



Forth Estuary Transport Authority

Replacement/Refurbishment of Joints and Replacement of Bearings – Consultancy Services Tender Report

27 April 2007

1 Purpose of report

- 1.1 To recommend acceptance of a tender for consultancy services associated with the replacement/refurbishment of joints and replacement of bearings on the bridge.

2 Background

- 2.1 At the meeting of February 2006, members noted the inclusion within the Capital Plan of the proposal to replace or refurbish the joints and bearings on the bridge. In February 2007 further details of the scheme were presented to members as part of the updated Capital Plan.
- 2.2 These elements are the main expansion and articulation joints to the suspended spans and the viaducts and allow the decks to rotate, expand and contract. The viaduct bearings transfer the loads from the viaducts to the supporting piers and abutments. They also allow for rotation and horizontal movement. The existing joints and bearings are the original as constructed elements and after over 42 years of wear and tear have reached the end of their service life.
- 2.3 Whilst it is likely that replacement of the bearings can be carried out with limited disruption to traffic, the replacement or refurbishment of the joints is likely to involve significant disruption. Initial studies and discussions with owners, consulting engineers and contractors involved in replacing or refurbishing similar joints on other bridges have concluded that it is unlikely that this work can be carried out during weekend closures alone.
- 2.4 In order to fit in with other works on the bridge, the contract works are shown on the Capital Plan as being carried out in years 2008/9 and 2009/10.
- 2.5 Initial discussions have already taken place with Transport Scotland over the possible effects of these works on the network and further discussions will be carried out as the scheme develops.
- 2.6 The first task of the consulting engineer's commission will be to carry out a feasibility study to examine the options available. That study is scheduled to

be completed at the end of September 2007 and the results and the implications for traffic will be reported to members. Knowledge gained from the traffic and economic analysis carried out as part of the main cable replacement/augmentation feasibility study will be used in option selection.

3.0 Current Position

3.1 A notice to engage a consulting engineer to prepare a scheme for the replacement of the joints and bearings was placed in the Official Journal of the European Union in January 2007 and a total of 17 consulting civil engineering firms responded to the notice. As the open tendering procedure was used all 17 consultants were issued with tender documents and 11 completed tenders were received by the due date of 9 March 2007.

3.2 The tenders were prepared on a 70% quality / 30% price basis and were assessed by a panel drawn from FETA's senior management staff. The tenderers in alphabetical order were :

- Amey Infrastructure Services
- Arup Scotland
- Atkins
- Charles Scott & Partners
- Faber Maunsell Ltd
- Fairhurst & Partners
- Flint & Neill Partnership
- Halcrow Group Limited
- Jacobs UK Ltd
- Tony Gee and Partners
- URS Corporation Ltd

3.3 The quality of most of the bids with regard to experience of the replacement of bearings and relatively standard bridge deck joints was very high. However, few of the tenderers were deemed to have the required relevant experience of dealing with the specialised "Demag" joints that are a feature of long span bridges. The replacement or refurbishment of these "Demag" joints is the element of the work that will cause the most disruption to traffic and is likely to be the most disruptive item of planned maintenance that has been carried out in the life of the bridge to date. The panel considered that it was critical that in order to pass the quality threshold the consultants must have had relevant experience in dealing with "Demag" joints. As a result, only three of the tenderers were considered to have passed the quality threshold and the remaining eight consultants had their priced tender returned unopened.

3.4 The three priced bids opened in alphabetical order were:

Atkins
Fairhurst
Flint and Neill Partnership

3.5 The priced element of the tenders was based on a combination of a lump sum and submitted rates set against nominal hours. The tender prices were as follows:

- Consultant E £998,409.75
- Consultant L £721,846
- Consultant Q £817,509.65

3.6 The overall combined quality and price score for each consultant is shown in the following Table.

Tenderer	Quality Score (140 max)	Cost Score (60 max)	Overall Score	Position
E	123	41	164	3
L	105	60	165	2
Q	120	53	173	1

3.7 The tender submitted by Atkins scored the highest combined mark in terms of quality and price and is deemed to be the most economically advantageous tender.

4.0 Financial Implications

4.1 A sum of £9.95 million to carry out these works has been included in the long term Capital Plan.

5. Recommendations

5.1 It is recommended that members accept the tender submitted by Atkins for £817,509.65 for consultancy services in relation to the replacement/refurbishment of joints, and the replacement of bearings on the bridge.

Alastair A.S. Andrew
General Manager & Bridgmaster

Appendices

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Background Papers Tenders and evaluations held by General Manager