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## **UNIVERSITY OF MORATUWA**

## ENVIRONMENTAL ASPECTS OF DRAINAGE SYSTEMS IN ROAD PROJECTS

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A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ENGINEERING IN ENVIRONMENTAL ENGINEERING AND MANAGEMENT

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### ABSTRACT

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Drainage systems in Road projects should be given due consideration because it influences the environment.

The purpose of this research project is to study road drainage systems, as to how these affect the environment and how environmental factors affect the road, and what type of recommendation could be considered for effective, efficient and best use of the system to use in the anticipated road projects. This study is mainly concerned with the surface drainage system of the road sector.

The areas selected for this study are Hakmana Town Intersection in Matara district, 1.3 km Road section from Imbulgoda on Colombo –Kandy road and Kiribathgoda Town intersection on Colombo Kandy road.

The data such as Flooding, health problems, Accidents, Condition & maintenance of road drainage systems were collected through questionnaires, levels of the road profile were taken through surveying and the maximum intensities of the rainfall were collected from the department of Meteorology.

Design and statistical analyses were carried out using the data. According to analyses, it was found that maintenance work influenced the flood, health problems in these sites were caused only by mosquitoes breeding and mosquitoes breeding were occurred not only by the flooding but also by the disposal of solid waste.

According to this research study, it was found that the flood was the main environmental issue of drainage systems in the road projects. This problem could be controlled by proper drainage design and construction and efficient maintenance activities of drainage systems.

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## **TABLE OF CONTENTS**

1.0	INTRODUCTION	1
1.1	General	1
1.2	Study Area	2
1.3	Aim & Objectives.	4
1.4	Structure of this Report	5
2.0	LITERATURE REVIEW	6
2.1	Drainage	6
2.1.1	Drainage of road surface	7
2.1.2	Types of drains	8
2.1.3	Shape and size of side drains	11
2.2	Erosion and sediment control considerations in the Highway	13
2.3	Causes of deterioration in Highways	15
2.4	Maintenance of road drainage	16
2.4.1	Maintenance of paved carriageway	16
2.4.1.1	Failures and identification of their causes	16
2.4.2	Maintenance of unpaved Roads	17
2.4.2.1	Defects of unpaved carriageways	17
2.4.3	Maintenance of shoulders and road side	17
2.4.3.1	Periodic cutting and or Grading of high sides	18
2.4.4	Maintenance of Roadside Areas	18
2.4.4.1	General upkeep	18
2.4.4.2	Control of erosion	19
2.5	Hydraulic considerations on highway planning and location	19
2.5.1	Flood	20
2.5.2	Factors affecting flood runoff	20
2.5.3	Risk	21
2.5.4	Loss of life	21
2.5.5	Property damage	22
2.5.6	Traffic interruption	22
2.5.7	Economics	22

Ш

.

۲

4

2.6	Accidents		23
2.6.1	Road traffic and safety measures		23
2.6.2	Wet road skidding and accidents		24
2.7	Health		24
2.7.1	Diseases		26
2.7.2	Technical aspects		27
2.7.3	Institutional aspects		28
2.7.4	Mitigation		29
2.8	Effect of road geometry on drainage		29
2.8.1	Consideration of rainfall		29
2.8.2	Rainfall runoff		30
2.9	Highway design		30
2.9.1	Storm water runoff estimation		32
2.9.2	Flow in rectangular drains		38
2.9.3	Flow in highway Gutter		41
3.0	METHODOLOGY of Moratuwa, Sri Lanka, Electronic Theses & Dissertations www.lib.mrt.ac.lk		42
4.0	SURVEY DATA, COMPUTATION AND RESULTS		45
4.1	Survey data		45
4.1.1	Questionnaire data		45
4.1.2	Rainfall data		52
4.2	Computation of surface runoff and design calculations		55
4.3	Longitudinal sections and cross sections computations		55
5.0	ANALYSES AND DISCUSSION OF RESULTS		56
5.1	Analyses		56
5.1.1	Statistical Analysis		56
5.1.1.1	Findings from stastistical Analysis		57
5.1.2	Critical environmental factors observed from the site plans		60
5.1.2.1	Findings from site plans		71
5.1.3	Design Analysis		73
5.1.3.1	Findings from design Analysis	,	73
5.1.3.1.1	Common findings from design Analysis		74

