



Agenda Item No. 2

To: Building and Operating Committee/Committee of the Whole
Meeting of October 25, 2007

From: Ewa Z. Bauer, Deputy District Engineer
Denis J. Mulligan, District Engineer
Celia G. Kupersmith, General Manager

Subject: **APPROVE ACTIONS RELATIVE TO THE PROFESSIONAL SERVICES AGREEMENT WITH HDR ENGINEERING, INC., RELATIVE TO REQUEST FOR PROPOSALS NO. 2004-B-6, CONSULTANT TO DESIGN AND PREPARE BID DOCUMENTS FOR THE GOLDEN GATE BRIDGE SEISMIC RETROFIT PROJECT (PHASE IIIA), NORTH ANCHORAGE HOUSING AND NORTH PYLON**

Recommendation

The Building and Operating Committee recommends that the Board of Directors approve the following actions relative to Contract No. 2004-B-6, *Consultant to Design and Prepare Bid Documents for the Golden Gate Bridge Seismic Retrofit Project (Phase IIIA), North Anchorage Housing and North Pylon* with HDR Engineering, Inc.:

1. Approve a finding that it is in the public's best interest for the District to execute an amendment to Contract No. 2004-B-6 for HDR Engineering, Inc., to prepare the design, plans, and specifications to fix the Beam Span portion of the Golden Gate Bridge Seismic Retrofit Phase I Project; and
2. Authorize execution of an amendment to Contract No. 2004-B-6 to prepare the design to fix the Beam Span portion of the Golden Gate Bridge Seismic Retrofit Phase I Project, in an amount not to exceed \$350,000; and
3. Authorize the addition of a new capital project, Beam Span Repair, in the amount of \$3,000,000 to the FY 07/08 Bridge Division Capital Budget to track the costs associated with this work, subject to the concurrence of the Finance-Auditing Committee;

with the understanding that this work will initially be funded from District reserves, and with the understanding that the District is pursuing litigation to recover the costs of this repair.

This matter will be presented to the Finance-Auditing Committee at its October 25, 2007, meeting for concurrence and to the Board of Directors at its October 26, 2007, meeting for appropriate action.

Summary

The Golden Gate Bridge includes approach structures, as well as its more famous suspension bridge portion. The North Approach Viaduct includes the Marin Abutment, the Beam Span and the Truss Spans. The Beam Span is a short segment of the Bridge that spans between the Marin Abutment and Bent N-11 which is the northern end of the truss spans.

The North Approach Viaduct was seismically retrofit with the construction of the Golden Gate Bridge Seismic Retrofit Phase I Project (Phase I Project). The District has initiated litigation against TY Lin International/Imbsen and Associates, Incorporated, a Joint Venture (Joint Venture) which prepared the contract plans and specifications for the Phase I Project. The District's lawsuit asserts that the Joint Venture's contract plans and specifications for the Phase I Project contained numerous errors and omissions that resulted in damages to the District.

As part of the review of the District's claim against the Joint Venture, and as part of the District's ongoing effort to convert all of the various structural analysis computer models to the ADINA software, the District hired a firm who recently completed a nonlinear time-history structural analysis of the North Approach Viaduct, including the Beam Span. This structural analysis indicates that the Joint Venture did not include the Beam Span in their nonlinear time-history analysis and it indicates that Beam Span does not fully satisfy the District's criteria for the design earthquake, necessitating corrective repairs.

The complete repair is complex and requires bridge designers with expertise in seismic design. The District needs to prepare a design with supporting calculations that repairs the Beam Span so that it satisfies the District's Seismic Retrofit Design Criteria; and the District needs to prepare the detailed plans and specifications necessary to construct these improvements, and these improvements then need to be constructed.

As an interim measure, District ironworkers, bridge painters, and operating engineers are working at the Bent N-11 end of the Beam Span to replace the existing 7/8-inch rivets which connect the bottom flange of the Beam Span stringers to the top flange of the floor beam with 1-inch high strength bolts. This doubles the strength of this connection.

Time is of the essence, so it is not practical to follow the District's normal procurement process wherein a Request for Proposals (RFP) is issued, proposals received, proposals are ranked and interviews held. This process typically takes several months. In circumstances such as this where professional services are needed on an expedited basis, the District's Procurement Manual permits waiving the conventional RFP process.

HDR Engineering, Inc., (HDR) has a contract with the District for the design of the Phase IIIA Seismic Retrofit Project. The HDR team includes engineers who are talented steel bridge designers and who are intimately familiar with the Golden Gate Bridge and the seismic challenges at this site.

HDR Engineering, Inc, will review the nonlinear time-history analysis, prepare calculations, develop a design and prepare detailed plans and specifications for the Beam Span Repair.

It is anticipated that the District will add this work to the Phase IIIA construction contract.

The design consultant will be compensated based upon actual time expended and expenses occurred, plus a fixed fee, not to exceed the authorized amount. At this time, this effort is estimated to cost \$350,000 based on a conceptual design prepared by the District Engineering Department. The consultant will evaluate the existing deficiencies and prepare designs to repair the Beam Span. As this effort progresses and once the actual repair strategy is fully vetted the cost to prepare the final design plans and specifications may change.

Fiscal Impact

The total cost to prepare the design, calculations, plans and specifications to repair the Beam Span is estimated at \$350,000. The total cost to repair the Beam Span, including the construction cost and the design cost is estimated at \$3,000,000. This work will initially be funded from District reserves; however, it is anticipated that the District will recover the cost of this repair through the ongoing litigation against the Joint Venture.