

Surveillance study on Chiba City central rain water trunk line confluence improvement facilities plan

Whole term

2002.1 ~ 2003.3

(Purpose)

Chiba Municipal Central Storm water Trunk Sewer was initially planned as an inundation control measure for both functions of flow-down and storage. However, recently the overflow water of combined sewerage in wet weather threatens to adversely affect hygiene, water quality and scenery in urban areas. So, it was decided that the Central Storm water Trunk Sewer should be able to be used not only as an inundation control facility but also as a combined sewerage improvement facility, and it became necessary to formulate a plan for efficiently operating the trunk sewer from both aspects of water amount and water quality.

The purposes of the present task are to analyze the discharge of storm sewage and the pollutant load amounts relating to the Central Storm water Trunk System as an inundation control measure and as a combined sewerage improvement measure, using an effluence analysis model; to verify the effects relative to the combined sewerage improvement targets; to plan an efficient operation method of the storage trunk sewer; and to examine the stepwise implementation for early exhibiting work effects, for thereby devising an efficient operation method of the Central Storm water Trunk Sewer.

(Outline of the research conducted in FY2002)

(1) Verification of combined sewerage improvement effects

In the task of the previous fiscal year, an examination was performed based on the permitted plan. In the present task, the combined sewerage improvement effects were verified based on the latest conditions of the following items, etc. for implementing the project of Central Storm water Trunk Sewer henceforth.

- a. Location of the central pumping station
- b. Storage trunk sewer route (the route is partially changed from a through river route to a road detour route)

(2) Examination of storm water pumping station

- a. Examination of effluent primary treatment facility: Examining the method for dealing with impurities, etc.
- b. Operation control simulation: Identifying the storage state and water quality in the storage sewer and the effluent quality during pumping
- c. Examination of operation control method: Examining the operation control of pumping station

(3) Examination on the storm water retention reservoir

The required storage capacity of the storm water retention reservoir, the specifications of the pump, etc. were examined. The maintenance method was also examined.

- a. Examination on the capacity of the storm water retention reservoir: Examining the required storage capacity
- b. Examination on the inflow method for the storm water retention reservoir: Examining the method for switching between storage and discharge
- c. Examination on water conveyance method: Examining the water conveyance time, the specifications of the pump, the specifications of the water conveying sewer, the conveyed amount of water and the capacity of the treatment facility
- d. Examination on deposit removing method: Compiling such removing methods as flashing and pumping
- e. Operation control simulation: Identifying the storage state and water quality in the storm water retention reservoir
- f. Examination on management method: Examining the method for managing the storm water retention reservoir

Collaborators: Chiba City

Person in charge of study: Takaso Tuneto, Kodama Takuro, Kamata Kozo, Masuoka Shuichi

Keywords

Flood measures, Confluence improvement, Outflow analysis model