

Study on Comprehensive Basin-wide Planning of Sewerage Systems

Whole term

1997.9 ~ 1999.3

(Purpose)

The guideline and interpretation of comprehensive basin-wide planning of sewerage systems (hereinafter called the guideline), the content of which has been arbitrarily reviewed, has been disseminated to municipal staffs and consulting engineers to regarding it as a companion for their establishment. For the sake of promoting enhancing water quality in public water environment, the know-how of reviewing the unit load, behavior of total coliforms in water, and simplified design of regional sewerage system should be reflected on the guideline that had been required regardless of the recent revision of 1996. This research included investigation on these subjects and aimed to produce the draft guideline that would contribute to productive and more effective establishment of the basin-wide planning. The guideline would be helpful to promote the basin-wide planning.

The revised draft has been compiled based on existing literature and material acquisitioned during the investigations conducted in 1997 to 1998 on the basic concepts of individual concerning issue.

(Results)

In the study of 1998, the draft of the revised guideline for the regional sewerage system development was compiled through investigating the following items.

(1) Reviewing the unit load

From the results of a recent research in 1997 on treatment plants conducted in the form of questionnaire survey, the requirements for new alternative of the unit load was worked out based on monitoring records on institutions and investigated material on non-point source and livestock loading.

(2) Research on the behavior of total coliforms

From literature review on total coliforms behavior and investigation on total coliforms balance in Tama river that continued from 1997, the subject for analyzing the behavior of total coliforms in river was compiled. From the sanitary standpoint of watershed management, information on the pathogenic microbes that are originated from non-human excrement and the relevant aspects were required to be included in the database.

(3) Investigation of the restructuring of sewerage planning

The following items were investigated and reviewed in relevant passage for the restructuring of sewerage planning.

Compiling outline of the association between planning & development of water recycling and the guideline for comprehensive basin-wide planning of sewerage systems in order to recover river flow and enhance water recycling as well as improvement of water quality.

Compiling load distribution information on non-point source loading.

Compiling the outline of cost analysis in basin-wide planning of sewerage systems.

(4) Simplification of the establishment of basin-wide planning of sewerage systems

The relevant items for the simplification of the establishment of sewerage planning, which was continued from 1997, were reviewed.

(5) Investigation of the cost function

Compiling the cost function with model estimation with regard to the wastewater treatment and pipe-network facilities compared to current performed value.

(6) Summary of the revised guideline of basin-wide planning of sewerage systems

Compiling the draft of the revised guideline for the basin-wide planning of sewerage system development based on above mentioned results.

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Keywords

Unit load, Non point pollution, Simplified design