TABLE OF CONTENTS

Int	roduction
	Urban Hydrology
	The Need
	Scope of This Book
1.	City Physiology and Anatomy
	1.1 The Rise of Cities
	1.2 Forces of Urbanization
	1.3 Urban Form Factors
	1.4 City Forming Forces
	1.5 Summary
2.	Impact of Urbanization on Streamflow
	2.1 The Hydrologic Cycle
	2.2 Land Use Changes Accompanying Urbanization
	2.3 Urban Surfaces and Runoff
	2.4 Reduction of Infiltration
	2.5 Summary
3.	Urbanization and Stream Water Quality
	3.1 Water Quality of Natural Streams
	3.2 Impact of Raw Sewage on Stream Water Quality 45
	3.3 Sources of Urban Pollutants
	3.4 Impacts of Urban Runoff on Water Quality
	3.5 Impacts of Urban Runoff on Stream Water Quality-
	Case Studies
	3.6 Impact of Urban Runoff on Erosion
	3.7 Impact of Urban Runoff on Stream Water Quality
	3.8 Summary

4.	Analysis of Hydrologic Change Due to Urbanization 93	,
₹.		
		•
	4.3 Water Quality Data Collection	
	4.4 The Urbanized Area and the Watershed	
	4.5 Estimation of Percent of Imperviousness	
	4.6 Probabilistic Approaches	
	4.7 Statistical Techniques	
	4.8 Urbanized Stream Channels	
	4.9 Summary	l
5.	Modeling Urban Water Quantity and Quality	9
	5.1 Mathematical Models)
	5.2 Modeling a Natural Watershed	3
	5.3 Rainfall-Runoff Modeling	5
	5.4 Urban Watershed Modeling	
	5.5 Urban Watershed Modeling—Quantity	
	5.6 Urban Watershed Modeling—Quality	
	5.7 Summary	5
6.	Nonstructural Control Measures	3
	6.1 Planning and Planning Commissions	
	6.2 The Plan and the Planning Process	0
	6.3 Urban Water Resources Planning	
	6.4 Summary	
7.	Structural Control Measures	1
	7.1 Water Quantity	1
	7.2 Water Quality	6
	7.3 Sheet Erosion and Sedimentation Control	1
	7.4 Summary	
8.	Afterword: Perspectives on the Urban Hydrologic Problem 24	3
Ind	lex	7