Level Transfer

TBM3 to TBM5 [Forward]

Stations Chainage	BS			Mean BS	S_1	FS			Mean FS	S_2	Rise	Fall	Stadia Interval	Horizontal Distance
	Top	Mid	Bottom			Top	Mid	Bottom						
TBM3	0.790	0.720	0.650	0.720	0.140								0.140	14.0
TP1	1.836	1.724	1.618	1.726	0.218	1.265	1.194	1.123	1.194	0.142		0.474	0.360	36.0
TP2	1.708	1.636	1.565	1.636	0.143	1.288	1.182	1.078	1.183	0.210	0.543		0.353	35.3
TP3	1.664	1.585	1.506	1.585	0.158	0.939	0.866	0.795	0.867	0.144	0.770		0.302	30.2
TP4	1.698	1.599	1.499	1.599	0.199	1.110	1.031	0.952	1.031	0.158	0.554		0.357	35.7
TP5	1.080	0.965	0.850	0.965	0.230	1.621	1.524	1.426	1.524	0.195	0.075		0.425	42.5
TP6	1.223	1.130	1.034	1.129	0.189	1.510	1.394	1.277	1.394	0.233		0.429	0.422	42.2
TP7	1.250	1.147	1.041	1.146	0.209	1.531	1.441	1.350	1.441	0.181		0.312	0.390	39.0
TP8	1.428	1.351	1.275	1.351	0.153	1.751	1.646	1.542	1.646	0.209		0.500	0.362	36.2
TP9	1.341	1.270	1.199	1.270	0.142	1.566	1.490	1.413	1.490	0.153		0.138	0.295	29.5
TP10	1.455	1.383	1.310	1.383	0.145	1.509	1.435	1.362	1.435	0.147		0.165	0.292	29.2
TP11	1.462	1.396	1.330	1.396	0.132	1.294	1.225	1.155	1.225	0.139	0.158		0.271	27.1
TP12	1.405	1.337	1.269	1.337	0.136	1.369	1.304	1.239	1.304	0.130	0.092		0.266	26.6
TP13	1.459	1.386	1.315	1.387	0.144	1.476	1.404	1.335	1.405	0.141		0.068	0.285	28.5
TP14	1.638	1.569	1.499	1.569	0.139	1.234	1.165	1.098	1.166	0.136	0.221		0.275	27.5
TP15	1.670	1.600	1.530	1.600	0.140	1.060	0.988	0.916	0.988	0.144	0.581		0.284	28.4
TP16	1.610	1.555	1.503	1.556	0.107	1.250	1.180	1.110	1.180	0.140	0.420		0.247	24.7
TBM5						0.865	0.807	0.752	0.808	0.113	0.748		0.113	11.3
Σ				23.354					21.279		4.162	2.086	5.439	543.9

Arithmetic Check:

$\sum BS - \sum FS = 2.075$
$\sum Rise - \sum Fall = 2.075$

Level Transfer

TBM5 to TBM3 [Backward]

| Stations | BS | | | Mean | S | FS | | | Mean | S | Rise | Fall | Stadia | Horizontal |
Chainage	Top	Mid	Bottom	BS		Top	Mid	Bottom	FS				Interval	Distance
TBM5	0.908	0.835	0.762	0.835	0.146								0.146	14.6
TP1	1.148	1.078	1.009	1.078	0.139	1.741	1.672	1.600	1.671	0.141		0.836	0.280	28.0
TP2	1.080	1.014	0.948	1.014	0.132	1.663	1.598	1.532	1.598	0.131		0.519	0.263	26.3
TP3	1.275	1.202	1.131	1.203	0.144	1.529	1.460	1.390	1.460	0.139		0.446	0.283	28.3
TP4	1.412	1.340	1.268	1.340	0.144	1.440	1.365	1.290	1.365	0.150		0.162	0.294	29.4
TP5	1.334	1.262	1.190	1.262	0.144	1.350	1.280	1.209	1.280	0.141	0.060		0.285	28.5
TP6	1.350	1.291	1.234	1.292	0.116	1.461	1.390	1.318	1.390	0.143		0.128	0.259	25.9
TP7[M17]	1.784	1.704	1.632	1.707	0.152	1.312	1.250	1.188	1.250	0.124	0.042		0.276	27.6
TP8	1.753	1.688	1.623	1.688	0.130	1.620	1.547	1.475	1.547	0.145	0.159		0.275	27.5
TP9	1.609	1.543	1.472	1.541	0.137	1.506	1.442	1.372	1.440	0.134	0.248		0.271	27.1
TP10	1.567	1.503	1.438	1.503	0.129	1.148	1.080	1.012	1.080	0.136	0.461		0.265	26.5
TP11	1.532	1.468	1.403	1.468	0.129	1.440	1.377	1.314	1.377	0.126	0.126		0.255	25.5
TP12	1.602	1.534	1.472	1.536	0.130	1.326	1.264	1.202	1.264	0.124	0.204		0.254	25.4
TP13	1.566	1.503	1.441	1.503	0.125	1.321	1.259	1.196	1.259	0.125	0.277		0.250	25.0
TP14	1.506	1.442	1.379	1.442	0.127	1.288	1.224	1.160	1.224	0.128	0.279		0.255	25.5
TP15	1.200	1.127	1.055	1.127	0.145	1.370	1.307	1.245	1.307	0.125	0.135		0.270	27.0
TP16	0.794	0.731	0.668	0.731	0.126	1.614	1.543	1.471	1.543	0.143		0.415	0.269	26.9
TP17	1.065	1.002	0.940	1.002	0.125	1.840	1.780	1.720	1.780	0.120		1.049	0.245	24.5
TP18	1.368	1.308	1.248	1.308	0.120	1.598	1.536	1.474	1.536	0.124		0.534	0.244	24.4
TP19	1.287	1.223	1.158	1.223	0.129	1.647	1.587	1.527	1.587	0.120		0.279	0.249	24.9
TP20	1.410	1.345	1.280	1.345	0.130	1.643	1.580	1.515	1.579	0.128		0.357	0.258	25.8
TBM3						0.758	0.695	0.634	0.696	0.124	0.649		0.124	12.4
∑				27.148					29.232		2.641	4.725		557.0

Arithmetic Check:

∑BS − ∑FS = −2.084	
∑Rise − ∑Fall = −2.084	

Mean Height Difference = 2.080	
Discrepancy = 0.008	
Required Precision = 0.025	

∴ RL(TBM5) = RL(TBM3) + 2.080
= 1331.314 + 2.080
= 1333.394