

## APPENDIX A1

ASTM D – 698 test procedure

Standard proctoror ASTM 698

	<b>Method A</b>	<b>Method B</b>	<b>Method C</b>
Material	≤ 20% Retained on No. 4 sieve	> 20% Retained on No. 4 sieve ≤ 20% retained on 3/8 sieve	> 20% Retained on 3/8 sieve < 30% retained on 3/4 sieve
For test sample, soil passing	Sieve No.4	3/8 Sieve	3/4 Sieve
Mold	4 Dia	4 Dia	6 Dia
No. Of layers	3	3	3
Blows per no. Of layers	25	25	56

## APPENDIX A2

ASTM D – 698 test procedure

Modified protector ASTM 1557

	<b>Method A</b>	<b>Method B</b>	<b>Method C</b>
Material	$\leq 20\%$ Retained on No. 4 sieve	$> 20\%$ Retained on No. 4 sieve $\leq 20\%$ retained on 3/8 sieve	$> 20\%$ Retained on 3/8 sieve $< 30\%$ retained on 3/4 sieve
For test sample, soil passing	Sieve No.4	3/8 Sieve	3/4 Sieve
Mold	4 Dia	4 Dia	6 Dia
No. Of layers	5	5	5
Blows per no. Of layers	25	25	56

## Appendix B

Table 3.6 Rail Elevation at curves with the formula for 1067 mm

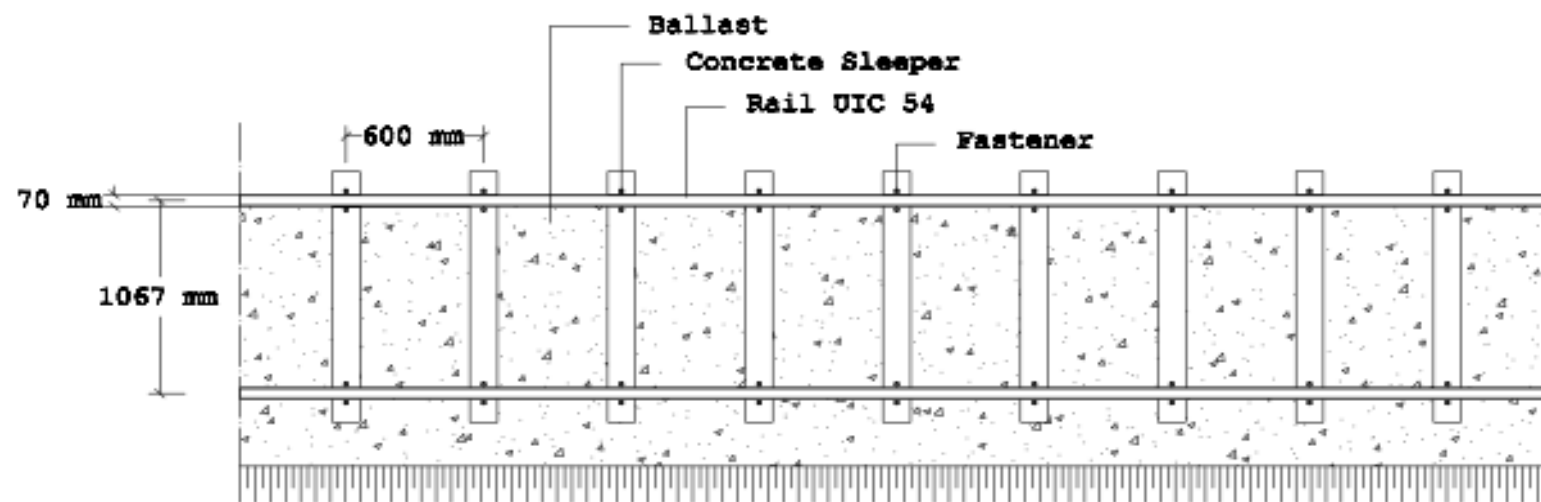
Radius (m)	Widening (mm) pas (km/hour)						
	120	110	100	90	80	70	60
100							
150							
200							110
250							90
300						100	75
350					110	85	65
400					110	75	55
450				110	85	65	50
500				100	80	60	45
550			110	85	70	55	40
600			100	80	65	50	40
650			95	70	60	50	35
700		105	85	65	55	45	35
750		100	80	60	55	40	30
800	110	90	75	65	50	40	30
850	105	85	70	60	45	35	30
900	100	80	70	55	45	35	25
950	95	80	65	55	45	35	25
1000	90	75	60	50	40	30	25
1100	80	70	55	45	35	30	20
1200	75	60	55	45	30	25	20
1300	70	60	50	40	30	25	20
1400	65	55	45	35	30	25	20
1500	60	50	40	35	25	20	15
1600	55	45	40	35	25	20	15
1700	55	45	35	30	25	20	15
1800	50	40	35	30	25	20	15
1900	50	40	35	30	25	20	15
2000	45	40	30	25	20	15	15
2500	35	30	25	20	20	15	10
3000	30	25	20	20	15	10	10
3500	25	25	20	15	10	10	10
4000	25	20	15	15	10	10	10