¥

۶

4

:

5.2	Discussion of Results	75
6.0	CONCLUSIONS	83
7.0	RECOMMENDATIONS	86
REFERE	ENCES	

#### **APPENDIX**

¥

>

#### A. Analysis

- 1. Design Analysis
  - a) Hakmana intersection
  - b) Imbulgoda road section
  - c) Kiribathgoda intersection
- 2. Statistical Analysis
  - a) Hakmana intersection rsity of Moratuwa, Sri Lanka.
  - b) Imbulgoda road section and aclk
  - c) Kiribathgoda intersection

#### **B.** Survey data and Design Computations

- 1. Specimen form of Questionnaire
  - a) Hakmana intersection
  - b) Imbulgoda road section
  - c) Kiribathgoda intersection
- 2. Computation of surface runoff and design calculations
  - .3 Specimen calculation of longitudinal gradient and crossfall
  - .4 Method for estimation of surface runoff
  - .5 Specimen calculation
  - 2.3.1 Description of tables for flow computations and specimen calculations
  - 2.3.2 Description of tables for storm water drain computations and specimen calculations
- 3. Longitudinal sections and cross sections specimen computations

V

## C. Figures

۶

Y

۲

4

>

- 1. Rainfall intensity duration curves
- 2. Surface flow times
- 3. Runoff coefficients for urban catchments.
- 4.  $Q/S^{1/2}$  Vs d Curves
- 5. Type of drains Configuration diagram

## LIST OF TABLES

2.1	Variation of Q/S $^{1/2}$ with d for different b values	40
4.1.1	Questionnaire data for Hakmana Intersection	46
4.1.2	Questionnaire data for Imbulgoda road section	48
4.1.3	Questionnaire data for Kiribathgoda intersection	50
4.1.4	Maximum intensity of rainfall (yearly) for Kiribathgoda and Imbulgoda	53
4.1.5	Maximum intensity of rainfall (year 2003) for Kiribathgoda and Imbulgoda	53
4.1.6	Maximum intensity of rainfall (yearly) for Hakmana	54
4.1.7	Maximum intensity of rainfall (year 2003) for Hakmana	54
A.1.1	Longitudinal gradient and Crossfall for Hakmana Intersection	90
A.1.2	Storm water computations for Hakmana Intersection	93
A.1.3	Longitudinal gradient and Crossfall for Imbulgoda road section	99
A.1.4	Storm water computations for Imbulgoda road section	102
A.1.5	Longitudinal gradient and Crossfall for Kiribathgoda intersection	114
A.1.6	Inlet computations for Kiribathgoda intersection	117
A.1.7	Storm water computations for Kiribathgoda intersection	118
B.3.1	Longitudinal sections and cross sections specimen computations	164

# LIST OF FIGURES

>

۷

¥

>

Fig 1.1	Location of Study area	3
Fig 2.1	Eroded edges of Carriageway	8
Fig 2.2	scupper drains	9
Fig 2.3	Drainage Ditches	10
Fig 2.4	Trapezoidal shape side drain	12
Fig 2.5	V Shape side drain	12
Fig 2.6	Manually shaped side drain	13
Fig 2.7	Angle drain	13
Fig 2.8	Saucer drain	13
Fig 2.9	Diagrammatic representation of ponded width	37
Fig 5.1	Site Plans with Critical Environmental Factors of Hakmana intersection	61
Fig 5.2	Site Plans with Critical Environmental Factors of Imbulgoda road section	64
Fig 5.3	Site Plans with Critical Environmental Factors of Kiribathgoda intersection	69
Fig C.1	Rainfall intensity duration curves	165
Fig C.2	Surface flow times Electronic Theses & Dissertations	166
Fig C.3	Runoff coefficients for urban catchments	167
Fig C.4	Q/S <sup>1/2</sup> Vs d Curves	168
Fig C.5	Type of drains – Configuration diagram	169