302.11.

D.O.N. PL-30(68)/82

To

The Chief Engineers of (By name)

Dated the 26th July 1984

I hope the project preparation work in respect of schemes proposed for World Bank assistance in your State has reached an advanced stage. Clarifications are being sought from the State PWDs in regard to the geometric design standards to be adopted for these schemes and on the method of presentation of the project documents.

For the sake of uniformity and proper presentation of the project, we have evolved design standards and guidelines for presentation of the documents and the same are described in Annexures I & II respectively. I shall be grateful if these guidelines and standards are complied with in the project preparation work.

Annexure I

GEOMETRIC DESIGN STANDARDS FOR NATIONAL HIGHWAYS (RURAL SECTIONS) PROPOSED UNDER THE WORLD BANK AID.

		Ruling	Minimum
1.	Design speed (km/hr) :		
	a) Flat terrain	100	80
	b) Rolling terrain	80	65
	c) Mountainous terrain	50	40
2.	Roadway width (metres) :		
	For 2 lane carriageway :	Flat & Rolling	12
		Mountainous	8.8
	For 4 lane divided carriageway :	Flat & Rolling	25
		Mountainous	22
	On culverts :	Same as for road section	
	Extra width may be provided for busbays where necessary		
3.	Carriageway width (metres)		
	For 2 lane carriageway :	7	
	For 4 lane divided carriageway :	2 × 7.5	
	Extra width may be provided for bus bays where necessary		
4.	Shoulder width (meters)		
	Flat & Rolling terrain :	Treated shoulder	1.5
		Untreated shoulder	1.0

			Total width on either side of carriageway	2.5
	Mountainous terrain	:	(Entire width to be treated)	0.9
5.	Median width (metres)	:		5
6.	Camber (Per cent)	:	— Median	4.0
			— carriageway	2.5
			— Treated shoulder (Blacktop)	3.0
			— Untreated (earth) shoulder	4.0
7.	Sight Distance (meters)	:		
	— Two lane roads	:	To be designed for overtaking sight distance; Intermediate or stopping sight distance may be resorted to in difficult situations.	
	— Four lane divided road	:	To be designed preferably for intermediate sight distance and in difficult situations for stopping sight distance	

8. Radius of horizontal curves (metres) :

	Ruling	Minimum
Flat terrain	360	230
Rolling terrain	230	155
Mountainous terrain-non snow bound	80	50
Mountainous terrain-snow bound	90	60

9 Maximum Superelevation (Per cent)

Plain & Rolling terrain	7
Hilly areas — snow bound	7
Hilly areas — Non-snow bound	10

10. Summit and valley curves

To be designed for appropriate sight distances mentioned in S. No. 7 and minimum length = .6 V

11. Vertical profile

In realigned portions, the subgrade may be fixed 1 metre above the HFL.

12. For all other details, the IRC publication No. 73-1980-Geometric standards for Rural (non-urban) Highways may be referred to.

Annexure II

GUIDELINES FOR PRESENTATION OF PROJECT DOCUMENTS

1. General Presentation

The documents for each subsection as per this Ministry's Lr. No. PL-30 (68)/80-Vol. II, dt. 18.7.84, should comprise

Part I — Project Report

Part II — Design including Material Report

Part III — Drawings

Part IV — Estimates

Wherever required, the documents may be further subdivided into various volumes under each part mentioned above.

2. *Number of copies required*

12 copies each of the above documents are required to be furnished to the Roads Wing.

3. *Size of documents*

The size of documents for all Parts except Part III should be 297 mm × 210 mm.

As regards Part III (Drawings), the sizes mentioned in IRC publication No. 19 may be followed.