## APPENDIX C

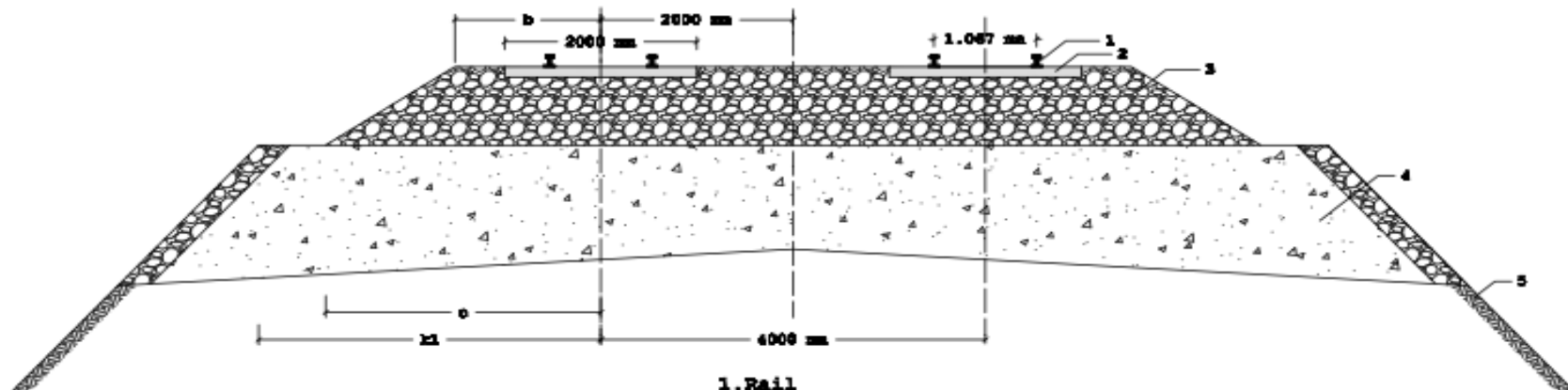
Table 4.6 Results of vertical alignment calculation

No	Start	Initial elevation (‰)	Finish	End elevation (‰)	Horizontal slope (‰)	$\Delta$ Elevation (‰)	‰	Slope differences (‰)	Xm (m)	Ym (m)
1	69640	45	71840	45	2200	0	0	2,64	10,57	0,007
2	71840	45	74640	37,6	2800	-7,4	-2,64	-2,64	-10,57	0,007
3	74640	37,6	76440	37,6	1800	0	0	-4,284	-17,14	0,018
4	76440	37,6	77934	44	1494	6,4	4,284	4,284	17,14	0,018
5	77934	44	80040	44	2106	0	0	-4,58	-18,31	0,021
6	80040	44	82640	55,9	2600	11,9	4,58	4,58	18,31	0,021
7	82640	55,9	84040	55,9	1400	0	0	7,18	28,73	0,052
8	84040	55,9	85140	48	1100	-7,9	-7,18	-7,18	-28,73	0,052
9	85140	48	86125	48	985	0	0	0	0	0

APPENDIX D1  
LONGITUDINAL RAILWAY TRACK  
SCALE 1 : 100

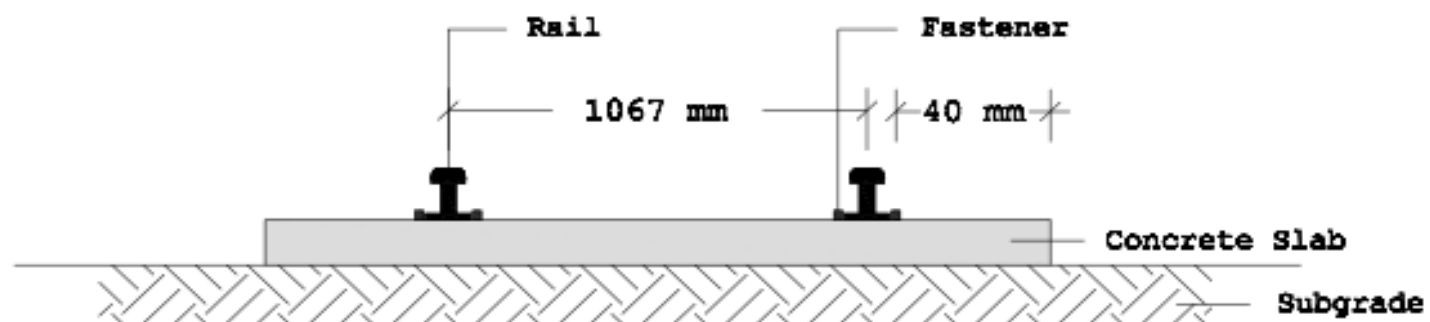


APPENDIX D2  
CROSS SECTION OF RAILWAY TRACK  
SCALE 1 : 125



1. Rail
2. Sleeper
3. Ballast
4. Subballast
5. Subgrade

APPENDIX D3  
NON-BALLASTED TRACK



APPENDIX D4  
RAILWAY SWITCH  
SCALE 1 : 150

