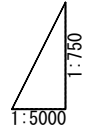
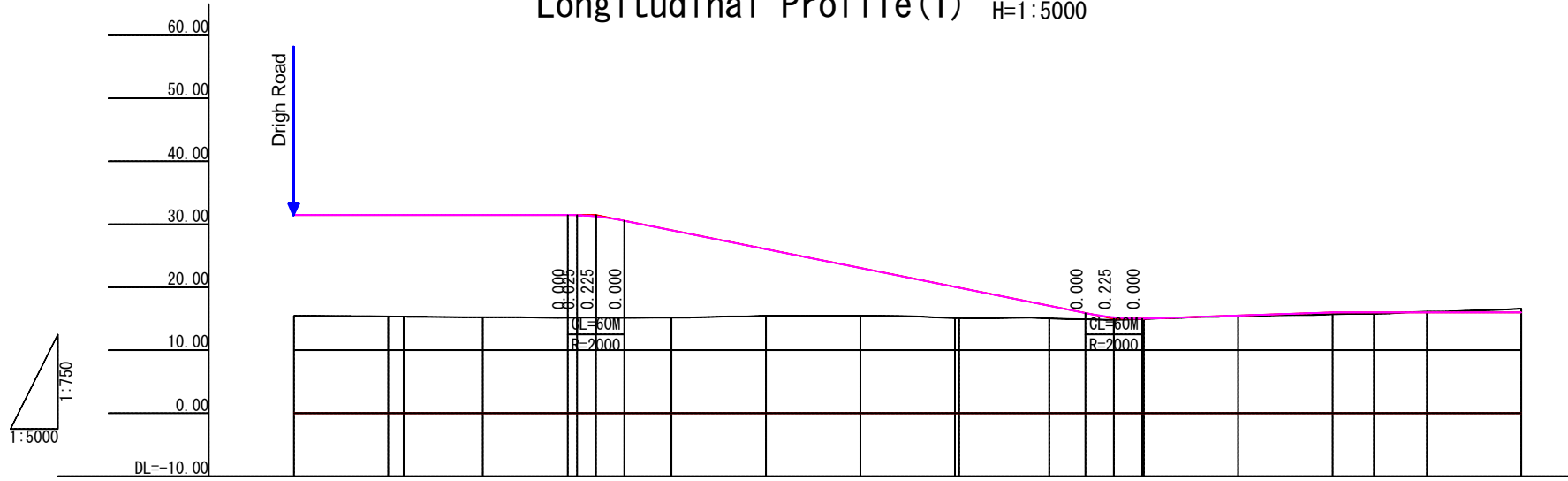


APPENDIX 4-5

Longitudinal Profiles and Gradient List

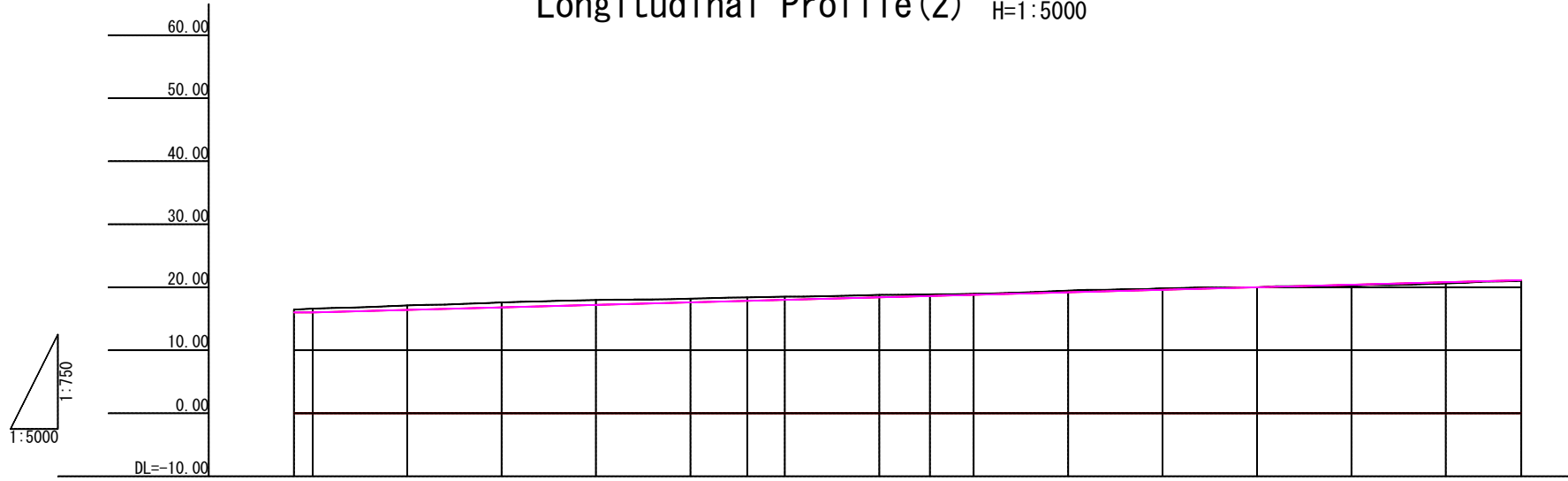
Longitudinal Profile(1) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	OK	+5.449	+1.450	31.5
100.0	1	+5.364	+1.450	LEVEL
16.4	OK116	+5.334	+1.450	
83.6	2	+5.241	+1.450	
100.0	3 320	+5.162	+1.425	31.5
100.0	4	+5.183	+1.225	
100.0	5	+5.485	+1.050	
100.0	6	+5.484	+1.050	30
100.0	7	+5.116	+1.050	
4.4	OK704	+5.108	+1.918	
95.6	8	+5.033	+1.050	
100.0	868 9	+4.955	+5.225	LEVEL
100.0	1K	+5.412	+5.000	15
100.0	1	+5.701	+5.500	5
44.0	1K144	+5.786	+6.000	16.0
56.0	2	+6.118	+6.000	LEVEL
100.0	3	+6.586	+6.000	16.0

R1002 EC OK116M37 BC OK704M41 R295 EC 1K143M97

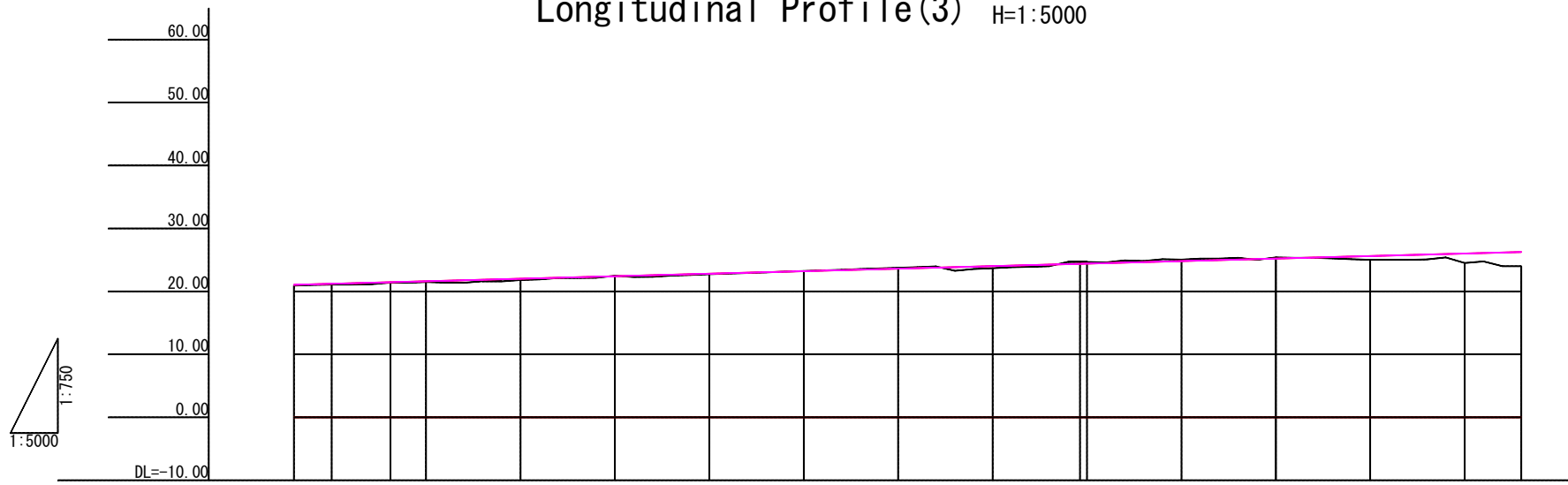
Longitudinal Profile (2) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	3	+6.441	+6.000	LEV 100
20.0		+6.586	+6.000	
100.0	4	+7.097	+6.400	
100.0	5	+7.578	+6.800	
100.0	6	+7.959	+7.200	
100.0	7	+8.199	+7.600	
60.2	1K760	+8.371	+7.841	
39.8	8	+8.488	+8.000	
100.0	9	+8.783	+8.400	
53.6	1K954	+8.862	+8.614	4
46.4	2K	+8.953	+8.800	
100.0	1	+9.471	+9.200	
100.0	2	+9.837	+9.600	
100.0	3	+9.975	+10.000	
100.0	4	+10.261	+10.400	
100.0	5	+10.613	+10.800	
80.0		+11.014	+11.120	

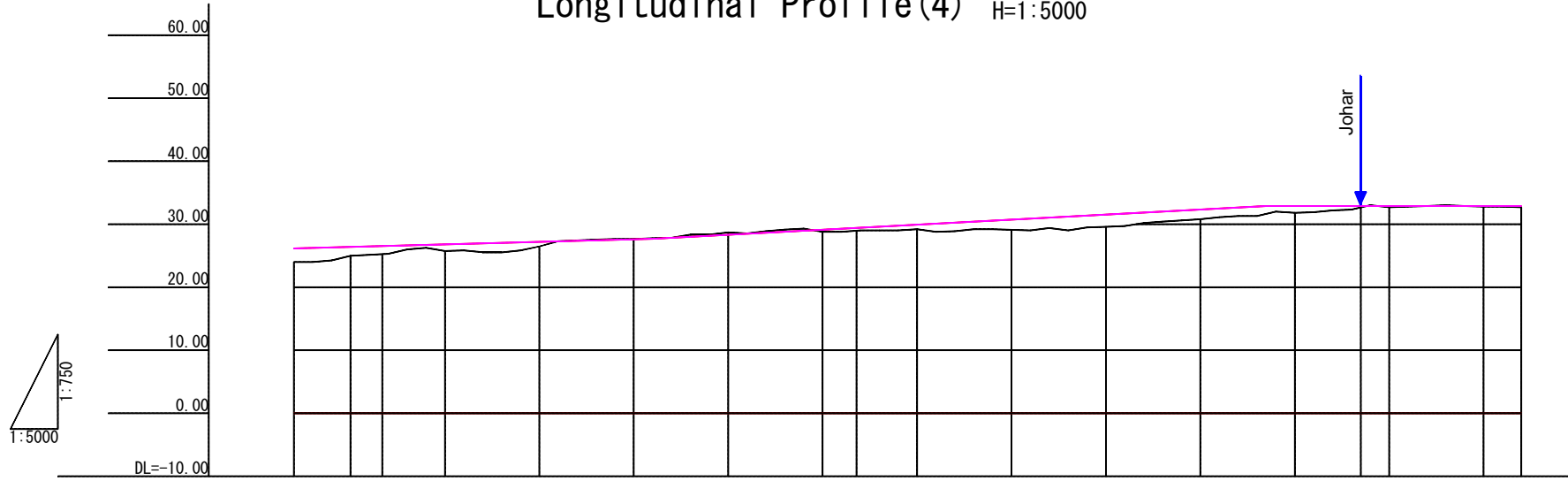
BC 1K760M2500 EC 1K953M57

Longitudinal Profile (3) V=1: 750 H=1:5000

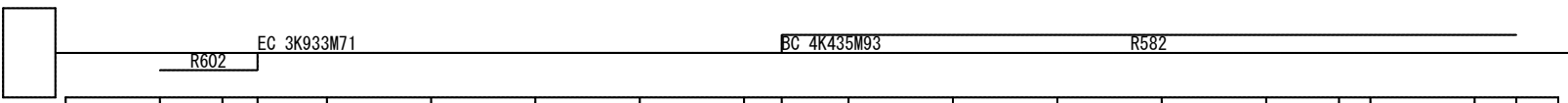


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		+1.040	+0.930	
40.0	6	+1.200	+1.060	
62.4	2K662M	+1.450	+1.357	
37.6	7	+1.600	+1.475	
100.0	8	+2.000	+1.808	
100.0	9	+2.400	+2.461	
100.0	3K	+2.800	+2.714	
100.0	1	+3.200	+3.231	
100.0	2	+3.600	+3.748	
100.0	3	+4.000	+3.667	
92.7	3K393M	+4.371	+4.666	
7.3	4	+4.400	+4.656	
100.0	5	+4.800	+5.046	
100.0	6	+5.200	+5.379	
0.0	3K600M	+5.200	+5.379	
100.0	7	+5.600	+5.002	
100.0	8	+6.000	+4.510	
60.0		+6.240	+4.002	

