DEGREE OF CURVE	RADIUS	V = 30 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 40 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 50 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 60 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 65 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 70 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 75 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE	V = 80 M.P.H. e	L - FEET 2 LANE	L - FEET 4 LANE
0° 15'	22918'	NC	0	0	NC	0	0	NC	0	0	NC	0	0	NC	0	0	NC	0	0	NC	0	0	RC	240	240
0° 30'	11459'	NC	0	0	NC	0	0	NC	0	0	RC	175	175	RC	190	190	RC	200	200	1/4	220	220	5/16	240	240
0° 45'	7639'	NC	0	0	NC	0	0	RC	150	150	1/4	175	175	5/16	190	190	3/8	200	200	3/8	220	220	7/16	240	240
1° 00'	5730'	NC	0	0	RC	125	125	1/4	150	150	3/8	175	175	3/8	190	190	7/16	200	200	1/2	220	220	9/16	240	240
1° 30'	3820'	RC	100	100	1/4	125	125	3/8	150	150	1/2	175	175	9/16	190	200	5/8	200	240	3/4	220	290	3/4	240	320
2° 00'	2865'	RC	100	100	5/16	125	125	7/16	150	150	5/8	175	210	11/16	190	250	3/4	200	290	7/8	230	340	15/16	250	380
2° 30'	2292'	1/4	100	100	3/8	125	125	9/16	150	170	3/4	175	240	13/16	190	290	7/8	220	330	15/16	250	370	1	260	400
3° 00'	1910'	5/16	100	100	7/16	125	125	5/8	150	190	13/16	180	270	7/8	210	320	15/16	230	350	1	250	380	1	260	400
3° 30'	1637'	5/16	100	100	1/2	125	140	11/16	150	210	7/8	200	300	15/16	220	330	1	240	360	1	250	380	D MAX. = 2.5°		
4° 00'	1432'	3/8	100	100	9/16	125	150	3/4	150	230	15/16	210	310	15/16	230	340	1	240	360	D MAX. = 3.0°					
5° 00'	1146'	7/16	100	100	11/16	125	170	7/8	170	260	1	220	320	1	230	350	D MAX. = 3.5°								
6° 00'	955'	1/2	100	120	3/4	130	190	15/16	180	280	1	220	320	D MAX. = 4.5°											
7° 00'	819'	9/16	100	130	13/16	140	210	15/16	190	280	D MAX. = 5.0°														
8° 00'	716'	5/8	100	140	7/8	150	220	1	190	290															
9° 00'	637'	11/16	100	150	7/8	160	240	D MAX. = 7.5°																	
10° 00'	573'	11/16	110	160	15/16	160	240																		
11° 00'	521'	3/4	110	170	15/16	170	250																		
12° 00'	477'	13/16	120	180	15/16	170	250																		
13° 00'	441'	13/16	120	180	1	170	250																		
14° 00'	409'	13/16	130	190	D MAX. = 12.5°																				
16° 00'	358'	7/8	130	200																					
18° 00	318'	15/16	140	210																					
20° 00'	286'	15/16	140	210																					
22° 00'	260'	15/16	140	220																					
		1	140	220																					
		D MAX. = 23.0°																							

