

# INDIANA DEPARTMENT OF TRANSPORTATION



INTER-DEPARTMENT COMMUNICATION  
Standards Section C Room N642



Writer's Direct Line  
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May 23, 2001

## DESIGN MEMORANDUM No. 01-06 TECHNICAL ADVISORY

**TO:** All Design, Operations, District Personnel, and Consultants

**FROM:** /s/ Anthony L. Uremovich  
Anthony L. Uremovich  
Acting Design Policy Engineer  
Contracts and Construction Division

**SUBJECT:** Use of English Units in Plan Development

**EFFECTIVE:** October 16, 2001, Letting

**SUPERSEDES:** Design Memorandum No. 01-03 Technical Advisory

On March 5, 2001, the Commissioner issued a memorandum to the Executive Staff, Division Chiefs, and District Directors, regarding the use of english units. The memorandum stated that the Department will use english units as the primary measurement system, and metric units as the secondary measurement system, for all policies and contract documents.

Until we incorporate english units into the Design Manual, the attached information should be used as a guide for developing plans with english units. Such information is not intended to change existing design policy.

New surveys will be taken in english units beginning immediately. The plans developed from such surveys will, of course, be in english units. The plans developed from newly received metric surveys will still be in metric units. Project plan development which has been started in metric units will be completed in metric units. If a consultant wishes to convert newly developed metric plans to english units, it may, but at no increase in cost to the Department. The consultant should first discuss the conversion with the chief of the Design Division.

alu  
Attachment

LANE WIDTH		SHOULDER WIDTH		MEDIAN WIDTH	
Meters	Feet	Meters	Feet	Meters	Feet
4.8	16'-0"	2.4	8'-0"	25.0	80'-0"
4.2	14'-0"	2.3	7'-6"	18.0	60'-0"
3.9	13'-0"	2.1	7'-0"	8.0	26'-3"
3.6	12'-0"	1.8	6'-0"	7.9	26'-0"
3.3	11'-0"	1.2	4'-0"	4.8	16'-0"
3.0	10'-0"	0.9	3'-0"	1.8	6'-0"
2.7	9'-0"	0.8	2'-6"	1.2	4'-0"
		0.6	2'-0"	0.6	2'-0"

DESIGN SPEED      BRIDGE CLEAR ROADWAY

km/h	mph	Meters	Feet
110	70	8.4	28'-0"
100	60	7.2	24'-0"
90	55	6.6	22'-0"
80	50	6.0	20'-0"
70	45		
60	40		
50	30		
40	25		
30	20		

HORIZONTAL CURVE

$$D = \frac{100 \Delta}{L} = \frac{200 \arctan (T/R)}{L}$$

D and  $\Delta$  in degrees  
T, R, and L in feet

VERTICAL CLEARANCE

Meters	Feet
7.00	23'-0"
5.35	17'-6"
5.20	17'-0"
5.05	16'-6"
4.90	16'-0"
4.45	14'-6"
4.30	14'-0"

STATIONING

Metric: 1000 m / sta  
shown as 1+000.000  
English: 100 ft / sta  
shown as 1+00.00

HMA PAVEMENT

60 kg/m<sup>2</sup> per 25 mm of thickness  
= 110 lb/syd per 1 in. of thickness

The millimetric designation in HMA pay item names should not be anglicized as it is part of the pay item identification.

PRESSURE, STRESS: 7 kPa = 1 psi. 7 MPa = 1 ksi.

For pipe diameter, PCCP thickness, and compacted aggregate depth: 25 mm = 1 in.

Edge of paved shoulder to shoulder break: 0.3 m or 300 mm = 1'-0".

Edge of required shoulder to front face of guardrail: 0.6 m or 600 mm = 2'-0".

Curb gutter width: 610 mm = 2'-0".

The metric practice of expressing crown cross slopes in percentages will also be used for plans developed in english units.