Longitudinal Profile (4) V=1: 750 H=1: 5000

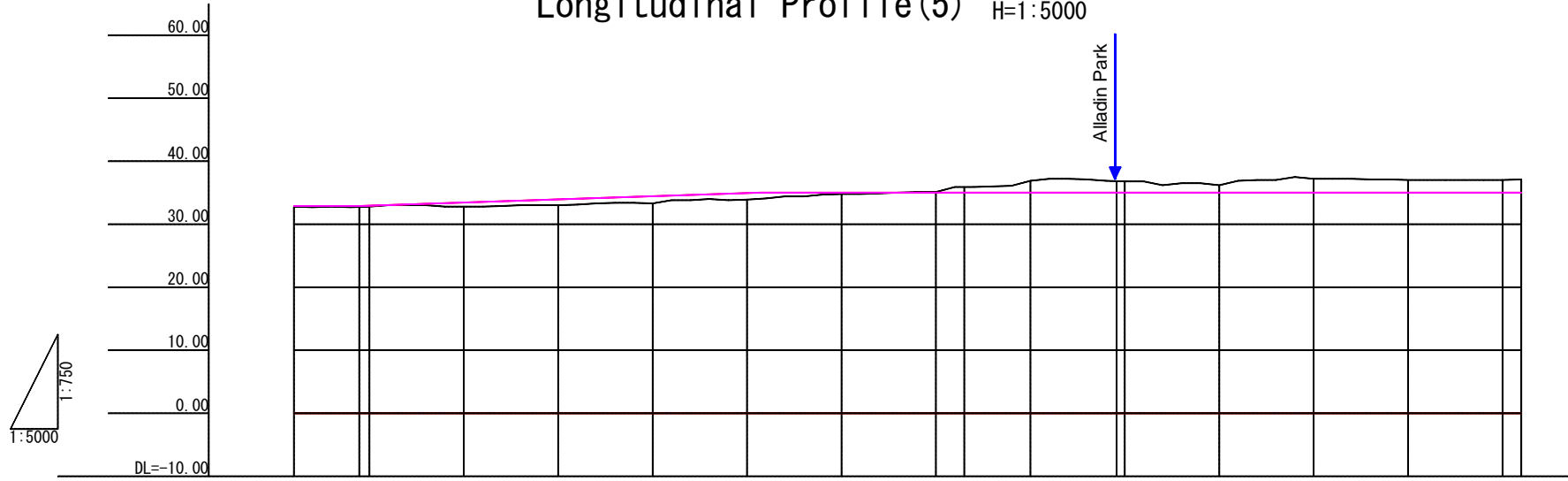


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		+4.000	+6.160	
60.0	9	+4.993	+6.400	
33.7	3K934	+5.252	+6.535	
66.3	4K	+5.742	+6.800	
100.0	1	+6.460	+7.200	
100.0	2220	+7.658	+7.600	27.7
100.0	3	+8.710	+8.320	
100.0	4	+8.800	+9.120	
35.9	4K436	+8.975	+9.407	
64.1	5	+9.200	+9.920	
100.0	6	+9.100	+9.720	
100.0	7	+9.600	+11.520	
100.0	8	+0.800	+2.320	
100.0	870	+1.800	+2.880	32.9
70.0	9	+2.650	+2.880	
30.0	5K	+2.700	+2.880	
100.0	1	+2.800	+2.880	
40.0		+2.700	+2.880	



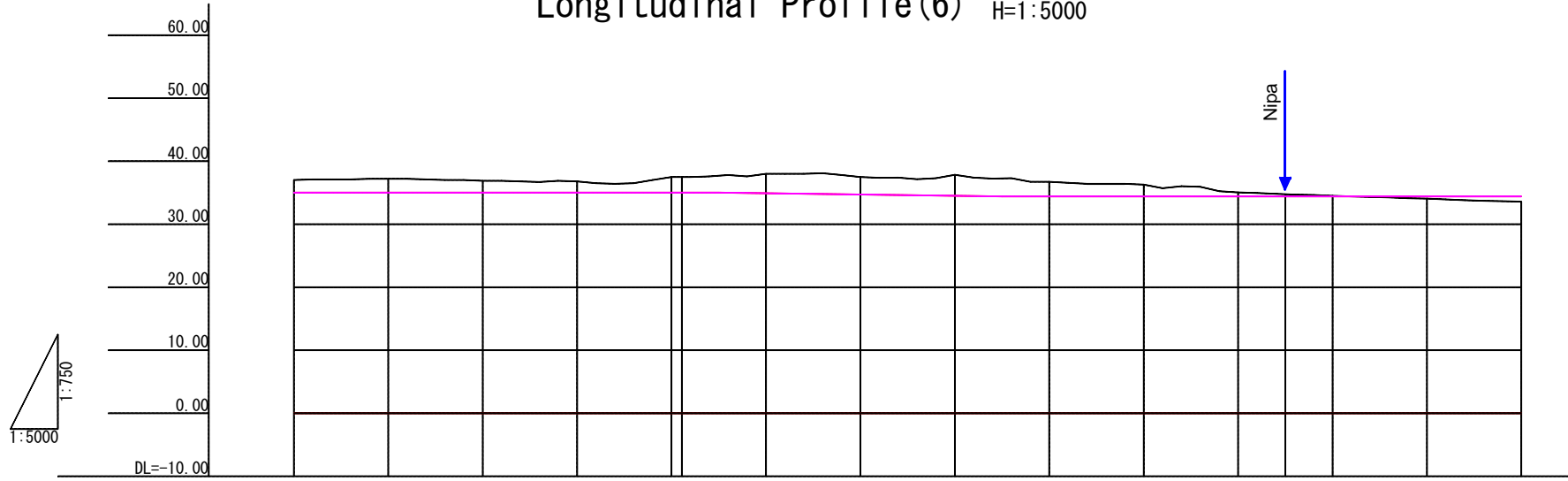
LEVEL

Longitudinal Profile (5) V=1: 750 H=1:5000



Gradient	Rail Level	Ground Level	Chainage	Section Distance	Notes
	-42.880	+2.800		100.0	R582
32.9	32.880	32.746	5K189M	69.2	EC 5K189M23
	32.888	32.800		10.8	
	-43.430	+2.800	3	100.0	
	-43.930	+3.000	4	100.0	
	-44.430	+3.300	5	100.0	
35.0	-44.930	+3.900	6614	100.0	
	-45.000	+4.800	7	100.0	
	-45.000	+5.100	8	100.0	
	-45.000	+5.900	30.0	30.0	
	-45.000	+6.900	9	70.0	
	35.000	36.844	5K991M	91.2	BC 5K991M21
	35.000	36.800	5K991M	8.8	
	-45.000	+6.200	1	100.0	
	-45.000	+7.200	2	100.0	
	-45.000	+7.000	3	100.0	
	-45.000	+7.000	4	100.0	R652
	-45.000	+7.100	20.0	20.0	

Longitudinal Profile (6) V=1: 750 H=1:5000

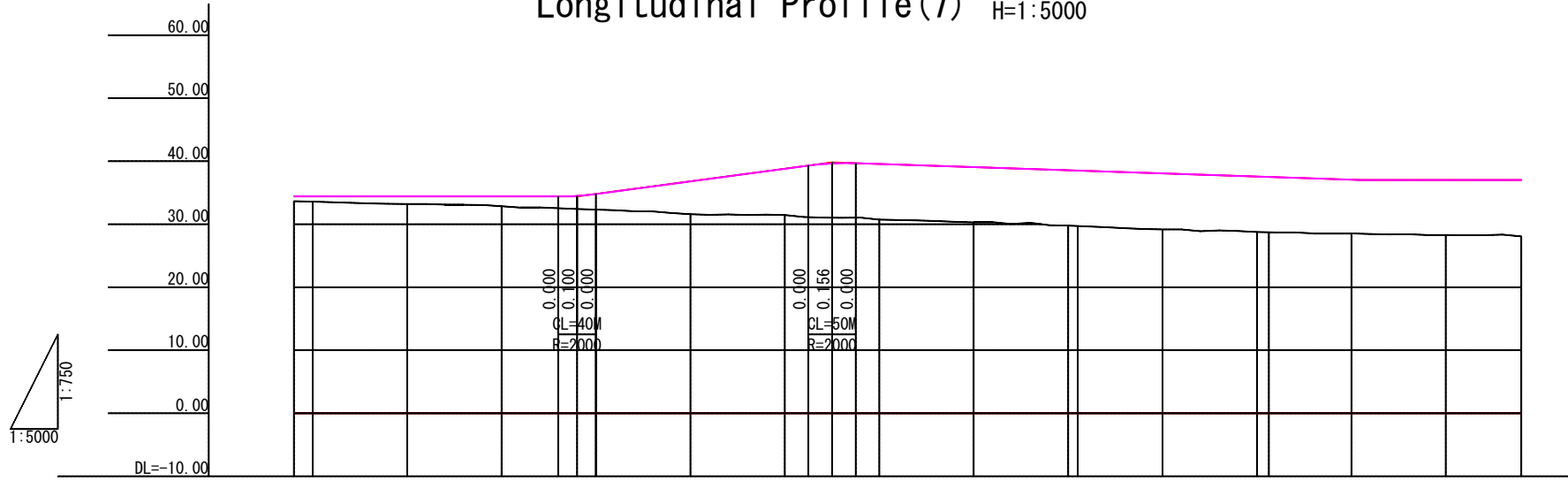


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	4	+7.000	-5.000	LEVEL
100.0	5	+7.200	-5.000	
100.0	6	+6.900	-5.000	LEVEL
100.0	7	+6.800	-5.000	
100.0	8	+7.500	-5.000	LEVEL
11.0	850	+7.500	-5.000	
89.0	9	+8.000	-4.900	LEVEL
100.0	7K	+7.500	-4.700	
100.0	1	+7.840	-4.500	LEVEL
100.0	150	+6.720	-4.400	
100.0	2	+6.270	-4.400	LEVEL
100.0	3	+5.060	-4.400	
100.0	4	+4.765	-4.400	LEVEL
50.0	5	+4.500	-4.400	
50.0	6	+4.050	-4.400	LEVEL
100.0	7	+3.580	-4.400	

35.0

34.4

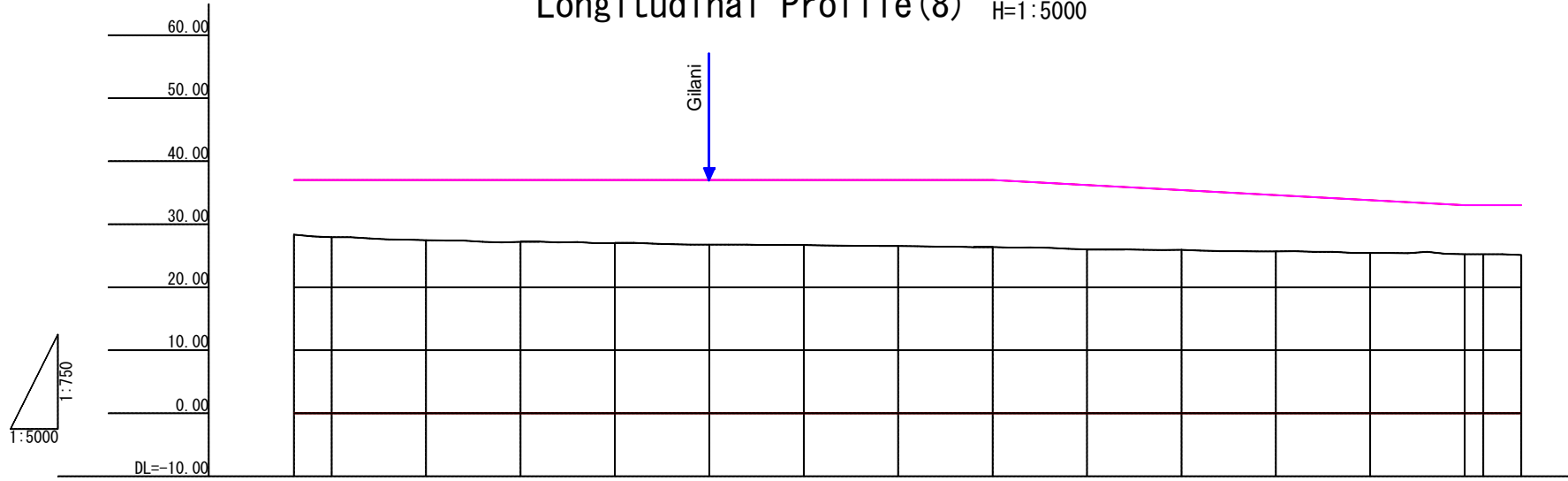
Longitudinal Profile (7) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	7	+3.640	+4.400	
20.0		+3.580	+4.400	
100.0	8	+3.210	+4.400	
100.0	9	+2.840	+4.400	
100.0	9808K	+2.320	+4.500	34.4
100.0	1	+1.590	+6.800	20
100.0	2	+1.470	+8.800	39.8
100.0	250		+9.644	
100.0	3	+0.730	+9.550	
100.0	4	+0.270	+9.050	
100.0	5	+9.770	+8.550	5
10.3	8K510M	+9.703	+8.499	
89.7	6	+9.180	+8.050	
100.0	7	+8.750	+7.550	
12.6	8K713M	+8.712	+7.487	
87.4	810	+8.540	+7.050	37.0
100.0	9	+8.280	+7.000	
80.0		+8.050	+7.000	

