KAWASAKI STEEL TECHNICAL REPORT
No.35 (November 1996)
Steel Structure, and Continuous Casting of Steel

Engineering Technologies for Steel Structures Applied to Trans-Tokyo Bay Highway Project

Kenshi Furumuro, Takashi Kobayashi, Kyotaro Kanda

Synopsis :
The Trans-Tokyo Bay Highway is a 15.1 km toll road which spans Tokyo Bay from Kawasaki City, Kanagawa Pref., to Kisarazu City, Chiba Pref., and consists of a bridge, an undersea shield tunnel and two man-made islands. Many new technologies were introduced in the construction of this road. Kawasaki Steel participated in this project in: (1) development and execution of a jacket type steel revetment, which was the first application of an oil drilling-type jacket to a revetment structure, (2) design and erection of a large-scale bridge with long-span and multi-span continuous girders on the sea, and (3) design and installation of a deck-module structure with facilities for the shield tunnelling.

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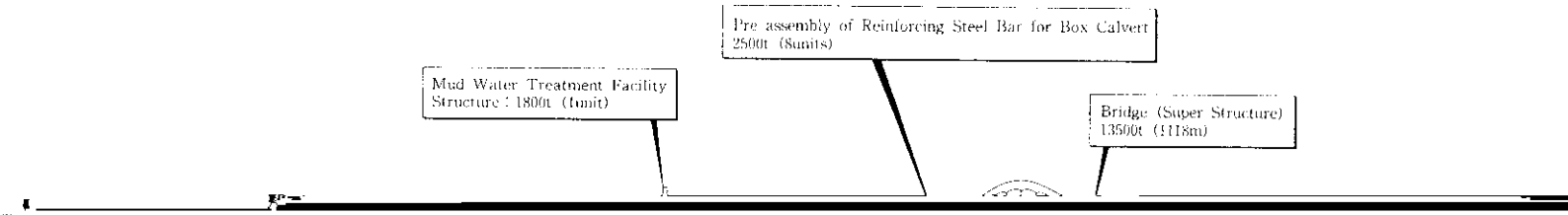
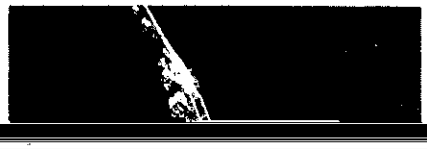
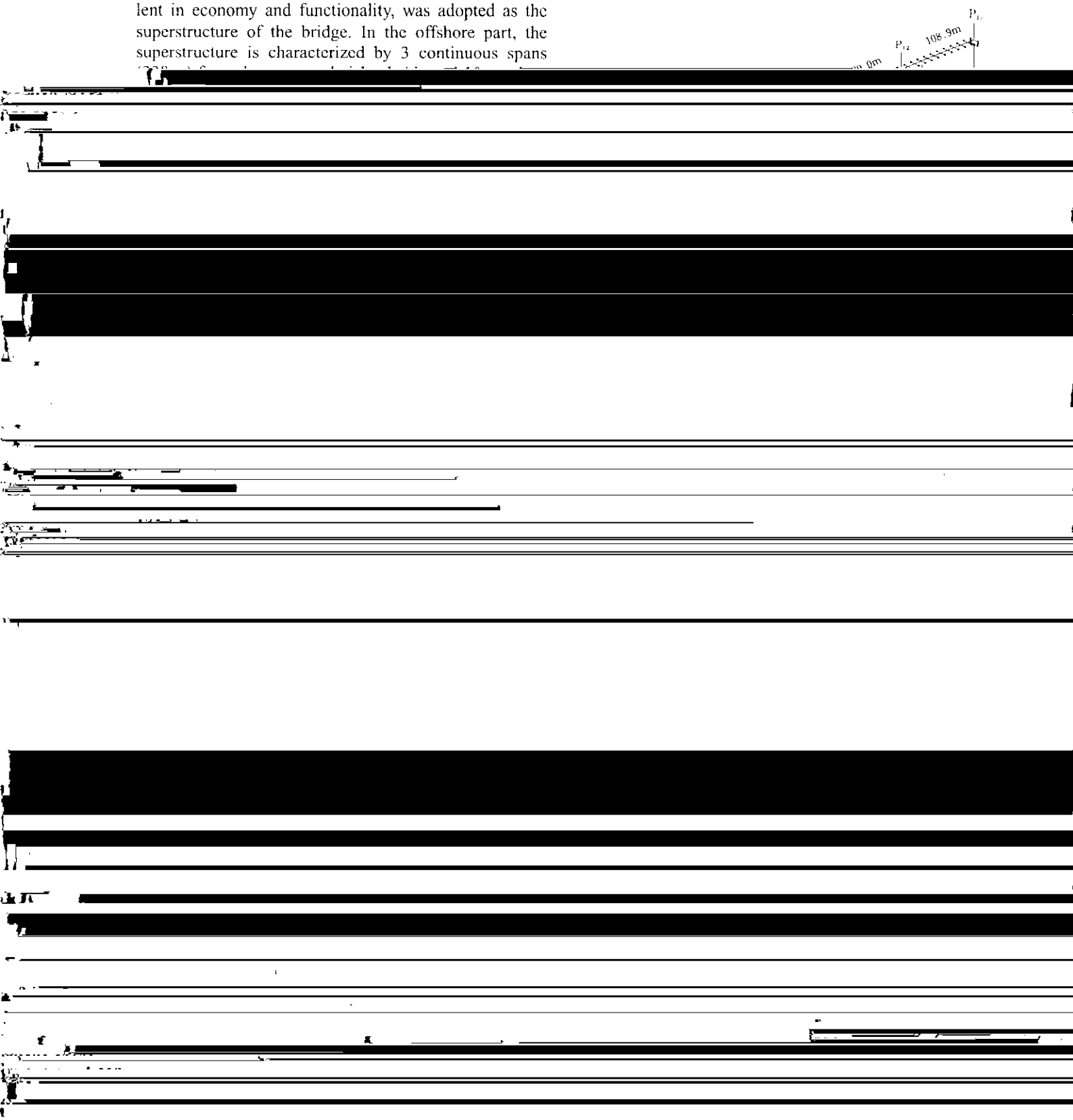
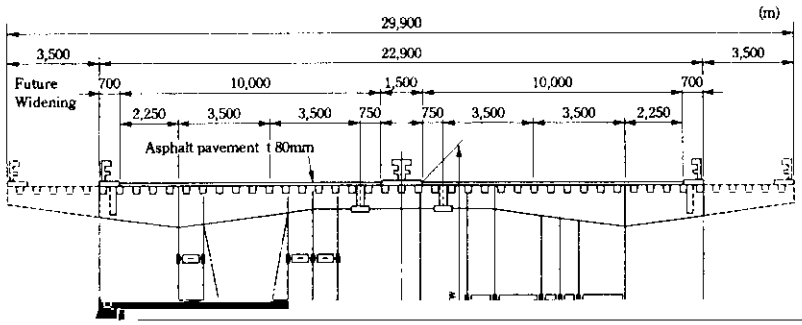