V - ASSUMED DESIGN SPEED

e - RATE OF SUPERELEVATION

L - MINIMUM LENGTH OF RUNOFF OF SPIRAL CURVE

NC - NORMAL CROWN SECTION

RC - REMOVE ADVERSE CROWN, SUPERELEVATE AT NORMAL CROWN SLOPE

SPIRALS DESIRABLE BUT NOT AS ESSENTIAL ABOVE HEAVY LINE

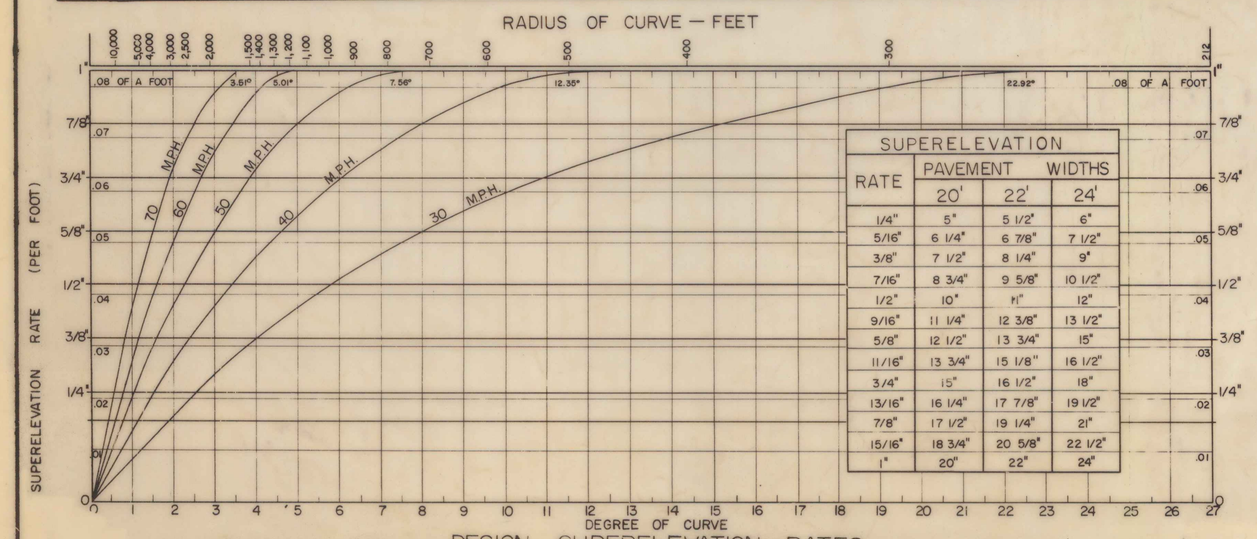
LENGTHS ROUNDED IN MULTIPLES OF 25 OR 50 FEET PERMIT SIMPLER CALCULATIONS

LENGTH OF RUNOFF FOR A 4 LANE HIGHWAY IS BASED ON A ROADWAY WITH 16 FEET OR LESS MEDIAN

RATES ARE FIGURED TO THE NEAREST SIXTEENTH INCH.

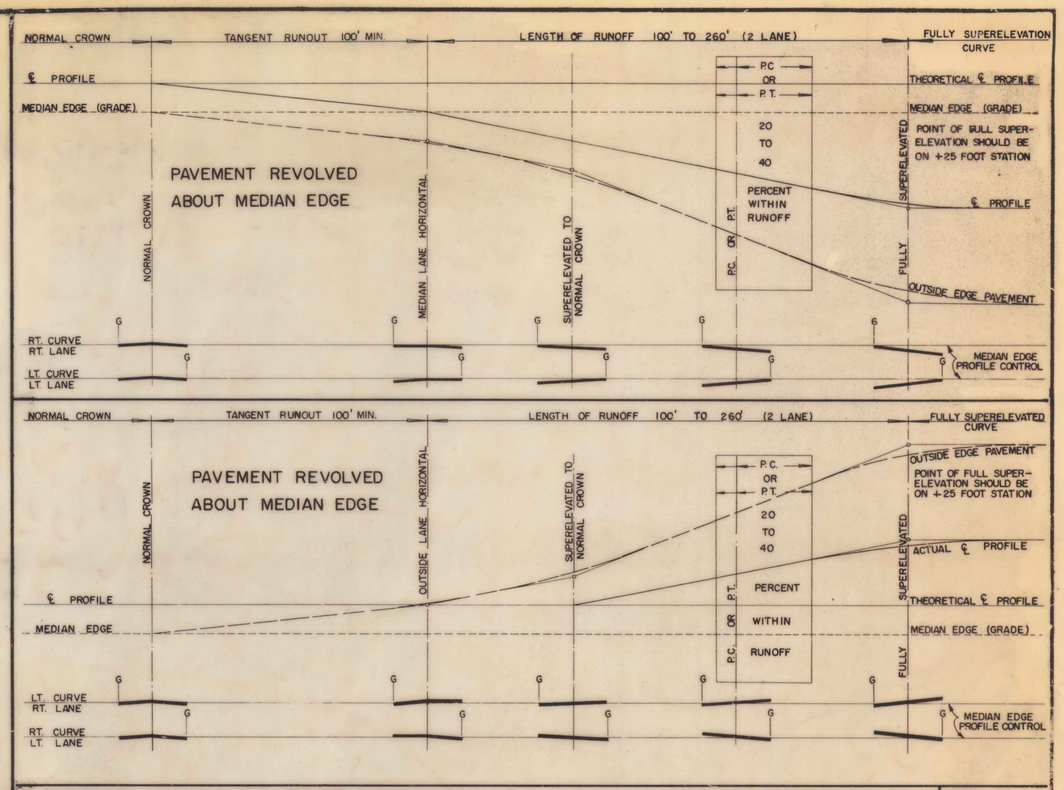
BANKING FOR CURVES NOT LISTED IN TABLES MAY BE DETERMINED FROM GRAPH.

