202.1.[1]

No. PL-10 (76)/74 *Dated the 8th Sept, 1975*

To

1. All State Chief Engineers dealing with National Highways (By names)
2. Director General, Border Roads Development Board, Kashmir House, New Delhi
3. Engineer-in-Chief, C.P.W.D., Nirman Bhavan, New Delhi

Subject : Road Registers for National Highways

The Ministry attaches considerable importance to the maintenance of Road Registers for National Highways, as the information in these is valuable among other things for making equitable distribution of the available funds and taking planning decisions. At the moment, the form in use for Road Registers is the one which was introduced *vide* Ministry's letter No. N-32 (3)/49, dated the 9th November, 1949. Of late, the feeling had grown that the form needed modifications in keeping with the present-day requirements of the development of National Highways system. After a detailed review, the previous form has thus been revised and made more comprehensive. I enclose three cyclostyled copies of the revised form together with instructions for filling the same, and request that this form may henceforth be adopted for the maintenance of Road Registers. For sufficient copies to be distributed among field officers you may please devise some centralised arrangement to prepare more sets of the road register forms.

2. As regards preparation and subsequent updating of the Road Registers, it is suggested that the respective Divisions looking after National Highway works may be made responsible. They may prepare the Road Registers in duplicate and supply one copy to Ministry's Engineer Liaison Officer or the Regional Superintending Engineer as applicable. The Executive Engineer of the Division may be instructed to take personal interest in this work and have the Road Registers updated regularly, at least once a year. Whenever the Road Register is updated, the modifications may also be intimated to the Ministry's Engineer Liaison Officer/Regional Superintending Engineer.

3. It is requested that early action on the above may be arranged at your end under intimation to us.

ROAD REGISTER

National Highways

INSTRUCTIONS FOR FILLING THE ROAD REGISTER FORM

1. *General*

The register is to be maintained for all National Highways in a uniform manner with the same notations and conventions as shown in the legend. Registers should preferably be in the form of convenient size/volumes, but these could also be maintained in an appropriate loose-leaf filing system.

Where possible each road should be entered in one register. For this purpose, the road may be divided in convenient sections. The statistical data and key map are to be given for each section separately.

2. *Key Map*

Key map should precede the 'statistical data' and form page 1 of the information for each section. The map must show the general topography of the area, kilometrage along the road, towns and villages served, other roads, railways, rivers etc. Its scale must not be smaller than 1 cm = 10 km. North direction must be clearly shown.

3. *Statistical Data*

(i) *Rainfall :* Annual average rainfall should be based on meteorological records if possible, otherwise average should be recorded for the year (s) for which information is readily available.

(ii) *Traffic Data :* should be based on traffic census carried out in accordance with IRC : 9-1972 "Traffic Census on Non-urban Roads".

(iii) *Financial Statement :* is meant to reflect the recurring investment in the road both under the 'Capital' and 'Maintenance' heads. Information should be given for as many years the records are available.

In the table for 'capital' expenditure, against the sub-head 'surfacing', routine maintenance and periodic renewals are not to be included. Only the cost of new superior surfacing in replacement of the old wearing surface on account of increase in traffic, obsolescence, or other causes, is to be entered.

"Ordinary Repairs" include maintenance gangs; patch repairs; minor improvements to side drains, catch drains and shoulders; repainting of km stones, sign posts and traffic markings; expenditure on annual traffic census; repairs to culverts and bridges; repairs to inspection bungalows; and similar petty works. "Periodical Renewals" include surface painting, open-graded carpet etc. provided by way of preventive maintenance. "Special repairs" include repairs on account of occasional items such as reconstruction of retaining walls, providing water or electricity to inspection bungalows, major improvements for easing of curves or visibility, etc. "Flood damage repairs" include damage by floods, cyclones or other natural calamities usually treated separate from special repairs.

1- Format amended vide circular dated 06.05.1983

4. *Plan and Longitudinal Section*

The Plan should show the following by conventional signs, symbols, numerical figures or otherwise with an explanatory legend where necessary. The scale for Plan should be 1 cm = 20 m (width wise) and 1 cm = 100 m (length wise).

(i) Centre line of the carriageway and kilometrage;

(ii) Limits of the right-of-way with widths noted at one or more places, and at sections where there is a major variation;

(iii) Horizontal curves with their radii;

(iv) Railway and road crossings;

(v) Culverts, minor bridges, dips and major bridges with brief particulars about number of spans, length etc.

