



Sutong Bridge-A Cable-stayed Bridge with Main Span of 1088 Meters

Qingzhong YOU

Chief Director
Jiangsu Provincial
Communications Dept.
Nanjing, China
Yqz@jscd.gov.cn
Born 1957.

Xigang ZHANG

Director
HPDI Consultants, INC.
Beijing, China
zhangxigang@hpdi.com.cn

Born 1962.

Ping HE

Deputy Site Director
Jiangsu Sutong Bridge
CCD
Nantong, China
heping@stbridge.com.cn
Born 1964.

Shouchang WU

Site Chief Engineer
Jiangsu Sutong Bridge
CCD
Nantong, China
Wushouchang@stbridge.com.cn
Born 1950

Xuewu DONG

Deputy Division Chief
Jiangsu Sutong Bridge
CCD
Nantong, China
Dongxuewu@stbridge.com.cn
Born 1967.

Summary

Sutong Bridge is the longest cable-stayed bridge in the world with a main span of 1088 meters. In this paper, design and construction concepts are briefly presented. Furthermore, key technologies and innovative achievements are summarized mainly on piled foundation bearing capacity analysis, river bed scour protection and monitoring, superstructure wind-resistance study, mid-span closure method as well as long cantilever structure construction control.

Keywords: cable-stayed bridge, foundation, pylon, steel box girder, cable stay, construction control.

1 . Introduction

Sutong Bridge crosses the Yangtze River approximately 100km upstream from Shanghai, China, connecting the cities Suzhou and Nantong located on the southern and northern banks respectively. It is a key project for coastal highway in China. The bridge is a seven span double pylon and double cable plane steel box girder cable-stayed bridge, which has a span arrangement of $100+100+300+1088+300+100+100=2088$ (see Fig. 1). Upon completion, Sutong Bridge sets the record of being the longest cable-stayed bridge in the world.

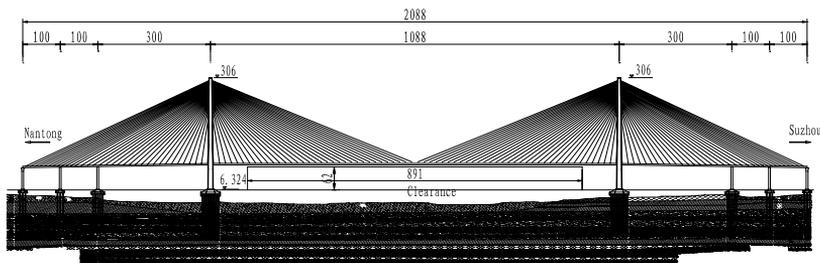


Fig. 1: Span Arrangement of the Main Bridge (Unit: m)

A proposal to build the Sutong Bridge could be dated as early as 1991. Reforming and opening up to outside policy as well as strategic development of Pudong in Shanghai began in 1980s, which has