BC 8K510M26802 EG 8K712M58

Longitudinal Profile (8) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	9K	+8.340	-7.000	
40.0		+7.930	-7.000	
100.0	1	+7.460	-7.000	
100.0	2	+7.190	-7.000	
100.0	3	+7.000	-7.000	
100.0	4	+6.770	-7.000	
100.0	5	+6.680	-7.000	
100.0	6	+6.540	-7.000	
100.0	7	+6.380	-7.000	37.0
100.0	8	+6.010	-6.200	
100.0	9	+5.930	-5.400	
100.0	10K	+5.680	-4.600	
100.0	1	+5.440	-3.800	
100.0	2	+5.230	-3.000	33.0
19.7	10K22	+5.240	-3.000	
40.3		+5.100	-3.000	

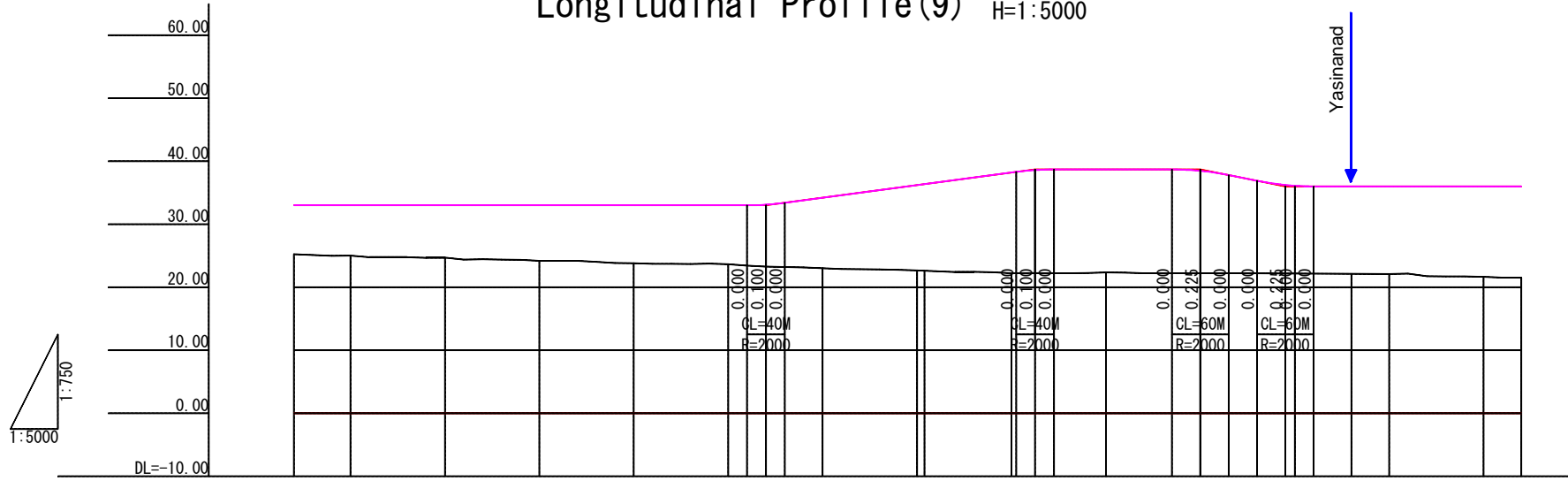
600K219M73

LEVEL

8

LEVEL

Longitudinal Profile (9) V=1: 750 H=1:5000

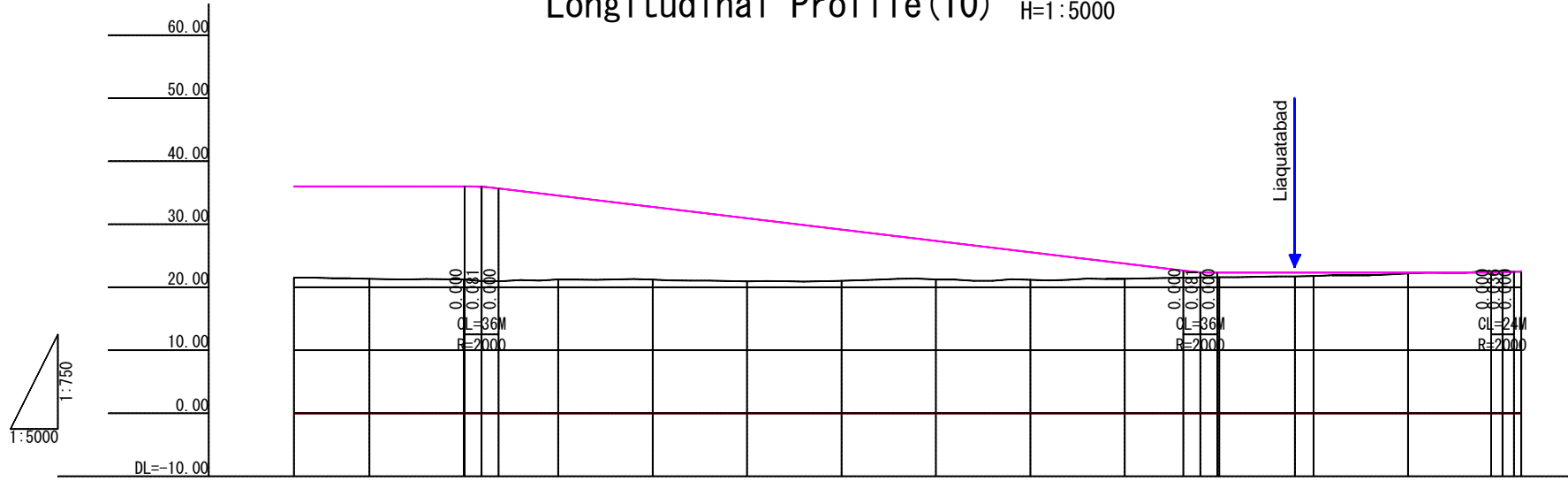


Section Distance	Chainage	Ground Level	Rail Level	Gradient
20.3		+5.230	-3.000	
60.0	3	+5.000	-3.000	
100.0	4	+4.680	-3.000	
100.0	5	+4.180	-3.000	
100.0	6	+3.810	-3.000	
100.0	7	+3.640	-3.000	
100.0	740	+3.100	-3.100	33.0
100.0	8	+3.020	-4.200	
100.0	9	+2.660	-6.200	
7.8	10K90BM	+2.609	-6.356	20
92.2	11K025	+2.230	-8.200	38.7
100.0	1	+2.330	-8.700	
100.0	2	+2.230	-8.475	38.7
100.0	290	+2.181	-6.225	36.0
60.0	4	+2.133	-6.100	
40.0	5	+2.100	-6.000	
100.0		+1.640	-6.000	
40.0		+1.520	-6.000	

R602
EC 10K907M80

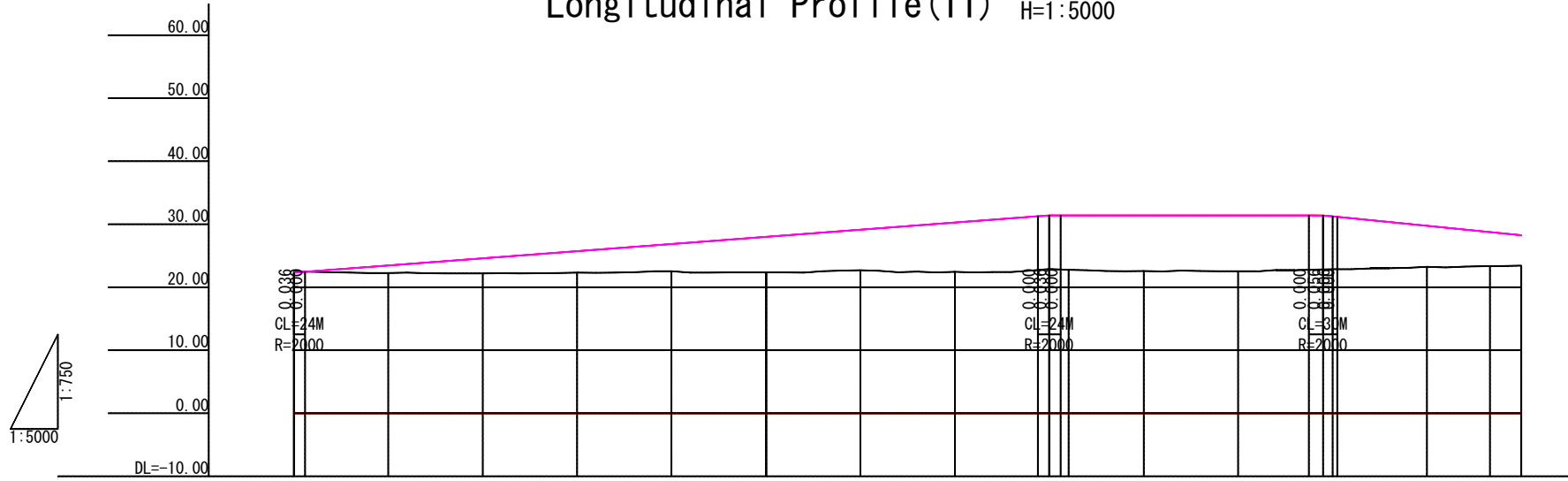
Longitudinal Profile(10)

V=1: 750
H=1: 5000



Gradient	Rail Level	Ground Level	Chainage	Section Distance
	-46.000	-41.530		100.0
LEVEL	-46.000	-41.340	6	80.0
36.0	-46.000	-41.240	7719	100.0
	-44.540	-41.220	8	100.0
	-42.740	-41.200	9	100.0
	-40.940	-40.910	12K	100.0
18	-49.140	-41.010	1	100.0
	-47.340	-41.250	2	100.0
	-45.540	-41.180	3	100.0
	-43.740	-41.330	4	100.0
22.3	-42.381	-41.590	4805	100.0
	-42.300	-41.720	6	80.0
	-42.300	-41.760	20.0	20.0
LEVEL	-42.300	-42.200	7	100.0
22.3	-42.336	-42.520	8	100.0
22.4	-42.528	-42.440	20.0	20.0

Longitudinal Profile(11) V=1: 750 H=1:5000

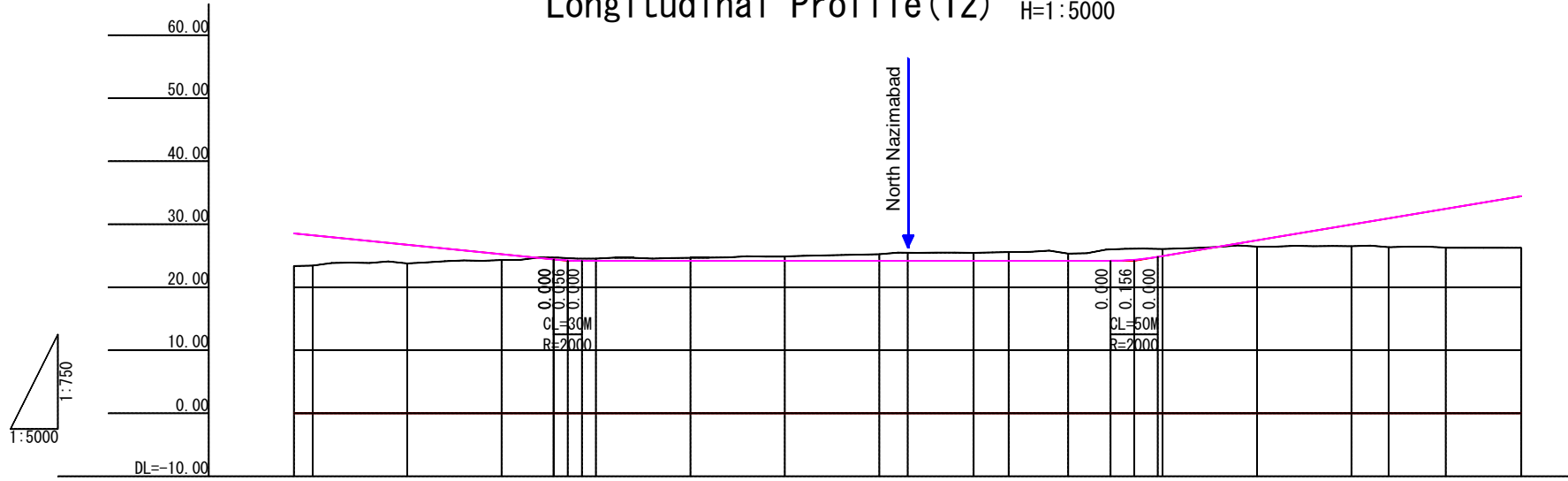


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	8	+2.520	+2.336	22.3
100.0	9	+2.260	+3.438	
100.0	13K	+2.180	+4.575	
100.0	1	+2.300	+5.713	
100.0	2	+2.530	+6.850	
100.0	3	+2.340	+7.988	
100.0	13K300M	+2.340	+7.992	11.4
99.6	4	+2.690	+9.125	
100.0	5	+2.430	+10.263	
100.0	6	+2.880	+11.364	31.4
20.5	13K62M	+2.758	+11.400	
79.5	7	+2.580	+11.400	LEVEL
100.0	8	+2.540	+11.400	
100.0	899	+2.860	+11.344	31.4
100.0	14K	+3.240	+9.750	15
66.6	14K06M	+3.350	+8.751	
33.4	1	+3.420	+8.250	