(vi) Any special features such as tanks, ponds, built-up area, villages, towns, culverts etc;

(vii) Floodable reaches with details about depth of inundation, HFL etc; and

(viii) Location of roadside amenities like rest houses, dak bungalows, petrol pumps etc., situated close to the road.

Longitudinal-section should normally show gradients along the road, vertical curves with their radii, position of drainage structures, location of unbridged crossings, general ground level, road level, HFL and any other useful information. Its scale should be 1 cm = 100 metres (horizontal) and 1 cm = 20 metres (vertical).

5. *Width of Right of Way, Roadway, Carriageway etc.*

Widths should be recorded in figures, corrected upto the first place of decimal. In the case of divided highways, the width should be shown as No. of lanes 'n' x width of each carriageway.

6. *Average Height of Fill/Cut*

Average height of fill/cut above the ground level should be given. There are separate sub-columns in the form for 'fill' and 'cut'

7. *Soil Type*

General classification of soil along the road, such as gravel, sand, sandy clay, silty clay, moorum, clay etc., should be entered in this column based on visual observations. For field identification and classification, help may be taken of IS : 1498-1970.

8. *Pavement Composition*

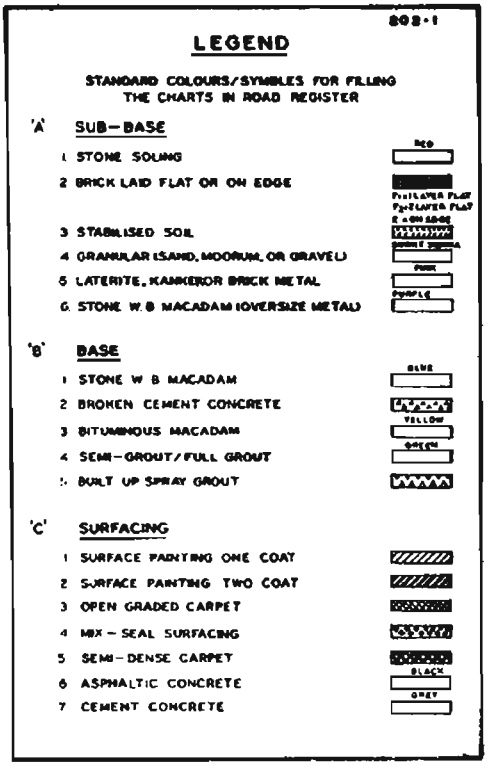
Brief details about the thickness and composition of pavement along the centre line of the road should be recorded by conventional signs and/or symbols given in the legend. Where the sub-base or base course consists of more than one material, each should be shown separately by dividing the space proportionately and noting the thickness alongside in the space provided for this purpose in the form. Where the thickness of any course varies longitudinally, the variation could be shown in the form of an inset. Pavement composition should be entered after making a few trial pits at intervals depending on the variations in crust thickness.

9. *Dates of Preparation and Revision*

Date upto which the left hand side of Road Register (containing Plan, L-section etc.) has been initially compiled should be clearly noted at the bottom of the sheet. When revised to incorporate any additions or alterations, the date of revision should be entered at the place provided. If major changes in information take place, a new sheet could be added in replacement of the earlier sheet.

10. *Pavement Strengthening and Surface Renewal Chart*

These should indicate the works of renewal/pavement strengthening carried out from year to year for as much period as the



information is available. Specifications adopted should be shown using the same symbols as in the legend. Where more than one specification has been used for strengthening/renewal, each should be depicted separately by proportionately dividing the available space. Thickness of each course should be recorded alongside in figures in the space provided for the purpose in the Form.

KEY MAP

For Section _____ of NH No. _____

(Scale 1 cm = 10 km (or larger scale)

STATISTICAL DATA

202·1

(THESE DATA SHOULD BE RECORDED FOR EACH SECTION OF THE HIGHWAT SEPARATELY IN THIS REGISTER)

N. H. NO FROM _____ TO _____

SECTION FROM _____ KM TO _____ KM

ZERO KM STARTS AT _____

II. RAINFALL: ANNUAL AVERAGE _____ MM

PERIOD IN WHICH THE MAJOR PORTION OF RAINFALL IS DISTRIBUTED.

