

Study on stormwater storage and infiltration facility in Okayama

Whole term

1996.10 ~ 1998.3

(Purpose)

The master plan for the stormwater drainage system, which includes stormwater runoff controlling facilities (combined large-scale and small-scale facilities), is being reconsidered in Okayama city. Small-scale on-site storage facilities are considered as effective ones that originally had been included in the master plan and long-term plan as complementary to stormwater drainage facilities.

Based on a preliminary study entitled 'Investigation on stormwater storage and infiltration facilities' conducted in FY1996, this study highlights the importance of the small-scale on-site storage facilities as well as that of the corresponding countermeasures aimed at conserving such small facilities. 'The technical manual for the stormwater storage facilities in Okayama', outlining the methods of planning, design, and maintenance of the small-scale facilities, was the main outcome of this study.

(Results)

This technical manual is composed of three parts, namely, '1. Planning', '2. Design and maintenance', and '3. Case study'. The manual covers methods of planning and installation of facilities, performance evaluation, as well as that of maintenance of the small-scale storage facilities.

1. Planning

The Part 1 (Planning) was aimed at assisting managers of sewage facilities to plan storage facilities in general buildings and space other than the sewage facilities in order to expand total stormwater drainage capacity.

2. Design and maintenance

The Part 2 (Design and maintenance) was included as a guideline for engineers. This part shows the designing procedures as well as the maintenance issues (safety measures, monitoring and maintenance) pertaining to the small-scale storage facilities located adjacent to different type of general buildings and space (for example, school, park etc.) as selected according to part 1.

The planning procedure of storage facility is outlined below.

[Step1] Determination of drainage district

[Step2] Laying out of aqueduct/water conveyance, storage facility, and outlet channel

[Step3] Design of size and other parameters of storage facility and outlet channel

[Step4] Design of each facility

3. Case Study

The Part 3 (Case Study) shows examples planning of small-scale storage facilities, and calculation methods of storage amount.

'The guideline for installation of stormwater storage facilities in Okayama' was also made in order to promote introduction of storage facilities.

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Keywords

Stormwater flow control, On-site small-scale storage facility, technical manual, The guideline for installation of stormwater storage facilities