

Survey study on monitoring for the establishment of improvement program of combined sewer system

Whole term

2002.6-2003.3

(Purpose)

For establishment of rational improvement program of combined sewer, it is necessary to monitor in advance and comprehend the situation of discharged untreated wastewater from combined sewer during storm event and the effect to public water.

This study focused on 192 cities adapting combined sewer, especially cities which had not examined the improvement of combined sewer effectively before. As the “monitoring for program establishment”, which is necessary to monitor in advance, this study aimed at analyzing the program methods and implementation methods and summarizing as manual based on methods and results of monitoring in 13 cities in 2001 fiscal year.

(Results)

(1) Object of study

Investigations were implemented in order to comprehend the condition and areas of discharge of untreated wastewater which has hardly known and collect observed data for calibration of runoff analysis model which related to improvement program of combined sewer.

(2) Contents of study

This study aims at analyzing the method of program for monitoring, implement and summarizing the data.

(3) Monitoring program

In establishment of monitoring program, basic investigations such as actual condition and program of sewer facilities, the information of discharged areas and the data of rainfall were carried out. After that, storm outfall and discharged areas which should be investigated were selected. After selecting objectives which will be investigated, the type and times of investigation and measurement items according to local conditions are set. Afterwards, monitoring report is made. Measurement items are general items (e.g. climate, temperature, water temperature and appearance etc), water quality (BOD, COD and SS, etc.), hydraulic and hydrologic items (e.g. the amount of rainfall, flow quantity and water level) and the others (trash, etc). The items which are needed to comprehend the situation of discharge and collect observed data for calibration of runoff analysis model in order to monitor were selected accordingly based on considering regional characteristic such as the type of discharged areas and the condition of water usage.

(4) The implementation of monitoring

The program of implementation is made on ahead in order to work effectively and safely on site.

(5) The collection of data

Monitoring results and basic investigation information are organized, afterwards the situation of discharge is comprehended and problems are selected. Moreover, these data is preserved for calibration of runoff analysis model in improvement program of combined sewer.

(6) Estimation standard (scheme)

Estimation standard of this monitoring is going to be published on additional reference of design standard production rate table for sewage next year.

(Future tasks)

Monitoring for improvement of combined sewer has “monitoring for establishment of program” besides “monitoring for checking facility function”. In the future, firstly, methods to evaluate facility’s function and accomplishment of improvement goal are required in order to judge whether facilities are worked adequately and improvement goal is accomplished. Secondly, the establishment of method to monitoring for checking facility’s function suited the evaluation method is required. In addition, this manual (scheme) was distributed 192 cities and 47 prefectures which adapt combined sewer.

Independent reseach

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Key words

Improvement program of combined sewer system, Untreated wastewater, Monitoring