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ORIGINAL RESEARCH ARTICLE

Decision-making study on sewer overflow pollution in mountainous cities based on the Stormwater Management Model

Supplementary Files

Table S1. Hydrological and hydraulic parameter settings

Parameters	Standard selection range	Selected value
Surface depression parameters		
Water storage in impermeable depressions (mm)	1.27–6.35	1.0
Water storage in permeable depressions (mm)	2.54–12.7	4.5
Horton permeability model parameters		
Maximum infiltration rate (mm/h)	12–150	76.2
Water storage in impermeable depression (mm)	1.27–6.35	1.0
Water storage in permeable depression (mm)	2.54–12.7	4.5
Maximum infiltration rate (mm/h)	12–150	76.2
Manning's roughness coefficient		
Water storage in impermeable depression (mm)	1.27–6.35	1.0
Water storage in permeable depressions (mm)	2.54–12.7	4.5

Table S2. Rainfall intensities for durations from 5 to 120 min under different design rainfall return periods (mm/h)

T (year)	Duration (min)										
	5	20	30	50	60	70	80	90	100	110	120
1	6.53	9.12	12.93	91.31	26.42	15.8	11.54	9.23	7.77	6.75	6.0
3	9.47	13.23	18.76	132.49	38.33	22.94	16.75	13.39	11.27	9.79	8.7
5	10.84	15.14	21.47	151.63	43.87	26.25	19.17	15.43	12.89	11.2	9.96
10	12.7	17.74	25.15	177.6	51.39	30.75	22.45	17.95	15.1	13.13	11.67

Table S3. 120-min rainfall and peak rainfall intensity for different recurrence periods

Recurrence period, *T* (year)	120-min rainfall (mm)	Peak rainfall intensity (mm/min)
1	35.28	1.52
3	51.18	2.20
5	58.58	2.53
10	68.61	2.97

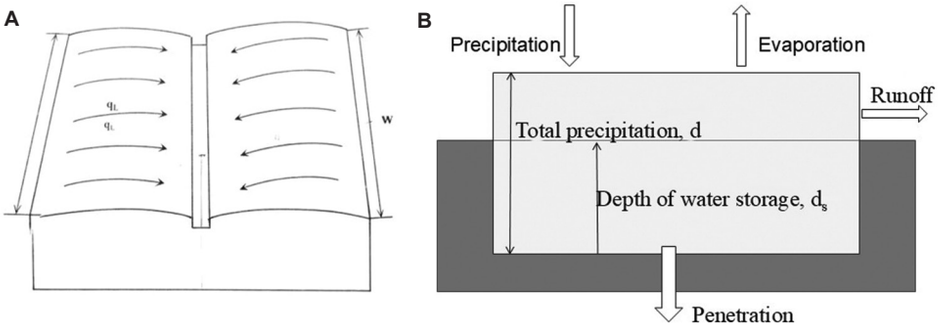

Figure S1. Schematic diagram of the production flow model. (A) Schematic diagram of the sub-convergence unit. (B) Schematic diagram of a non-linear reservoir model.

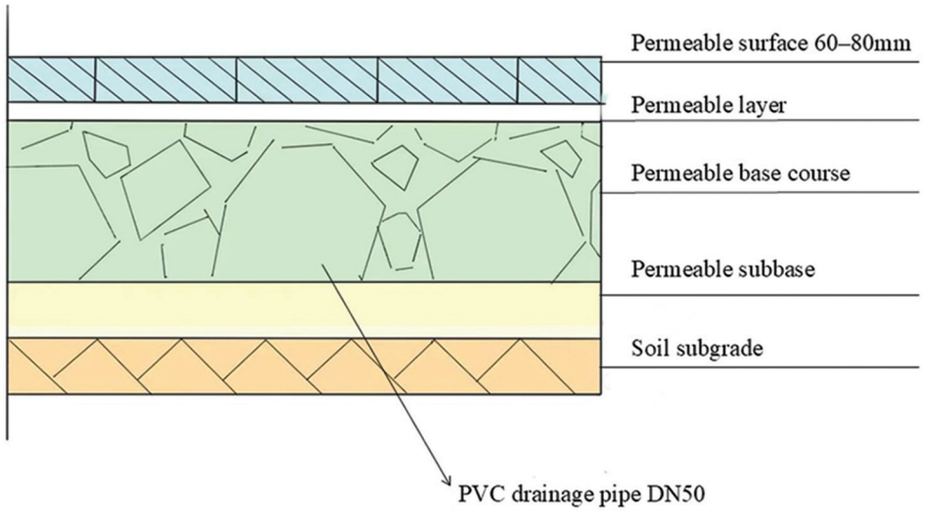

Figure S2. Structure of permeable paving facility
Abbreviations: DN: Nominal diameter (mm); PVC: Polyvinyl chloride.

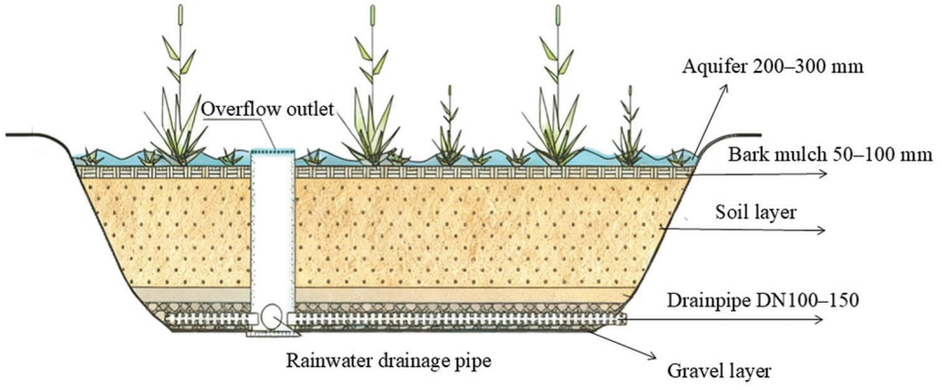

Figure S3. Structure of the bioretention cell facility
Abbreviation: DN: Nominal diameter (mm).