EC 13K300M43 R702 EC 13K620M55 EC 14K06M60

Longitudinal Profile(12)

V=1: 750
H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
13.4	1	+3.370	+8.550	15
20.0	2	+3.420	+8.250	
100.0	3	+3.760	+6.750	24.2
100.0	4	+4.300	+5.250	
55.3	14K35M	+4.702	+4.420	24.2
44.7	14K35M	+4.530	+4.200	
100.0	5	+4.670	+4.200	24.2
100.0	6	+4.890	+4.200	
100.0	7	+5.220	+4.200	24.2
30.0	8	+5.480	+4.200	
70.0	9	+5.470	+4.200	24.2
37.0	14K83M	+5.580	+4.200	
63.0	10	+5.320	+4.200	24.2
100.0	11	+6.070	+4.356	
100.0	12	+6.440	+4.950	25
100.0	13	+6.510	+7.450	
39.5	14K23M	+6.367	+9.950	25
60.5	15K23M	+6.270	+0.936	
80.0	16	+6.240	+2.450	

15

LEVEL

24.2

25

R2002

EC 14K355M33

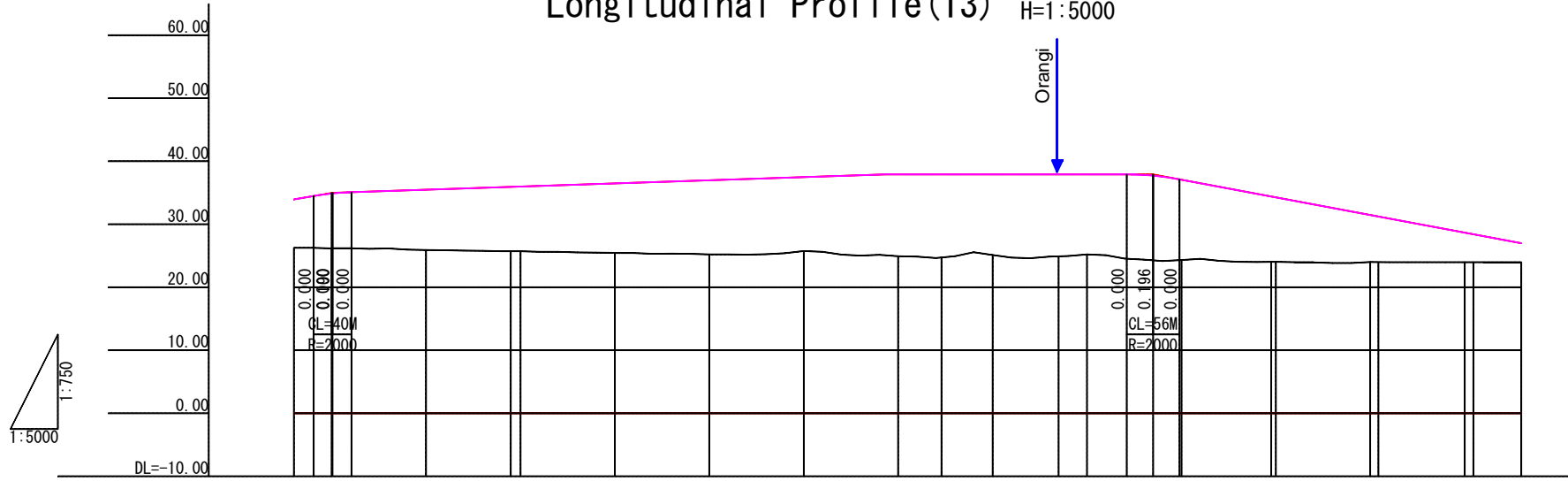
BC 14K837M04

R335

EC 15K239M46

Longitudinal Profile(13)

V=1: 750
H=1:5000



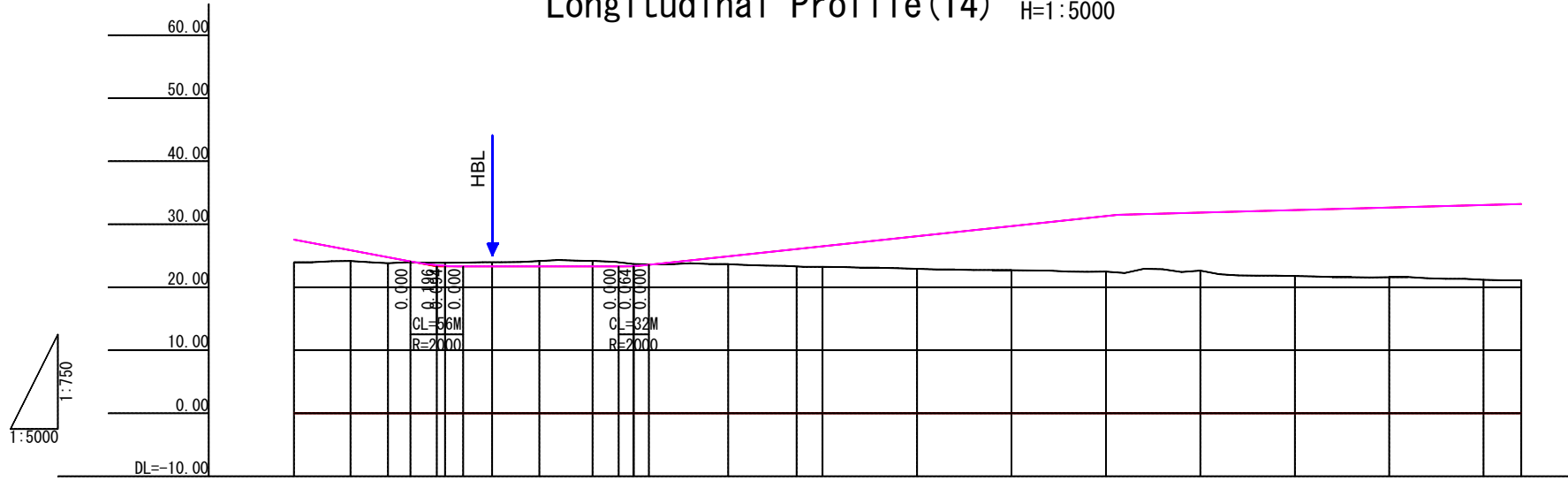
Gradient	Rail Level	Ground Level	Chainage	Section Distance	Notes
35.0	43.950	46.250	401	100.0	EC 15K589M73
	44.860	46.150		40.0	
	44.875				
	45.470	45.910	5	100.0	R802
	45.919	45.705	15K59BM	89.7	
	45.970	45.710	6	10.3	
	46.470	45.450	7	100.0	
	46.970	45.200	8	100.0	
	47.470	45.730	9	100.0	
37.9	47.900	44.920	9866K	100.0	
	47.900				
	47.900	44.724	16K04BM	45.8	EC 16K045M80
	47.900	45.110	1	54.2	
	47.900	44.900	2	70.0	
	47.900	45.200	3	30.0	
37.9	47.704		270	100.0	
	47.060	44.300	3		
	34.398	24.013	16K39BM	95.1	EC 16K39M08
	44.260	44.020	4	4.9	
	31.460	23.990	5	100.0	
	31.221	23.981	16K50BM	8.5	EC 16K508M50
	28.660	23.950	6	91.5	
	28.403	23.955	16K60BM	9.2	EC 16K609M16
	46.980	43.970		50.8	

LEVEL

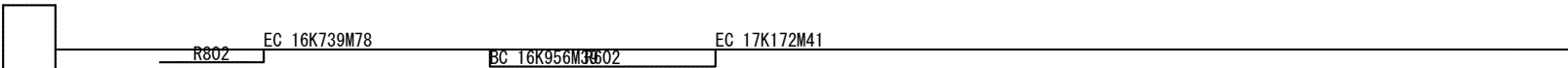
28

Longitudinal Profile(14)

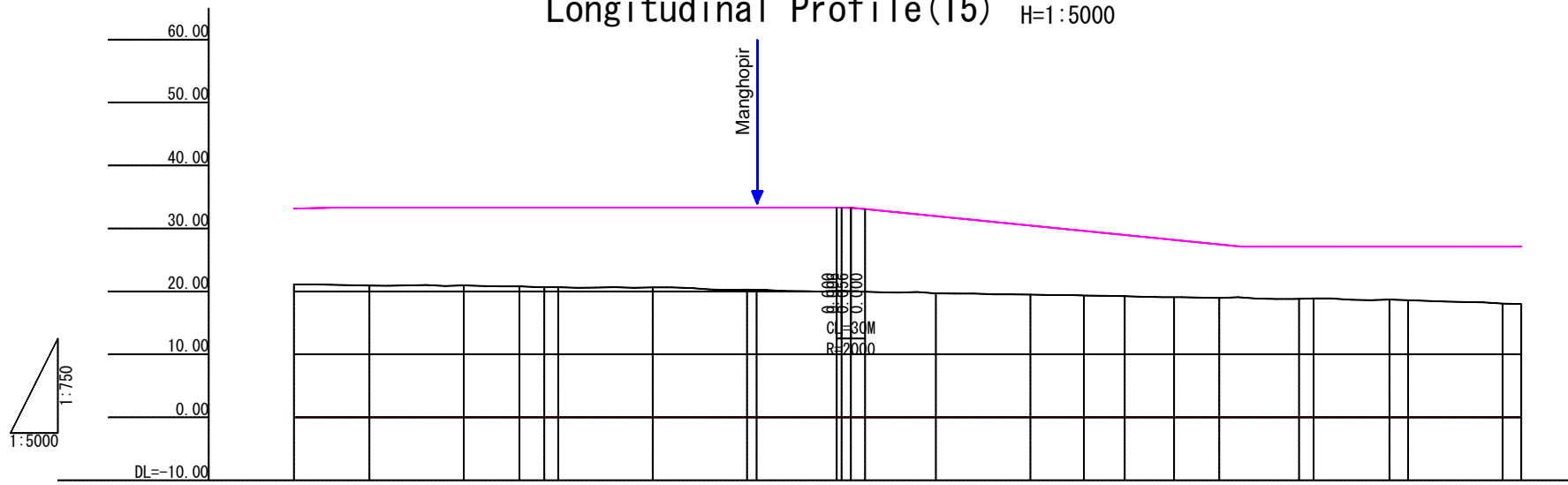
V=1: 750
H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
30.8		+3.940	-7.540	
60.0	7	+4.170	-5.860	28
39.8	16K74PM	+3.812	-4.746	23.3
60.2	798	+3.880	-3.496	
50.0		+3.970	-3.300	
50.0	9	+4.150	-3.300	LEVEL
56.4	16K95PM	+4.156	-3.300	23.3
43.6	17K	+3.680	-3.364	
100.0	1	+3.640	-4.900	
72.4	17K17PM	+3.285	-6.059	16
27.6	2	+3.230	-6.500	
100.0	3	+2.920	-8.100	
100.0	4	+2.700	-9.700	
100.0	5	+2.480	-11.300	31.5
100.0	13	+1.500	-11.500	
100.0	6	+2.620	-11.850	
100.0	7	+1.760	-22.250	4
100.0	8	+1.590	-22.650	
100.0	9	+1.170	-33.050	
40.0		+1.110	-33.210	



Longitudinal Profile(15) V=1: 750 H=1:5000



Gradient	Rail Level	Ground Level	Chairman	Section Distance
33.3	-33.130	-31.110	963 18K	100.0
	-33.300	-30.930	1	80.0
	-33.300	-30.950	18K15M	100.0
	-33.300	-30.799	18K18M	58.8
	-33.300	-30.665	2	26.5
	-33.300	-30.650	3	14.7
	-33.300	-30.640	4	100.0
	-33.300	-30.270	510	100.0
	-33.300	-30.250	6	10.0
	-33.294	-30.090	7	90.0
	-33.244	-30.090	18K75M	56.7
	-31.950	-30.690	8	43.3
	-30.450	-30.480	18K85M	52.2
	-29.599	-30.343	9 923	47.8
	-28.950	-30.220	18K98M	84.5
	-28.167	-30.078	9K	15.5
	-27.450	-30.960	19K08M	80.3
	-27.100	-30.960	1	19.7
	-27.100	-30.808	2	100.0
	-27.100	-30.870		20.0
	-27.100	-30.600		
	-27.100	-30.070		
	-27.100	-30.980		

