

Sidu River Bridge (7)



INTRODUCTION

The Sidu River Bridge (Siduhe Bridge, 四渡河特大桥) is a 1,222 m-long (4,009 ft) [suspension bridge](#) crossing the valley of the [Sidu River](#) near [Yesanguan](#) in [Badong County](#) of the [Hubei Province](#) of the [People's Republic of China](#). The bridge was designed by CSHCC Second Highway Consultants Company, Limited. and built at a cost of 720 million yuan (approximately US\$100 million).[\[1\]\[6\]](#) It opened to traffic on November 15, 2009.[\[4\]](#)

History

1. [Wang 2009](#), p.65. "The bridge is located in central China near Yesanguan, a small town in a remote mountainous area, and serves as one of the key links in the national highway system that connects Shanghai, on the country's east coast, to Chengdu, the capital of the western province of Sichuan."
2. ^ [Jump up to:a b c d Wang 2009](#), p.64. "Stretching across a 500 m deep valley and the Sidu River in central China is a new, 1,222 m long crossing, that measured from gorge bottom to deck, may be the highest suspension bridge in the world."
3. ^ [Jump up to:a b Wang 2009](#), p.65. "The bridge features three spans measuring, from east to west, 114, 900, and 208 m. It carries two lanes in each direction and measures 24.5 m in width from curb to curb. The precast-concrete deck slopes upward from east to west at a 2.41 percent grade. The suspension cables are supported by two towers—an eastern tower measuring 118 m in height and a western tower 122 m high. The superstructure is constructed of steel."
4. ^ [Jump up to:a b c d e Sakowski](#).
5. ^ [Jump up to:a b Liu 2008](#). "The bridge spans over a 550 m deep valley, which is the highest suspension bridge in the world." (from the abstract in the conference program)
6. ^ [Wang 2009](#), p.65. "The bridge cost the Chinese government 720 million yuan (roughly U.S.\$100 million). The design was engineered by CCSHCC, Second highway Consultants Company, Limited;which is based in Wuhan, China."
7. ^ [Most expensive rail line in China becomes operational](#), 2010-12-22
8. ^ [Wang 2009](#), p. 79. "A steel truss of the Warren type divided into 71 sections was used for the superstructure. The truss height is 6.5 m and the width is 26.0 m. The panel point spacing is 6.4 m, and the truss sections are connected at each panel point."
9. ^ [Wang 2009](#), p. 80. "The installation of the main cables began with the placement of a pilot cable." "Conventional methods for placing the pilot cable ... could not be used." "An innovative cable placement method using a military rocket was developed." "On October 9, 2006, two rockets were fired to take the two 1,300 m ropes made of [chinlon](#), a highly elastic yarn, over the canyon, a distance of roughly 1,100 m." "The entire process was completed in a short period—perhaps 10.00 seconds—and the cost savings were significant."
10. ^ [Wang 2009](#), p. 79. "Prefabricated Parallel Wire Strand (PPWS) was used for the main cable. Each main cable consisted of 127 parallel wire strands arranged in a hexagonal shape, and each strand is made from 127 galvanized high-strength steel wires, each 5.1 mm in diameter, also arranged in a hexagonal shape. The maximum tension force that the cable can bear is 191,960 kN."
11. Sakowski, Eric. "[Siduhe River Bridge](#)" ([Wiki](#)). HighestBridges.com.
12. Liu, Yinbo; Chongxu Wang; Yuancheng Peng (2008). "[The Construction of Sidu River Suspension Bridge](#)". Proceedings of the 2008 International Bridge Conference. Pittsburgh: Engineers' Society of Western Pennsylvania (IBC 08-56). Archived from [the original](#) on 2009-02-15.
13. Wang, Chongxu; Yuancheng Peng; Yinbo Liu (January 2009). "[Crossing the Limits](#)". Civil Engineering. Reston, Virginia: [American Society of Civil Engineers](#). 79 (1): 64–69, 79–80. [ISSN 0885-7024](#). Archived from [the original](#) on 2010-01-15.