the certificates have been properly checked and found to be acceptable.
- 3.7 The inherent risks in BAM Nuttall's approach are being mitigated, as far as can be, by Atkins carrying out inspections on the Council's behalf. The results of these inspections are now being passed back to BAM Nuttall so that they can be in no doubt about the 'snagging' work that they need to do before their certificates will be accepted. More positively the standard of work on the southern section appears to be higher than on the northern section with consequently fewer snags being identified.
- 3.8 Once the works are physically complete BAM Nuttall are required, in addition to the certification referred to above to carry out some testing and commissioning work. This includes commissioning the bus priority system at the traffic signals in the northern section, which will require running buses to ensure the system functions as it should. It was always anticipated that this activity would be carried out near to handover. BNL accept the need to carry out this work, but have not yet advised of their plans.
- 3.9 As reported to the previous meeting it is considered that BAM Nuttall's programmed completion on 17<sup>th</sup> December is unrealistic and that the most likely date remains around mid-January. The completion date will be determined by the progress made by BAM Nuttall in resolving the issues set out above.

#### **4 Summary**

- 4.1 BAM Nuttall have been made aware of why the defects are defects and of what needs to be done to rectify them.
- 4.2 Progress has been made on completing works on the southern section but BAM Nuttall's proposed completion date of 17<sup>th</sup> December is considered unrealistic given the number of outstanding matters that they need to resolve.

## **5 IMPLICATIONS**

### **Resources and Performance**

- 5.1 Finance and risk management – the report sets out the latest progress towards resolving the issues that have prevented the opening of the busway. The busway is a high profile project and whilst the Council is keen to secure beneficial use as soon as possible, this should not be at any cost, particularly in terms of future maintenance liabilities.

### **Statutory Requirements and Partnership Working**

- 5.2 There are no significant implications for any of the headings within this category.

### **Climate Change**

- 5.3 The busway will provide a good alternative to use of the car for travel into Cambridge, St Ives, Huntingdon and other villages along the route. When operational, it is expected to significantly increase the bus patronage in this corridor and as such assist in our objectives to reduce the emission of greenhouse gasses from vehicles.
- 5.4 The busway should also have a high quality track alongside that is available for pedestrians and cyclists and this again will increase its environmental benefits. This is already being used unofficially and usage will increase when the scheme is formally open.

### **Access and Inclusion**

- 5.5 The busway will provide good public transport and cycle/foot links between St Ives, the intervening villages and Cambridge. This will open up travel opportunities by increasing the quality of bus services in those communities and benefit particularly those without use of a car.

### **Engagement and Consultation**

- 5.6 There are no significant implications for any of the headings within this category.

Source Documents	Location
<p>Agenda and Minutes, Cabinet 1/3/2005, 7/2/06, 13/6/06, 11/7/06, 16/10/07, 16/12/08, 29/9/09, 16/3/10, 27/4/10, 25/5/10, 15/6/10, 5/7/10, 7/9/10, 28/9/10, 26/10/10</p> <p>Cambridgeshire Guided Busway Order</p> <p>Cambridgeshire Guided Busway Contract Documents</p> <p>Design Manual for Roads and Bridges</p>	<p>CGB Team Office, Old Police House, Shire Hall, Cambridge</p>