LEVEL

15

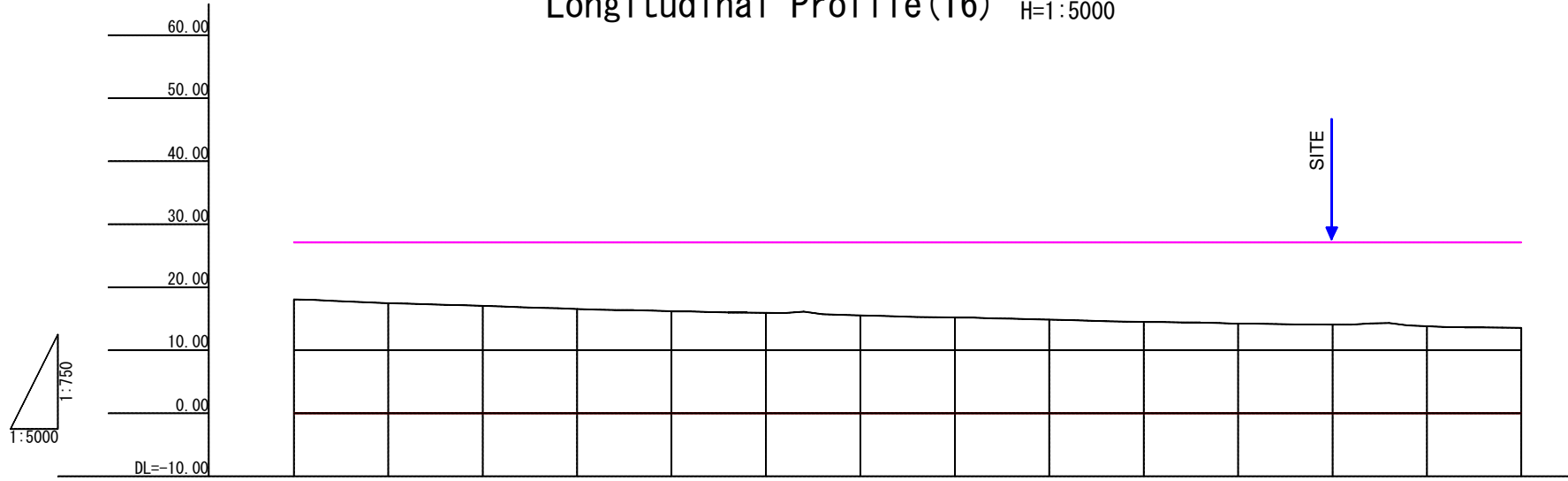
LEVEL

BC R30024M5 EC 19K080M25

BC R30024M5 EC 18K852M21

BC R30024M5 EC 19K080M25

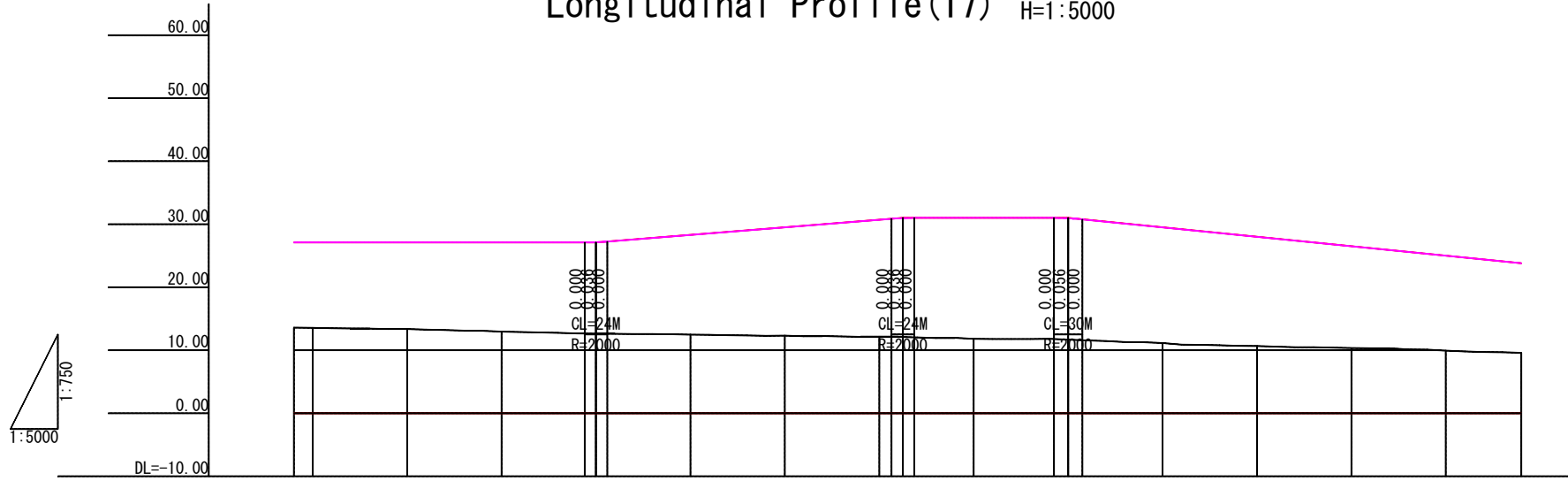
Longitudinal Profile(16) V=1: 750 H=1:5000



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Section Distance	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chainage	2	3	4	5	6	7	8	9	20K	1	2	3	4	5		
Ground Level	+8.070	+7.460	+7.030	+6.540	+6.190	+5.940	+5.530	+5.200	+4.840	+4.500	+4.215	+4.070	+3.790	+3.540		
Rail Level	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100	-47.100
Gradient																

LEVEL

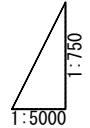
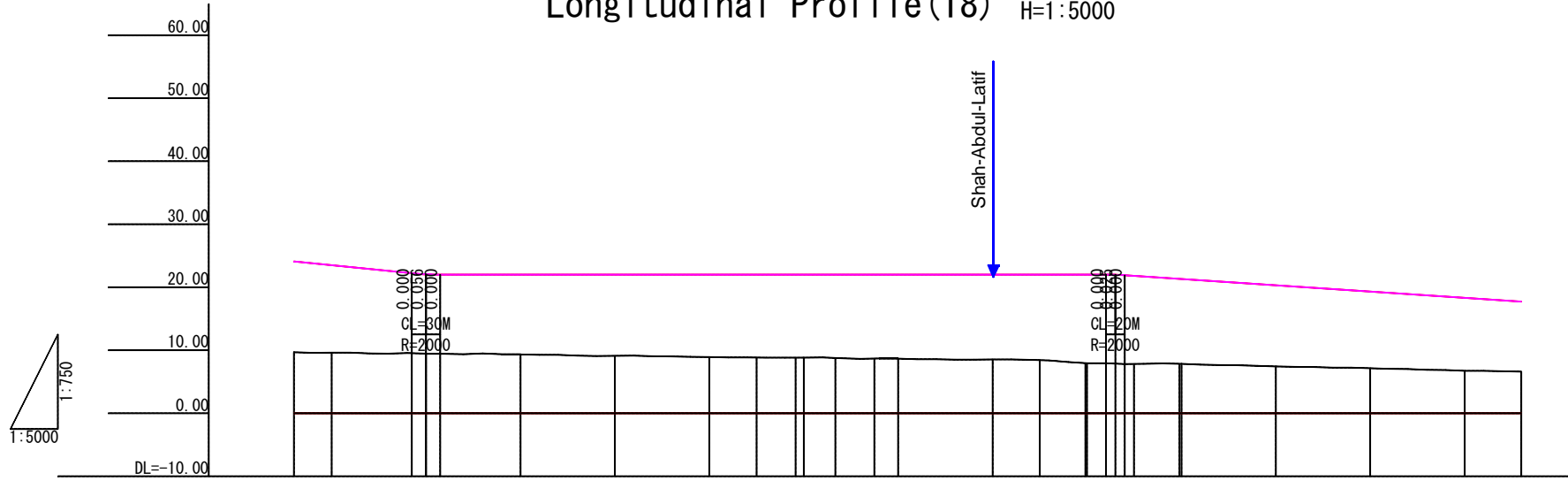
Longitudinal Profile(17) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	5	+3.590	-7.100	
20.0		+3.540	-7.100	
100.0	6	+3.350	-7.100	
100.0	7	+2.940	-7.100	
100.0	8	+2.630	-7.136	27.1
100.0	9	+2.460	-8.300	
100.0	21K	+2.310	-9.500	12
100.0	1 125	+2.140	-10.700	31.0
100.0	2	+1.810	-10.964	
100.0	3	+1.690	-11.000	
100.0	4	+1.130	-10.944	31.0
100.0	5	+0.650	-9.500	
100.0	6	+0.340	-8.000	
100.0	7	-0.940	-6.500	
80.0		-9.580	-5.000	15
			-3.800	

Longitudinal Profile(18)

V=1: 750
H=1:5000

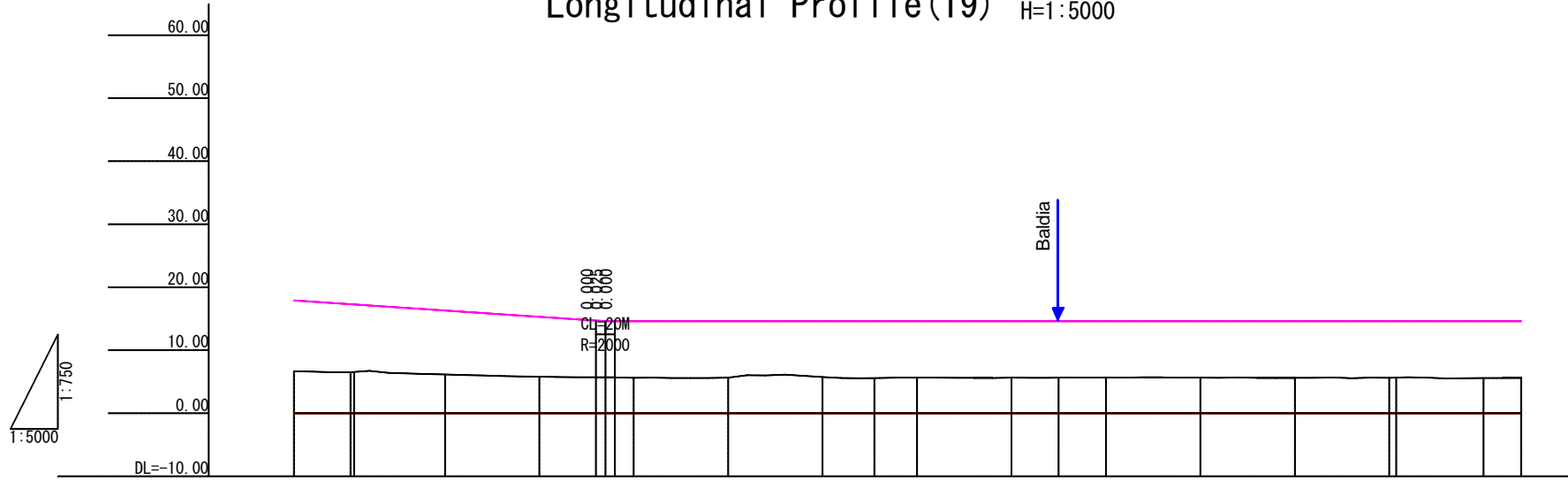


Gradient	Rail Level	Ground Level	Chainage	Section Distance	LEVEL
15	-44.100	-9.670		100.0	
	-43.500	-9.600	8	40.0	
22.0	-42.056	-9.450	9	100.0	
	-42.000	-9.330	22K	100.0	
	-42.000	-9.110	1	100.0	
	-42.000	-8.900	2	100.0	
	-42.000	-8.830	22K25BM	50.0	
	-42.000	-8.810	22K29BM	41.4	
	-42.000	-8.810	3	8.6	
	-42.000	-8.756	22K33BM	33.4	
	-42.000	-8.677	22K37BM	41.4	
	-42.000	-8.670	4	25.1	
	-42.000	-8.520	5	100.0	
	-42.000	-8.415	22K55BM	50.1	
	-22.000	7.938	22K59BM	48.2	
	-42.000	7.920	6	1.7	
22.0	-41.975		630		
	-41.802	-7.820	22K65BM	49.8	
	-41.321	-7.846	22K69BM	48.2	
	-41.300	-7.840	7	2.1	
	-40.300	-7.410	8	100.0	
	-49.300	-7.130	9	100.0	
	-48.300	-6.730	23K	100.0	
	-47.700	-6.590		60.0	

EC 22K281M49
EC 22K374M85
EC 22K550M78
EC 22K697M93

Longitudinal Profile(19)

V=1: 750
H=1: 5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		-6.650	-7.900	
60.0	1	-6.490	-7.300	
3.9	23K10MM	-6.534	-7.261	
96.1	2	-6.160	-6.300	10
100.0	3	-5.800	-5.300	
100.0	370 4	-5.620	-4.625	14.6
100.0	5	-5.650	-4.600	
100.0	6	-5.740	-4.600	
54.8	23K65MM	-5.582	-4.600	
45.2	7	-5.630	-4.600	
100.0	8	-5.650	-4.600	
50.0		-5.635	-4.600	
50.0	9	-5.680	-4.600	
100.0	24K	-5.630	-4.600	
100.0	1	-5.620	-4.600	
100.0	2	-5.620	-4.600	
7.3	24K20MM	-5.649	-4.600	
92.7	3	-5.570	-4.600	
40.0		-5.600	-4.600	

