



Hood Canal Bridge Revisited

The summer issue of *ASPIRE*TM featured one of the world's most unique bridges. The Hood Canal Bridge is a 1.5-mile-long floating structure; the longest in the world over saltwater. The article can be found on pages 16-20. All back issues are available at www.aspirebridge.org.

While the article presents an intriguing history of the bridge, its 1982 partial replacement, and work underway now to finish the replacement, we did not recognize those innovative designers who were responsible for both replacement projects. This letter from Mr. Michael Abrahams sets the record straight.

Dear [Editor]:

I am writing to compliment you for the excellent article on the Hood Canal Bridge in the summer 2008 issue and to mention the team responsible for its design.

The original bridge, whose west half sank during a violent storm in 1979, was replaced in a two-phase operation based on plans prepared by the joint venture of Parsons Brinckerhoff and Raymond Technical Facilities (PB/RTF). These plans were prepared in 1980 for Phase 1 and 1981 for Phase 2 and allowed the bridge to be opened to traffic in 1982. Following completion of the plans for the replacement of the west half, PB/RTF then prepared the plans for the replacement of the east half. These were also completed in 1981. Studies at the time by Washington Department of Transportation (WSDOT) predicted that the east half would not have to be replaced for another 20 years so the east half plans remained on the shelf for a number of years.

In 1998, PB (RTF was no longer in business) was retained by WSDOT to update our 1981 east half plans so that WSDOT could proceed with the east half replacement. At the same time, due to growing development in the area, the WSDOT wanted to modify the existing west half bridge and revise the east half roadway width from 30 ft 0 in. to 40 ft 0 in. and to allow for further widening in the future. After a joint study by PB and WSDOT, a preferred widening scheme was adopted and WSDOT, under the direction of Patrick Clarke, proceeded to prepare the plans for the widened east and west half superstructures, to replace the fixed approaches using an innovative slide-in technique and pipe member transition trusses, and to revise the east half gravity anchor plans. One critical issue in the study was to establish the loss of freeboard due to the added weight of the widened superstructure. PB at the same time proceeded to update the plans and specifications for the east and west half movable span control systems, electrical and mechanical systems, and to revise the east and west half buildings. The building work was in association with Streeter and Associates, a local Seattle-based consultant. These plans were completed in 2003, when the construction contract was awarded. The east half replacement continues to be a joint effort by WSDOT and PB, and we continue to be involved in the Hood Canal Bridge project, providing assistance in responding to construction issues.

One of the innovations discussed in the article, the use of precast segments for the pontoon construction, was developed by Charles Rejcha, an RTF engineer, who had been trained by Eugene Freyssinet in Paris shortly after World War II. Mr. Rejcha was highly skilled in post-tensioned segmental concrete design and had previously opened Freyssinet's first office in the United States.

Again, my compliments on the excellent article.

Very truly yours,
Michael J. Abrahams, PB AMERICAS INC., New York, N.Y.