Cooperative research on the technology of precasted box culvert

| Period | 1994.6 - 1996.3 | 67P～70P |

(Purpose)

With the diversification of sewerage construction, the example of adopting factory product increases. Precast box culverts have been widely adopted instead of in situ casting box culvert from the beginning of 1960's in all over country for the purpose of the saving labor of in situ works, the improvement of work environment, and the quality improvement of the structure.

On the technical standard in burying culvert under road, there is "the buried work guideline of PC box culvert under road" (1985 year: first vision, 1991 year: revision: Foundation National Land Developing Technology Research Center), and in addition, "the buried work guideline of the reinforced concrete precast box culvert under road" (1990 year: Foundation National Land Developing Technology Research Center) is also published.

However, these individual guidelines are difficult to utilize by the user since they are not comprehended for the all box culverts, the application is not easy. On the other hand, the necessity of "change of the standard design" with the change of the considering live load in road earthwork guideline also occurs. Therefore, the similarity technology was coordinated by the chance, and the preparation of the impartial and objective technical manual which covered whole precasted box culverts was desire.

This cooperative research aims at the preparation of usable and objective "precasted box culvert technical manual" for persons engaged in the business related to sewage works on the basis of existing guideline and standards.

(Result)

The research on composition and outline of technical manual was carried out in the year 1994, following it in 1995, the preparation work of "the technical manual (main volume)" and "the material volume" was carried out, and all were coordinated. In that, it was coordinated for designers engaged in practical design such as the staffs of local public association or consultant to easily use on product standards, design, construction, maintenance, preparation work of drawing and specification, and estimation, etc. in "the technical manual (main volume)". Especially, in the term of the preparation work of drawing and specification, it was easy to be proven, and operational procedures, drawing way of design figure and making way of construction specification in the order of series of work of plan, design, and construction, etc. were described.

In the meantime, the flow calculation tables were shown in "the material volume" in respect of size, while the material on product standard shown in the following of both associations was shown.

1) National box culvert association.
   • Reinforced concrete box culvert (RC box culvert).
   • Prestressed concrete box culvert (the PC box culvert)
2) Japan PC box culvert product association.
   • Prestressed concrete box culvert (the PC box culvert).
   • High tension concrete box culvert (the HTC box culvert).

(Future schedule)

Though various structural design standards which originated from "Hyogo-ken Nanbu Earthquake" in various groups are reviewed at present, it is the stage that these standards were revised, when the revision of this technical manual was required, and it will be done.

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