EC 23K654M79

BC 24K26M31

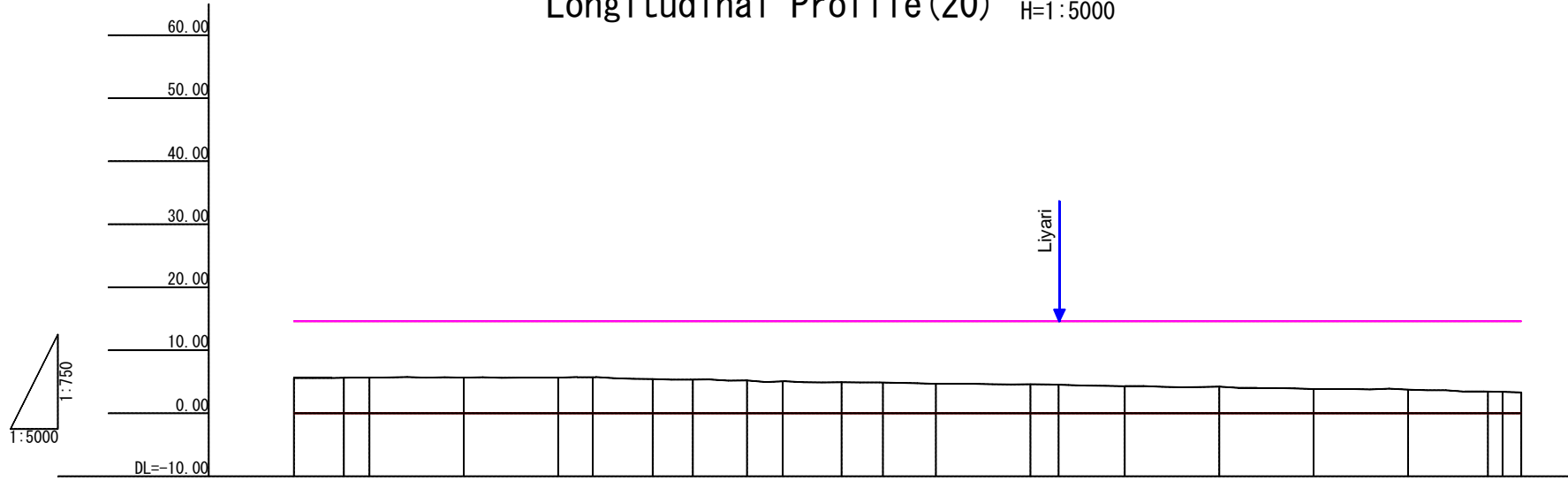
BC 23K103M85

R282

LEVEL

Longitudinal Profile(20)

V=1: 750
H=1:5000

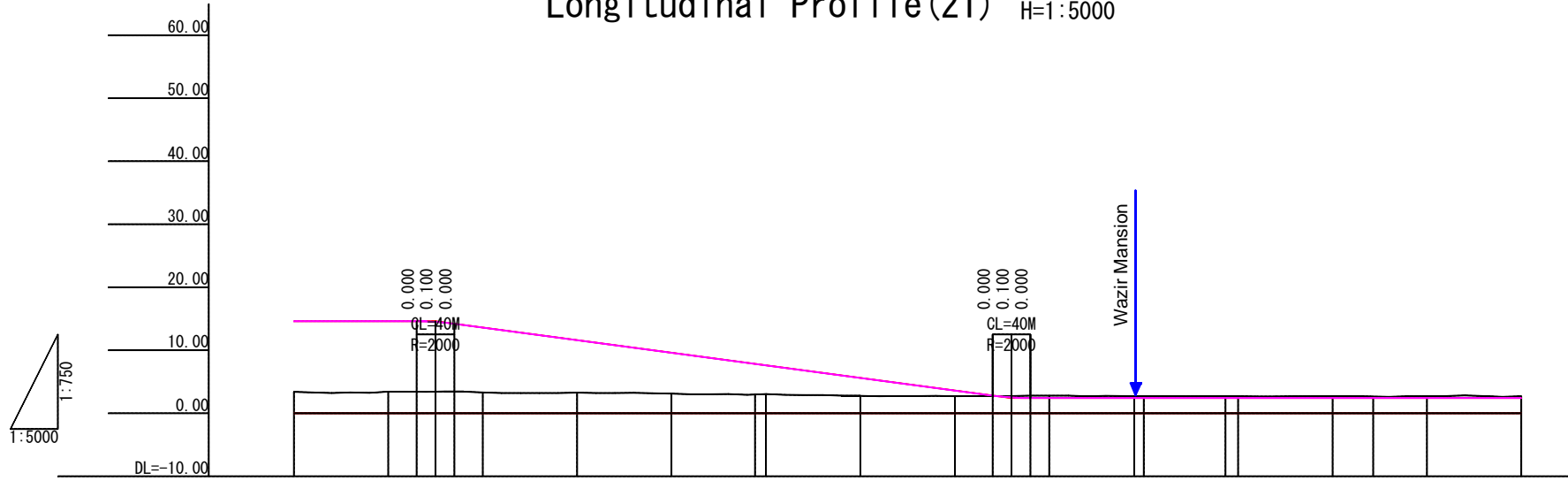


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		-5.570	-4.600	
53.1	24K37M	-5.616	-4.600	
26.9	4	-5.660	-4.600	
100.0	5	-5.640	-4.600	
100.0	6	-5.640	-4.600	
36.6	24K63M	-5.738	-4.600	
63.4	7	-5.420	-4.600	
42.5	24K74M	-5.342	-4.600	
57.5	8	-5.200	-4.600	
37.9	24K83M	-5.067	-4.600	
62.1	9	-4.920	-4.600	
43.8	24K94M	-4.875	-4.600	
56.2	25K	-4.650	-4.600	
100.0	1	-4.590	-4.600	
30.0		-4.505	-4.600	
70.0	2	-4.280	-4.600	
100.0	3	-4.210	-4.600	
100.0	4	-3.840	-4.600	
100.0	5	-3.730	-4.600	
84.5	25K58M	-3.442	-4.600	
15.5	6	-3.380	-4.600	
20.0		-3.310	-4.600	

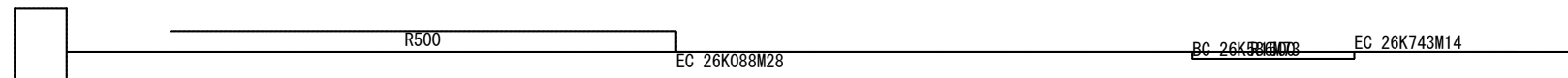
LEVEL

RT1502 EC 24K373M06 BC 24K366M62 EC 24K742M50 BC 24K837M88 EC 24K943M75 R6025K584M51

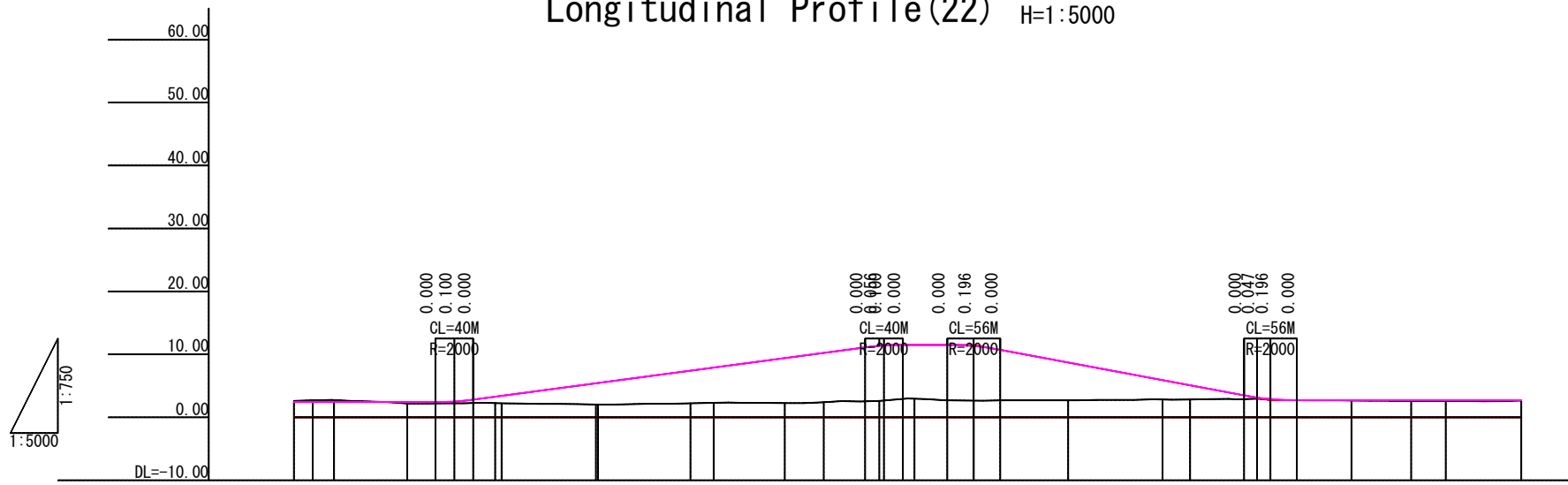
Longitudinal Profile(21) V=1: 750 H=1:5000



Section Distance	Chains	Ground Level	Rail Level	Gradient
15.5	6	-3.380	-4.600	LEVEL 14.6
100.0	7	-3.410	-4.600	
100.0	750	-3.300	-4.500	20
100.0	8	-3.250	-3.600	
100.0	9	-3.120	-1.600	2.4
100.0	26K	-3.120	-9.600	
88.3	26K08BM	-2.962	-7.834	LEVEL
11.7	1	-3.050	-7.600	
100.0	2	-2.770	-5.600	LEVEL
100.0	3	-2.700	-3.600	
100.0	360	-2.800	-2.500	LEVEL
100.0	4	-2.800	-2.400	
90.0	5	-2.715	-2.400	LEVEL
10.0	6	-2.700	-2.400	
86.7	26K58BM	-2.720	-2.400	LEVEL
13.3	7	-2.720	-2.400	
100.0	8	-2.720	-2.400	LEVEL
43.1	26K74BM	-2.642	-2.400	
56.9	8	-2.700	-2.400	LEVEL
100.0	9	-2.700	-2.400	



Longitudinal Profile(22) V=1: 750 H=1:5000

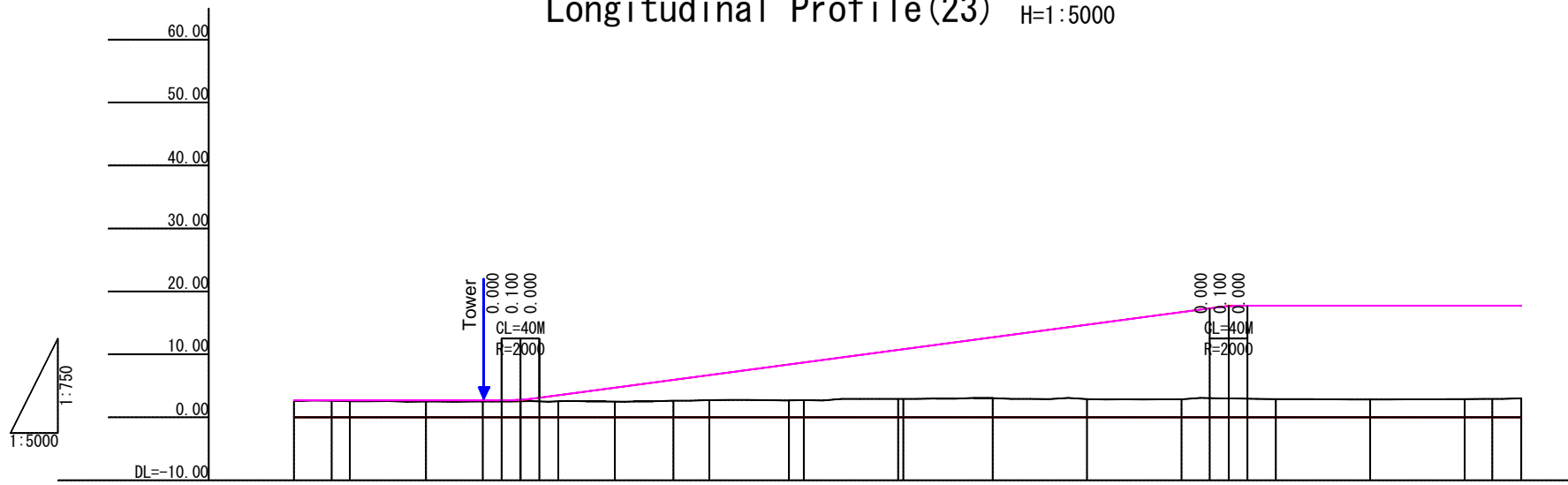


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	9	-2.610	-2.400	LEVEL
20.0	26K92BM	-2.700	-2.400	2.4
22.7	27K	-2.723	-2.400	
77.3	050	-2.180	-2.400	
93.2	27K09BM	2.254	3.263	
6.8	1	-2.230	3.400	
100.0	27K20BM	-2.040	5.400	
2.0	2	2.039	5.441	
98.0	3	-2.220	7.400	20
24.6	27K32BM	-2.286	7.891	
75.4	4	-2.250	9.400	
41.3	27K44BM	-2.381	-0.225	
58.7	505	-2.600	-1.344	11.5
37.2	27K53BM	-2.948	-1.400	LEVEL
62.8	6	-2.645	-1.500	11.5
100.0	7	-2.685	-1.304	LEVEL
100.0	8	-2.820	-2.700	28
29.2	27K82BM	-2.819	-5.083	
70.8	9914	-2.960	-3.147	2.7
100.0	28K	-2.650	-2.896	LEVEL
63.3	28K06BM	-2.603	-2.700	
36.7	1	-2.550	-2.700	
80.0		-2.660	-2.700	