DESIGN VALUES FOR RATE OF SUPERELEVATION AND MINIMUM LENGTH OF RUNOFF



SUPERELEVATION RATE	PAVEMENT WIDTHS 20'	22'	24'
1/4"	5"	5 1/2"	6"
5/16"	6 1/4"	6 7/8"	7 1/2"
3/8"	7 1/2"	8 1/4"	9"
7/16"	8 3/4"	9 5/8"	10 1/2"
1/2"	10"	11"	12"
9/16"	11 1/4"	12 3/8"	13 1/2"
5/8"	12 1/2"	13 3/4"	15"
11/16"	13 3/4"	15 1/8"	16 1/2"
3/4"	15"	16 1/2"	18"
13/16"	16 1/4"	17 7/8"	19 1/2"
7/8"	17 1/2"	19 1/4"	21"
15/16"	18 3/4"	20 5/8"	22 1/2"
1"	20"	22"	24"

DESIGN SUPERELEVATION RATES

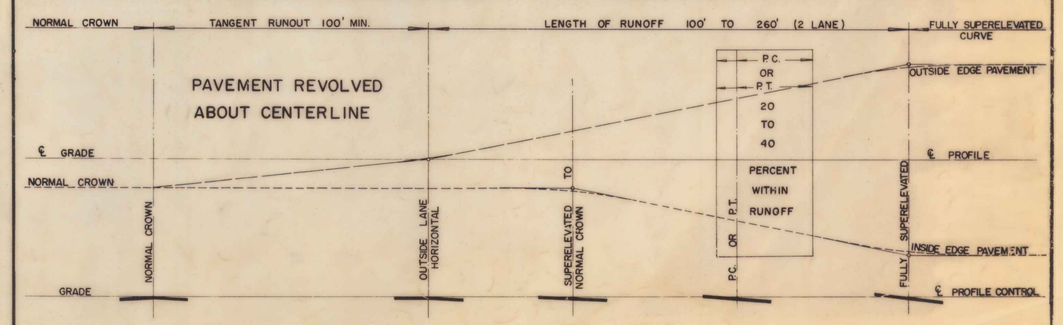


TANGENT RUNOUT: CONSISTS OF MAKING THE LANE OR LANES ON THE OUTSIDE OF THE CURVE, HORIZONTAL WITH THE CENTERLINE, USING 100' MIN. WHERE THE NORMAL CROWN IS APPROXIMATELY 1/4 INCH PER FOOT.

LENGTH OF RUNOFF: FROM 60 TO 80 PERCENT OF THE LENGTH OF RUNOFF PREFERABLY SHOULD BE LOCATED ON THE TANGENT AT CURVES.

CURVES WITH SPIRALS: THE LENGTH OF THE SPIRAL AND THE LENGTH OF RUNOFF ARE THE SAME IN DISTANCE.
BREAKS IN PROFILES FOR PAVEMENT EDGES SHOULD BE ROUNDED IN FINAL DESIGN BY INSERTION OF VERTICAL CURVES. THE MINIMUM VERTICAL CURVE LENGTH IN FEET CAN BE USED NUMERICALLY EQUAL TO THE DESIGN SPEED IN M.P.H.

G — DENOTES WHERE GRADE IS CARRIED



REVISIONS AND CORRECTIONS

MAR 1, 1965 — REVISED COMPLETE "PAVEMENT REVOLVING" SECTION

JULY 17, 1967 — REVISED BANKING AND LENGTH OF RUNOFF IN ACCORDANCE WITH 1965 BLUE BOOK

APPROVED DATE MARCH 10, 1965

A D V Bishop
CHIEF ENGINEER

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TRACED: GUS AJA

BANKING TABLES

VERMONT DEPARTMENT OF HIGHWAYS STANDARD

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