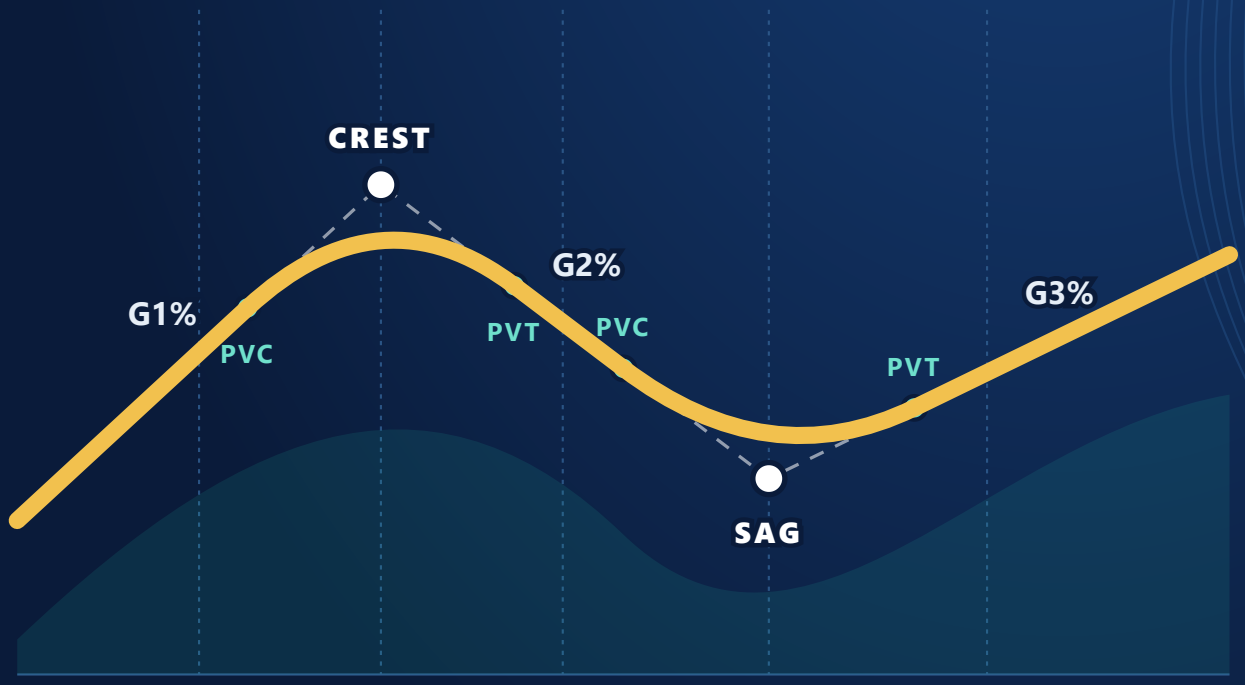
Vertical Alignment
Road Profile Drawings – Part 2

PGL with parabolic vertical curves, K values
and levels against the existing ground.



ROAD PROJECT

Client: Urban City

PREPARED & SUBMITTED BY

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ISSUE

November 2026

ROAD PROFILE – Longitudinal Section Report

ROAD PROJECT

1. Project

Project	ROAD PROJECT
Consultant	SP CONSULTANT
Drawing No.	RD-PR-01
Date	11 NOV 2026

2. Drawing

Scales	H 1:2000, V 1:200
Paper	A3 landscape
Sheets	4 (4 strips)
Station	0+017.50 to 2+800
Text height	2.5 mm
Level interval / design speed	100 m / 80 km/h
Culvert top slab / minimum cover	0.25 m / 0.7 m

3. Checks

- ✓ 10 PVIs, 8 vertical curves, 278 ground points – 0+017.50 to 2+800 cut into 4 strips on 4 A3 sheets.
- ⚠ Ground data covers 0+030 to 2+800 only; the road runs 0+017.50 to 2+800.