EC 27K093M16 BC 27R02M03 EC 27K324M57 BC 28021M26 EC 27K537M19 PGC 28K003M34

BC 26K92R2M02 BC 27K829M1R240

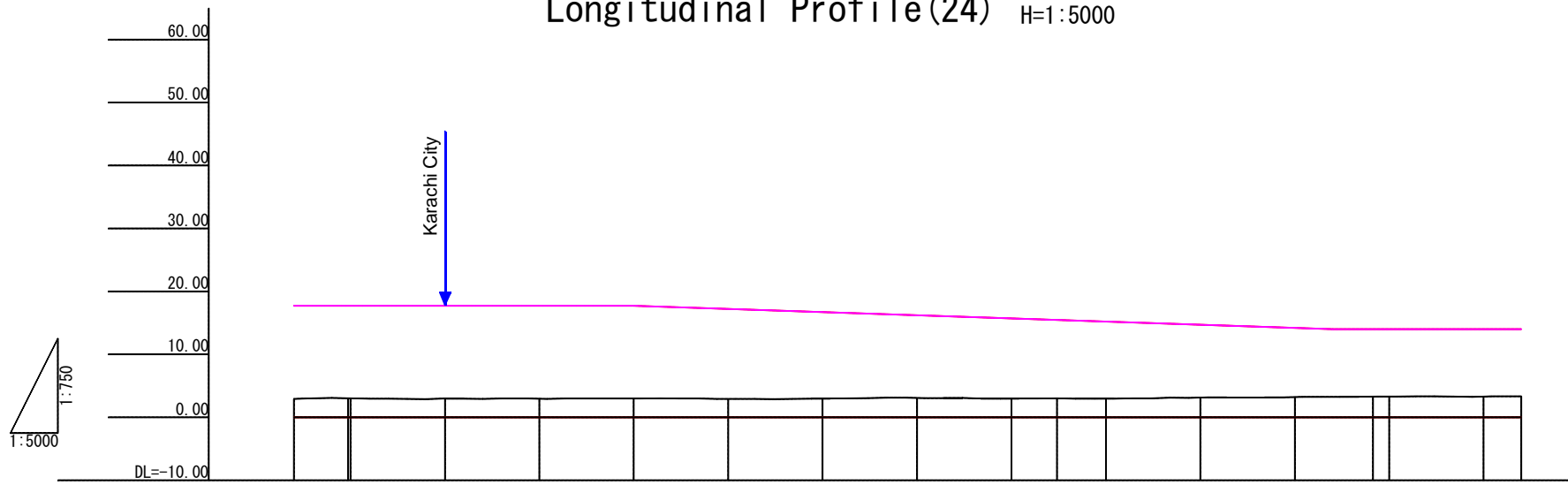
Longitudinal Profile (23) V=1: 750 H=1: 5000



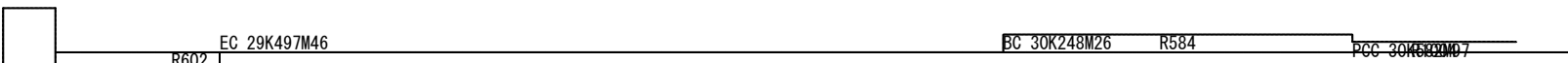
Section Distance	Chairs	Ground Level	Rail Level	Gradient
96.7		-2.550	-2.700	LEVEL
40.0	2	-2.620	-2.700	
19.3	28K21	-2.543	-2.700	
80.7	3	-2.510	-2.700	2.7
60.0	4	-2.525	-2.700	
40.0	28K44	-2.530	-2.800	20
40.0	4	-2.535	-3.501	
60.0	5	-2.485	-4.700	17.7
61.9	28K56	-2.630	-5.939	
38.1	6	-2.730	-6.700	LEVEL
84.5	28K68	-2.681	-8.389	
15.5	7	-2.720	-8.700	
100.0	8	-2.910	-10.700	
5.4	28K80	-2.910	-10.808	
94.6	9	-3.030	-12.700	
100.0	29K	-2.890	-14.700	
100.0	1	-2.860	-16.700	
100.0	150	-2.880	-17.600	
100.0	2	-2.880	-17.700	
100.0	3	-2.830	-17.700	
100.0	4	-2.890	-17.700	
29.1	29K42	-2.909	-17.700	
30.9		-3.020	-17.700	

EC 28K219M31 BC 28R800M04 EC 28K561M94 BC 28R682M47 EC 28K805M38 BC 29K429M13

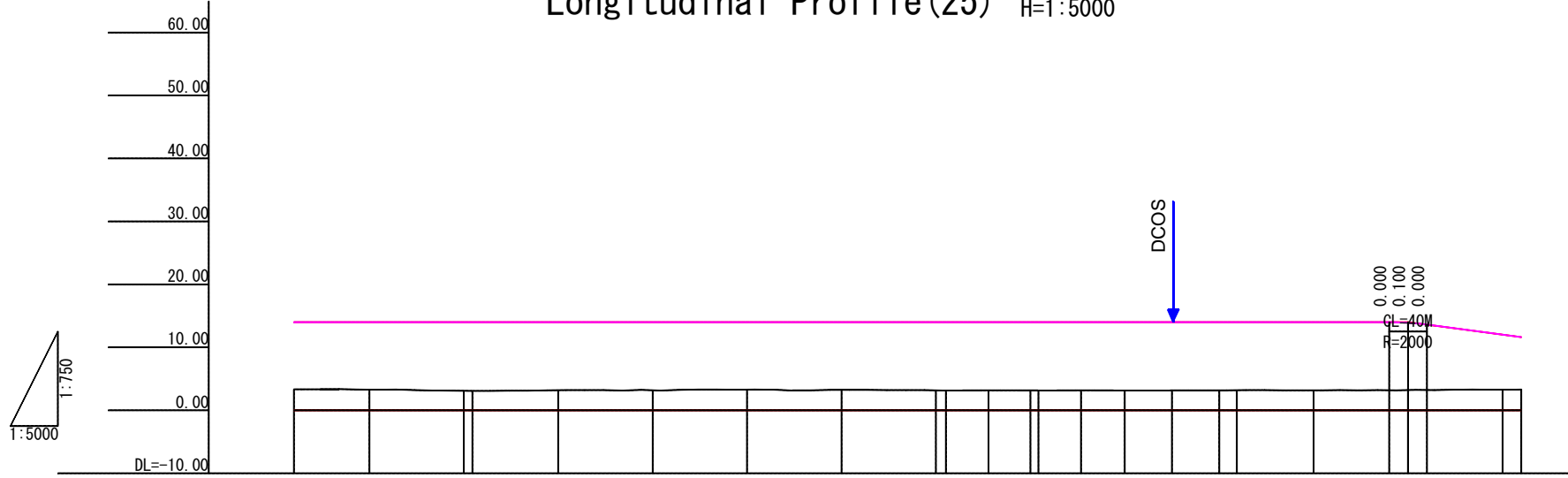
Longitudinal Profile(24) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
10.9		-2.920	-7.700	
57.5	29K497M	3.009	-7.700	
2.5	5	-3.000	-7.700	
100.0	6	-2.970	-7.700	
100.0	7	-2.946	-7.700	
100.0	8	-2.978	-7.700	17.7
100.0	9	-2.924	-7.200	
100.0	30K	-2.962	-6.700	
100.0	1	-3.070	-6.200	
100.0	2	-2.958	-5.700	
48.3	30K248M	-3.009	-5.459	
51.7	3	-2.968	-5.200	
100.0	4	-3.124	-4.700	
100.0	5	-3.210	-4.200	
83.0	30K58M	-3.277	-4.000	14.0
17.0	6	-3.286	-4.000	
100.0	7	-3.284	-4.000	
40.0	7	-3.326	-4.000	



Longitudinal Profile(25) V=1: 750 H=1:5000

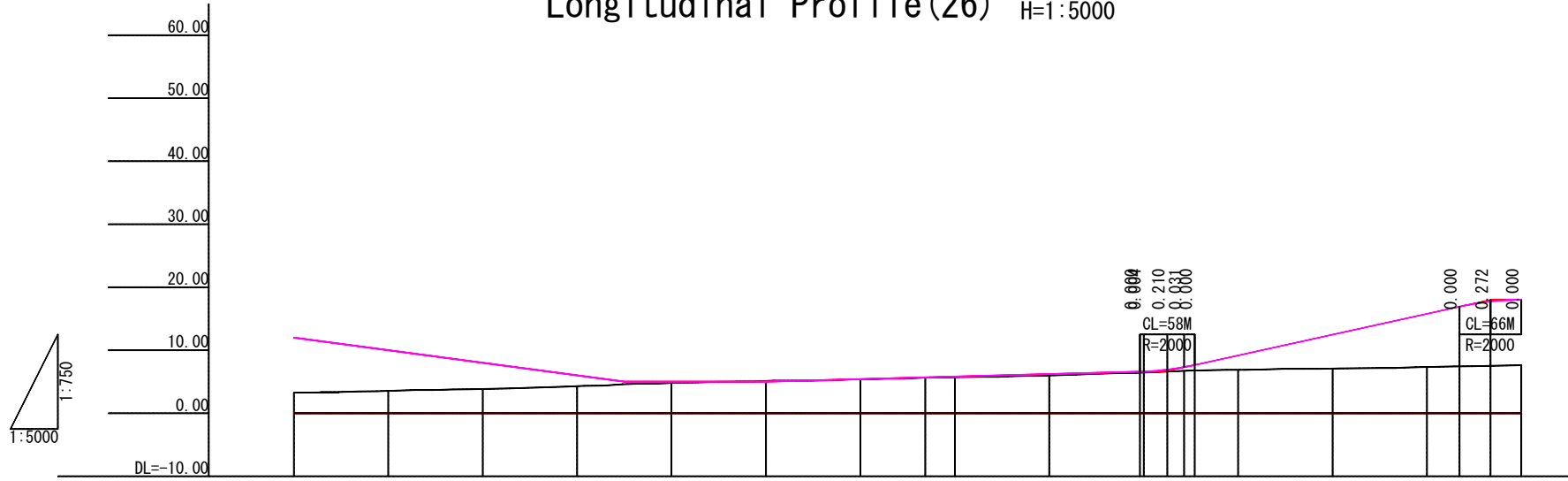


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		-3.320	-4.000	
80.0	8	-3.286	-4.000	
100.0	9	-3.072	-4.000	
9.2	30K90BM	3.061	-4.000	
90.8	31K	-3.198	-4.000	
100.0	1	-3.178	-4.000	
100.0	2	-3.288	-4.000	
100.0	3	-3.246	-4.000	
100.0	4	-3.160	-4.000	
10.6	31K41BM	3.139	-4.000	
45.1	31K45BM	-3.174	-4.000	
44.3	5	-3.158	-4.000	
8.6	31K50BM	3.149	-4.000	
45.1	31K55BM	-3.163	-4.000	
46.3	6	-3.130	-4.000	
50.0		-3.151	-4.000	
50.0	7	-3.156	-4.000	
18.7	31K71BM	-3.176	-4.000	
81.3	8	-3.164	-4.000	
100.0	9	-3.204	-4.900	14.0
100.0	32K	-3.266	-4.000	
20.0		-3.288	-4.600	