III. TRAFFIC DATA

CENSUS TAKEN AT KM:

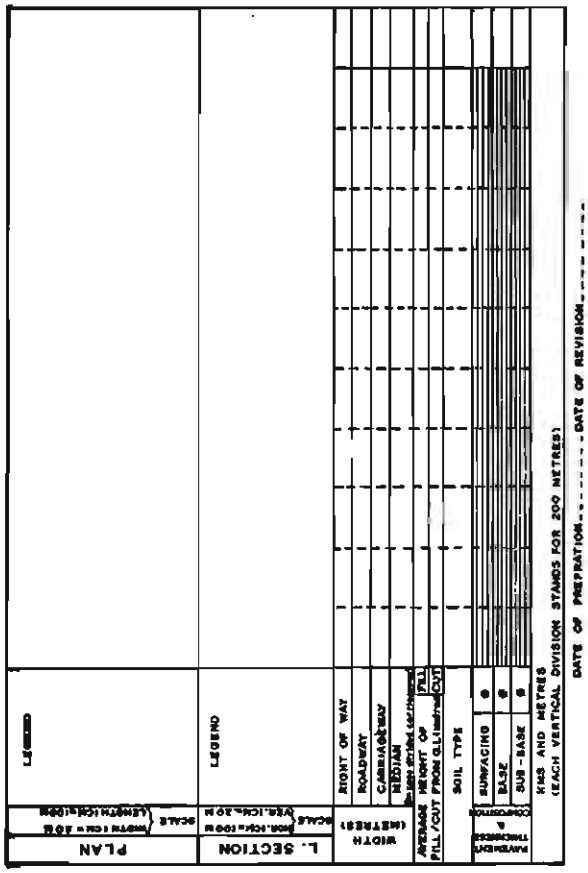
TYPE OF VEHICLES		AVERAGE DAILY TRAFFIC YEAR ENDING 31st MARCH											
		19	19	19	19	19	19	19	19	19	19	19	19
FAST	CARS, JEEPS, VANS THREE WHEELERS												
	BUSES												
	TRUCKS												
	MOTOR CYCLES AND SCOOTERS												
	TOTAL												
SLOW	ANIMAL DRAWN VEHICLES												
	CYCLES												
	OTHERS (SPECIFY)												
	TOTAL												
	REMARKS												

IV. FINANCIAL STATEMENT

EXPENDITURE IN LAKHS OF RUPEES FOR WHOLE SECTION

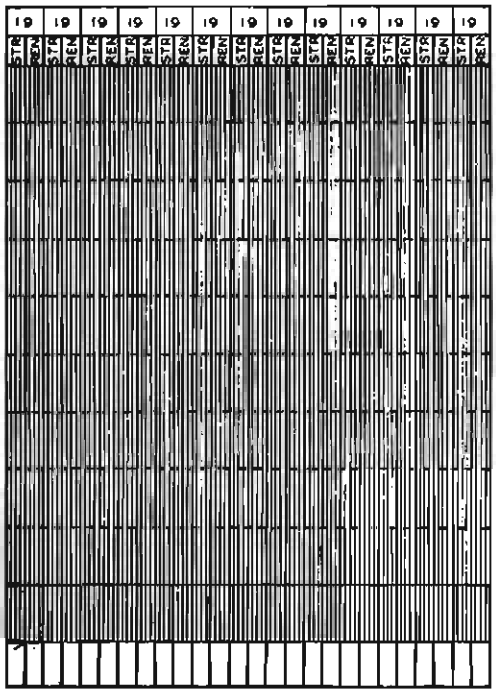
	19	19	19	19	19	19	19	19	19	19	19	19
(i) CAPITAL												
(a) LAND ACQUISITION												
(b) EARTH WORK												
(c) SUB-BASE & BASE												
(d) SURFACING												
(e) CULVERTS & MINOR BRS												
(f) MAJOR BRIDGES												
TOTAL												
(ii) MAINTENANCE												
(a) ORDINARY REPAIRS												
(b) PERIODICAL RENEWALS												
(c) SPECIAL REPAIRS												
(d) FLOOD DAMAGE REPAIRS												
TOTAL												

ROAD____ NO ____SECTION____KM____



202.1

ROAD PAVEMENT STRENGTHENING** AND SURFACE RENEWALS



** INFORMATION TO BE SHOWN AS PER LEGEND FOR AS MANY YEARS AS RECORDS ARE AVAILABLE

* THICKNESS OF VARIOUS COURSES SHOULD BE GIVEN IN MM IN THIS COLUMN.