土木学会誌　第46巻第11号

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昭和36年11月

JOURNAL OF THE JAPAN SOCIETY OF CIVIL ENGINEERS.

VOL. 46, NO. 11, NOV. 1961

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SYNOPSES

THE LATEST TOPICS OF WEATHER FORCASTING

BY N. NISHINA (*Page 5*)

This paper deals with the latest topics of weather forcasting.

The main topics are the history of forecasting, the observation and analysis of the upper atmosphere, numerical prediction, and the observation by means of planes, radars, and weather satellites.

ON THE RESULTS ON THE SURVEY OF THE TOKAIDO TRUCK NATIONAL EXPRESSWAY

BY T. TAKANO, C.E. MEMBER,
DR. ENG., Y. SAITO, C.E. MEMBER (*Page 15*)

This report explainsthe proposed Tokaido Truck National Expressway, linking Tokyo with Komaki near Nagoya, on which the Ministry of Construction of Japanese Government carried out the preliminary survey in 1959 and 1960.

The route of this expressway, the extention of the Nagoya-Kobe Expressway which is now under construction, has its starting point in metropolitan Tokyo and passes Yokohama, Shizuoka, Hamamatsu, Toyohashi and then terminates at Komaki.

Design speeds in flat, rolling and mountainous terrains are respectively 120, 100, and 80 km/h.

This expressway which is about 360 km in length and has 4~6 lanes, is estimated to cost about 240~250 billions yen; in other words, about 690 millions yen per km. (=4.2 millions dollars per mile)

THE NOISELESS FOUNDATION PRACTICE

BY DR. ENG., T. NAKAJIMA, C.E. MEMBER (*Page 19*)

Construction works within urban districts have been increasing recently. Foundation practice by pile driving method gives much troubles to neighboring people because of its vibration and noise, and in many cases hampers the progress of construction work itself.

Upon considering these facts, the author has decided not to use conventional pile driving methods for the Tokyo Metropolitan Expressway projects and instead to adopt the so-called "Noiseless foundation practice".

This article aims to give a systematic introduction of the various types of "Noiseless foundation practice" already used with successful results in this fields.

ON STUDIES ON THE JUNSHIN-BASHI (RIGHT GRILLAGE SKEW COMPOSITE GIRDER BRIDGE)

BY DR. ENG. M. NARUOKA, DR. ENG. H. OHMURA,
H. KAWANO AND T. KOGA C.E. MEMBER (*Page 27*)

The numerical method of analysis of orthotropic (orthogonal anisotropic) parallelogram plate by the finite difference equation method, published in stahlbau 28 (1959), S. 187, was applied to the design of the Junshin-Bashi, right grillage-skew composite girder bridge. After the calculation of the longitudinal bending moment of the main girders, a comparison was made between those calculated by authors' method, Guyon-Massonnet's method by the theory of orthotropic rectangular plates and the traditional single girder method. A load test was performed and it was found that the authors' method could explain well the observed values of deflection and bending moment stress of the skew girder bridge.

REPORT ON FIELD STRESS MEASUREMENTS OF THE OISHI BRIDGE (PRESTRESSED THREE-SPAN CONTINUOUS COMPOSITE GIRDER)

BY T. IWAHASHI, C.E. MEMBER, DR. ENG. S. KURANISHI,
C.E. MEMBER, H. SUZUKI, C.E. MEMBER (*Page 32*)

The Oishi bridge is of three-span continuous composite plote girder. A method of introducing a prestress to the steel girder by applying a tension to the bottom flange of the center span of the three-span continuous girder was applied to the construction of this bridge. In this report results of stress measurements at the time of prestressing and loading tests after the completion of the bridge are described.

ON EFFICIENT HANDLING METHODS OF ORDINARY CALCULATING MACHINE, PART II

BY DR. ENG., DR. SCI., B. TANIMOTO
C.E. MEMBER (*Page 39*)

This is a second lecture on efficient handling methods of ordinary hand-operated calculating machine, the first one appearing in this Proceedings, August, 1957. It again dwells upon the absolute necessity of three-figure system and the continuous operation as possible. It illustrates also that the multiplication may be performed in two ways, while the division in eight ways. Several short cuts of operation are given, and a brief description of multiplication and division of higher precision are added.