Pre assembly of Reinforcing Steel Bar for Box Calvert
2500t (8units)
Mud Water Treatment Facility
Structure : 1800t (1unit)
Bridge (Super Structure)
13500t (1118m)

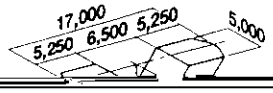


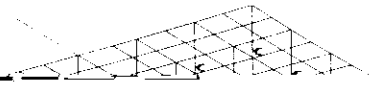
structural bases were planned as a three-level structure [redacted] assembly of the bases divided into two blocks and the [redacted]

lent in economy and functionality, was adopted as the superstructure of the bridge. In the offshore part, the superstructure is characterized by 3 continuous spans




(m)
29,900
3,500
22,900
3,500
Future
Widening
700
10,000
1,500
10,000
700
2,250
3,500
3,500
750
750
3,500
3,500
2,250
Asphalt pavement t 80mm


17,000
5,250 6,500 5,250
5,000



As shown in **Photo 4**, each reinforcement block was

uous girders with a steel deck of the largest scale in

divided into two portions of upper and lower floors, which were transported by ship and joined at the site. Each block weighed approximately 300 to 350 t. The

Japan, high fabrication control capability, and techniques for installing large base-isolation rubber shoes suitable for continuous girders. Furthermore, the com-