

VERTICAL PARABOLIC CURVE EQUAL TANGENT

EXAMPLE

GIVEN: PVI STATION 20+00.00
 ELEV. = 750.00
 V.C. = 1000m (L = 10 STATIONS)
 G 1 = +2.00 %
 G 2 = -4.00 %

FIND: ELEVATIONS AT THE PVC , PVT AND 100m INTERVALS
 ON THE CURVE

- SOLUTION:
1. DRAW A SKETCH TO DETERMINE IF THE CURVE IS CONCAVE UPWARDS OR DOWNWARDS. THE SKETCH ON THE PREVIOUS SHEET FITS THIS CONDITION.
 2. COMPUTE PVC ELEV., M & A
 $PVC\ ELEV. = 750.00 - (2.0 \times 5.0) = 740.00$
 $M = (2.0 - (-)4.0) \times 10/8 = 7.50$
 $A = 4M\ OR\ 4(7.50) = 30.00$
 3. SET UP THE TABLE SHOWN BELOW AND WORK X DISTANCES FROM THE PVC

	STATION	X	X ²	G 1 X +	-.3 X ² VERT. CORR. (Y)	ELEV. ON V.C.
PVC	15+00	—	—	—	—	740.00
	16+00	1	1	+2.00	-0.30	741.70
	17+00	2	1	+4.00	-1.20	742.80
	18+00	3	1	+6.00	-2.70	743.30
	19+00	4	1	+8.00	-4.80	743.20
PVI	20+00	5	1	+10.00	-7.50	742.50
	21+00	6	1	+12.00	-10.80	741.20
	22+00	7	1	+14.00	-14.70	739.30
	23+00	8	1	+16.00	-19.20	736.80
	24+00	9	1	+18.00	-24.30	733.70
PVT	25+00	10	1	+20.00	-30.00	730.00

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FIGURE 1 - 10