APPENDIX 1

DESIGN OF LEAN CONCRETE BASE

Data

Mix proportion - 1: 6:12 - Cement: Fine aggregate : Coarse aggregate
Commercial vehicles per day in both directions : 10 CVPD
Traffic growth rate : Nil
Design life period : 10 years
Sub grade CBR : 10%

Pavement thickness

Initial traffic in both directions : 10 CVPD
Design traffic : CVPD * (1 + r)^n + x

where

CVPD : Number of commercial vehicles per day at last count
r : Annual growth rate of commercial traffic
n : Number of years between the last count and the year of completion of construction
x : Design life in years

Design traffic : 10 * (1 + 0)^0 + 10
: 10 CVPD

From the design chart (Figure 5.6 - IRC : SP: 20 - 2002) for lean concrete base, the thickness of the pavement section consists of wearing course of 50 mm thick M30 grade concrete and 215 mm thick lean concrete base over 100 mm drainage layer.