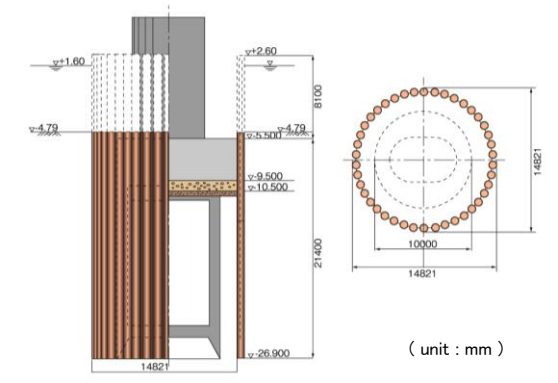
24. Method of reinforcing existing bridge foundation with steel pipe sheet piles and steel pipe piles

Reinforcement method corresponding to the shortage strength of the foundation of the existing bridge.

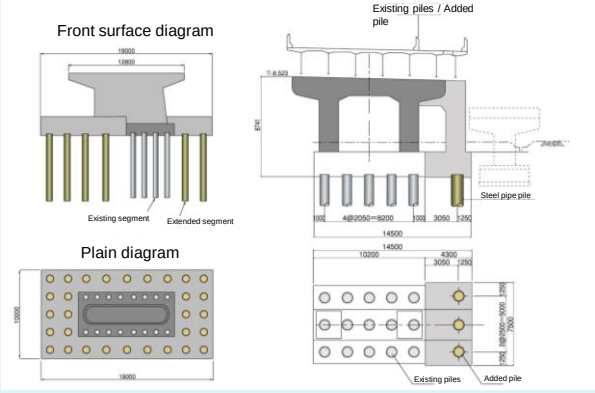
Merits

Foundation resistance can be strengthened with steel pipe sheet piles foundation or additional steel pipe piles driving, in order to address bridge scouring control, structure aging renovation, seismic reinforcement and inadequate strength of the foundation caused by expansion of superstructure, etc.

Example of caisson foundation



Example of steel pipe piles foundation



Summary from “Use Steel Pipe Piles and Sheets For Reinforcement of Existing Bridge Foundation,” Japanese Technical Association for Steel Pipe Piles and Sheet Piles

Applicable sector

Road , Railway

Features

1. Reinforcement can be done easily
· Reinforcement can be done easily and securely by applying steel pipe sheet pile foundation or additional piles to caisson and other existing foundations.
2. It is possible to do construction work in small area.
· Construction work can be done where over-head space is limited.
· Occupied space can be reduced because of reinforcement by using steel pipe piles.
3. Cost & period reduction by using steel pipe sheet pile foundation as temporary coffering
· Steel pipe sheet pile foundation can be done with less cost and shorter period when used also as temporary coffering.
4. Improved lateral resistance
· Improved lateral resistance can be achieved in view of the distinctive characteristics of steel pipe piles.

Track Record

Source: "2nd Steel Pipe Pile Foundation Survey Report on the Southern Hyogo Prefecture Earthquake,"
Japan Association for Steel Pipe Piles, March 1996

Japan：many record　Caisson foundation ：Meishin highway，Ouji bridge，Akasho • Higashihutami bridge etc
Steel pipe piles foundation：Koza bridge , Kamome bridge etc

Cost

Refer to the under-mentioned contact section about details

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