4. Vertical curve schedule

PVI	Station	Elevation	Grade in %	Grade out %	A %	L m	K	K min	Type	PVC ch / level	PVT ch / level	E m	High / low point
1	0+017.50	533.000		+0.009									
2	0+234.51	533.020	+0.009	+2.192	2.183	150.000	68.7	30	Sag	0+159.51 / 533.013	0+309.51 / 534.664	+0.409	
3	0+451.68	537.780	+2.192	+0.455	-1.737	150.000	86.4	26	Crest	0+376.68 / 536.136	0+526.68 / 538.121	-0.326	
4	0+658.31	538.720	+0.455	+0.326	-0.129	150.000	1165.4	26	Crest	0+583.31 / 538.379	0+733.31 / 538.965	-0.024	
5	1+105.87	540.180	+0.326	+0.162	-0.164	150.000	915.3	26	Crest	1+030.87 / 539.935	1+180.87 / 540.302	-0.031	
6	1+598.68	540.980	+0.162	+0.519	0.356	150.000	421.0	30	Sag	1+523.68 / 540.858	1+673.68 / 541.369	+0.067	
7	1+976.58	542.940	+0.519	-0.044	-0.563	150.000	266.4	26	Crest	1+901.58 / 542.551	2+051.58 / 542.907	-0.106	2+039.77 / 542.909
8	2+292.35	542.800	-0.044	+0.900	0.944	150.000	158.8	30	Sag	2+217.35 / 542.833	2+367.35 / 543.475	+0.177	2+224.39 / 542.832
9	2+644.55	545.970	+0.900	-0.132	-1.032	307.301	297.8	26	Crest	2+490.90 / 544.587	2+798.20 / 545.767	-0.396	2+758.93 / 545.793
10	2+800	545.765	-0.132										

K min: AASHTO stopping sight distance at 80 km/h. E: middle ordinate (+ sag, − crest).

5. Levels every 100 m

Station	PGL	Existing ground	Cut (−) / fill (+)
0+017.50	533.000		
0+100	533.008	533.000	+0.008
0+200	533.136	534.000	-0.864
0+300	534.462	534.010	+0.452
0+400	536.616	534.600	+2.016
0+500	537.959	535.000	+2.959

Sample report: illustrative data, not for design use

Station	PGL	Existing ground	Cut (−) / fill (+)
0+600	538.454	535.420	+3.034
0+700	538.851	536.010	+2.841
0+800	539.182	536.550	+2.632
0+900	539.508	537.000	+2.508
1+000	539.835	537.010	+2.825
1+100	540.135	537.090	+3.045
1+200	540.333	537.390	+2.943
1+300	540.495	537.880	+2.615
1+400	540.657	538.170	+2.487
1+500	540.820	538.000	+2.820
1+600	541.051	538.000	+3.051
1+700	541.506	538.290	+3.216
1+800	542.024	538.990	+3.034
1+900	542.543	541.000	+1.543
2+000	542.880	540.340	+2.540
2+100	542.885	540.480	+2.405
2+200	542.841	540.260	+2.581
2+300	543.012	540.010	+3.002
2+400	543.769	540.000	+3.769
2+500	544.668	541.990	+2.678
2+600	545.369	542.000	+3.369
2+700	545.735	543.000	+2.735
2+800	545.765	542.990	+2.775

6. Horizontal curves

Curve	Start PC	End PT	Length m	Radius m	Direction
HC1	1+400	3+598	2198.000	2000	Left

7. Superelevation

None entered – normal crossfall -2% on both edges.

8. Road furniture

Item	Side	From	To	Length m	Note
WB-GR	Left	1+000	1+500	500.0	
WB-GR	Right	1+000	1+600	600.0	
RCC RW	Left	1+300	1+500	200.0	
MRR	Left	1+800	2+200	400.0	
MRR	Right	1+800	2+200	400.0	

9. Culverts

No.	Station	Ground level (NSL)	Invert level	Cells	Cell width m	Cell height m	Total opening m	Top level	PGL	Cover m (PGL – top)
C1	0+260	534.000	531.300	1	2	1.5	2.00	533.050	533.757	0.707
C2	0+480	535.010	535.010	1	2	1.5	2.00	536.760	537.783	1.023
C3	0+741	536.058	536.058	1	2	1.5	2.00	537.808	538.990	1.182
C4	1+018	537.020	537.020	1	2	1.5	2.00	538.770	539.893	1.123
C5	1+250	537.400	537.400	1	2	1.5	2.00	539.150	540.414	1.264
C6	1+518	538.000	538.000	1	2	1.5	2.00	539.750	540.849	1.099
C7	1+900	541.000	539.590	1	2	2	2.00	541.840	542.543	0.703
C8	2+263	540.000	540.000	1	2	1.5	2.00	541.750	542.879	1.129

No.	Station	Ground level (NSL)	Invert level	Cells	Cell width m	Cell height m	Total opening m	Top level	PGL	Cover m (PGL – top)
C9	2+580	542.000	542.000	2	3	2	6.00	544.250	545.256	1.006
C10	2+766	543.000	543.000	1	2	1.5	2.00	544.750	545.792	1.042

Comment: every culvert has at least the minimum cover of 0.7 m from the PGL to the top of the box (invert + cell height + slab).

The 4 profile drawing sheets are in the A3 drawing set (Generate A3 Drawing Set button of the tool).