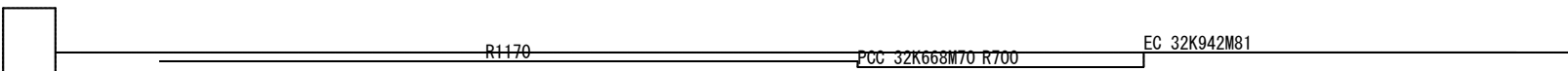
LEVEL

14.0 20

Longitudinal Profile(26) V=1: 750 H=1:5000

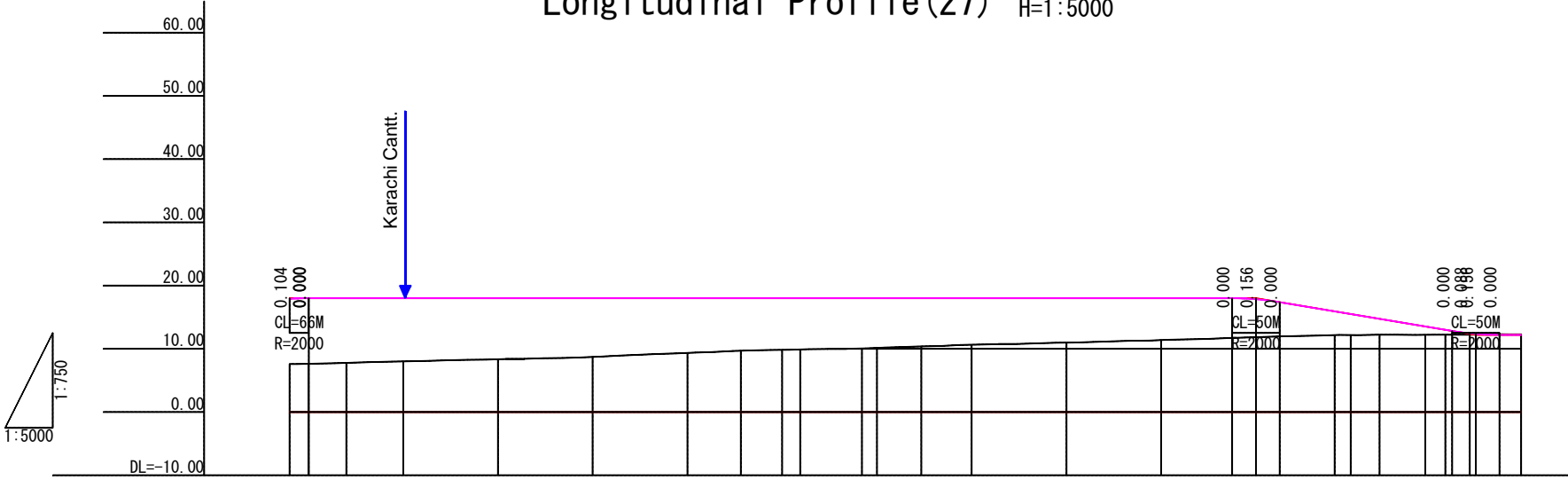


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	32K	-3.266	-4.000	20
100.0	1	-3.544	-4.000	5.0
100.0	2	-3.852	-4.000	5.0
100.0	3	-4.286	-4.000	5.0
100.0	350	-4.800	-4.800	LEVEL
100.0	4	-5.112	-5.000	5.0
100.0	5	-5.372	-5.400	4
68.7	32K66M	-5.651	-5.675	6.7
31.3	32K66M	-5.706	-5.800	33
100.0	6	-5.990	-6.200	18.0
100.0	7	-6.456	-6.604	
42.8	32K66M	-6.729	-6.910	
57.2	33K	-6.890	-7.319	
100.0	1	-7.074	-9.175	
100.0	2	-7.330	-12.475	
100.0	267	-7.629	-15.775	
100.0	3	-7.629	-17.728	
100.0		-7.629	-18.000	



APP-5-27

Longitudinal Profile(27) V=1: 750 H=1:5000

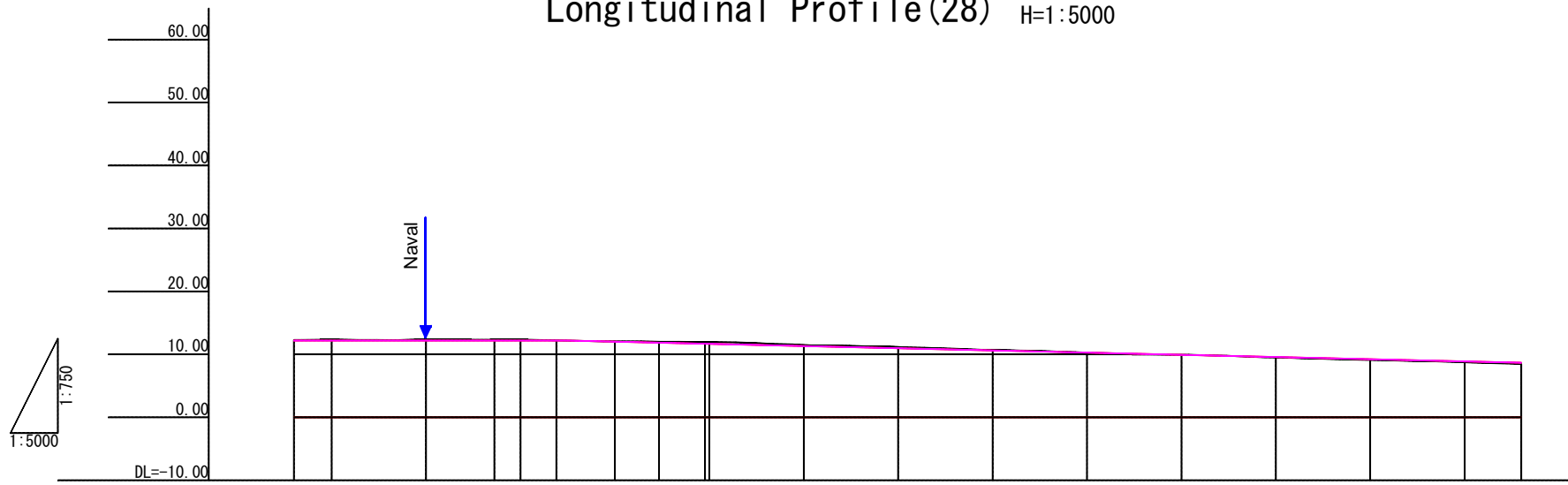


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		7.566	-7.896	
20.0	3	7.629	-8.000	
40.0		7.774	-8.000	
60.0	4	8.000	-8.000	
100.0	5	8.324	-8.000	
100.0	6	8.711	-8.000	
100.0	7	9.335	-8.000	
56.3	33K75M	9.677	-8.000	0
43.7	8	9.824	-8.000	
18.9	33K81M	9.883	-8.000	
65.4	33K88M	10.057	-8.000	
15.7	9	10.142	-8.000	
46.8	33K94M	10.364	-8.000	
53.2	34K	10.638	-8.000	
100.0	1	10.970	-8.000	
100.0	2	11.376	-8.000	
100.0	3	11.828	-7.844	18.0
83.0	34K38M	12.165	-5.926	
17.0	4	12.166	-5.500	
30.4	34K43M	12.230	-4.739	
48.2	34K47M	12.202	-3.534	
21.4	5	12.230	-3.000	
25.8	34K52M	12.230	-2.443	
54.2	34K53M	12.356	-2.356	12.2
54.2	34K55M	12.294	-2.200	

LEVEL

Longitudinal Profile(28)

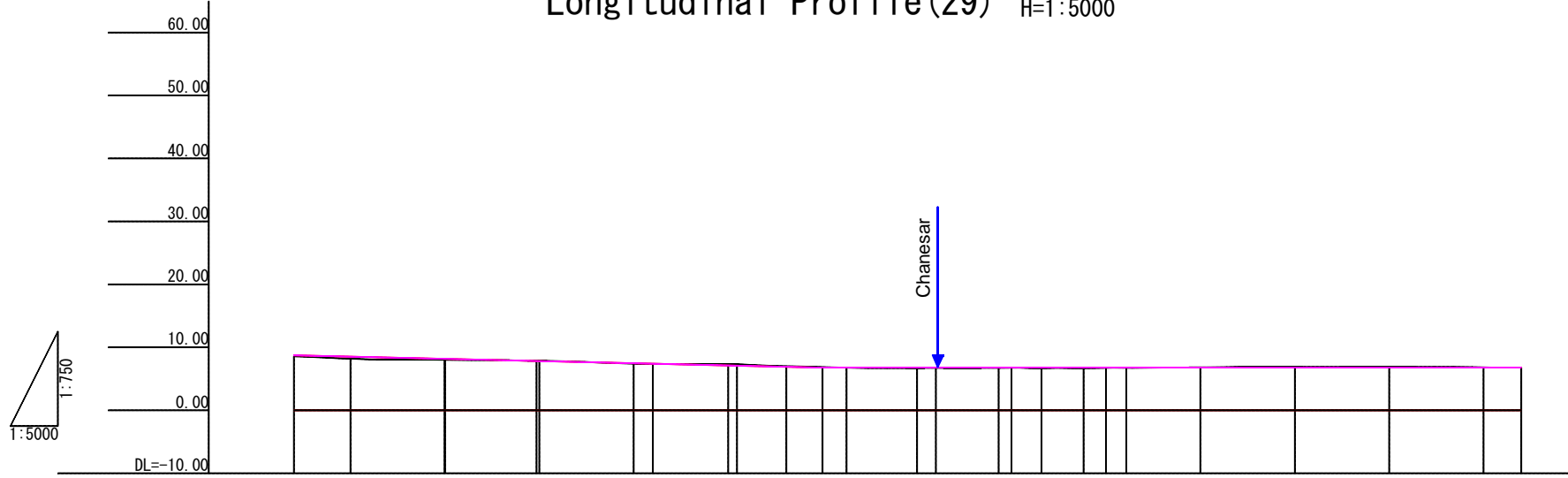
V=1: 750
H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
81.4		+2.286	+2.200	
40.0	6	+2.322	+2.200	
100.0	7	+2.312	+2.200	LEVEL
72.4	34K77M	+2.314	+2.200	
27.6	8	+2.318	+2.200	
38.1	34K83M	+2.210	+2.200	12.2
61.9	9	+2.070	+2.025	
46.8	34K94M	+2.003	+1.861	
48.6	34K99M	+1.959	+1.691	
4.6	34K95K	+1.952	+1.675	
100.0	1	+1.486	+1.325	
100.0	2	+1.164	+0.975	
100.0	3	+0.718	+0.625	3.5
100.0	4	+0.258	+0.275	
100.0	5	-9.928	-9.925	
100.0	6	-9.492	-9.575	
100.0	7	-9.104	-9.225	
100.0	8	-8.732	-8.875	
60.0		-8.448	-8.665	

EC 34K995M37
EC 34K838M07
EC 34K77M37
EC 34K83M37

Longitudinal Profile (29) V=1: 750 H=1:5000



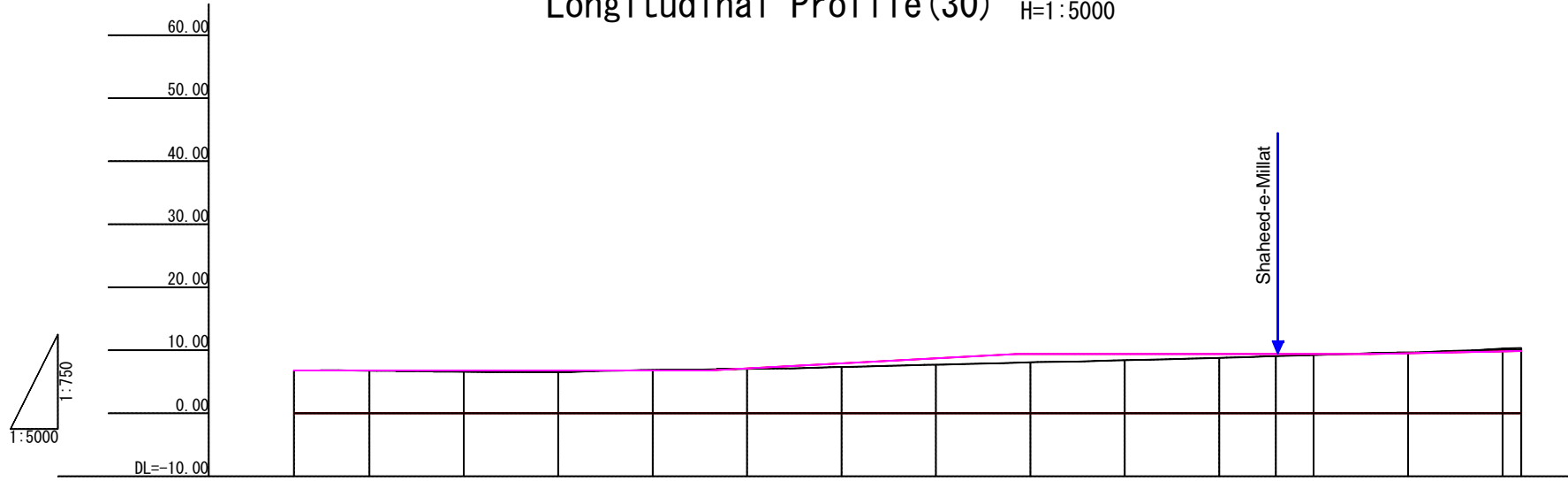
Section Distance	Chanesar	Ground Level	Rail Level	Gradient
100.0		-8.552	-8.735	
60.0	9	-8.184	-8.525	
99.7	36K00DM	-8.008	-8.176	
0.3	36K	-8.008	-8.175	
97.0	36K097M	-7.862	-7.835	3.5
3.0	1	-7.856	-7.825	
100.0	2	-7.410	-7.475	
20.2	36K22DM	-7.358	-7.404	
79.8	3	-7.324	-7.125	
9.3	36K30DM	-7.310	-7.092	
52.3	36K36DM	-7.003	-6.909	
38.4	39	-6.846	-6.800	6.8
25.3	36K42DM	-6.775	-6.800	
74.7	5	-6.702	-6.800	
20.0		-6.710	-6.800	
66.4	36K58DM	-6.720	-6.800	
13.6	6	-6.738	-6.800	
31.8	36K63DM	-6.653	-6.800	
44.5	36K67DM	-6.683	-6.800	
23.6	7	-6.730	-6.800	
21.7	36K72DM	-6.743	-6.800	
78.3	8	-6.802	-6.800	
100.0	9	-6.892	-6.800	
100.0	37K	-6.930	-6.800	
100.0	1	-6.816	-6.800	
40.0		-6.800	-6.800	

BC 826929M01 EC 36K097M03 EC 36K22DM09 EC 36K30DM09 EC 36K36DM09 EC 36K42DM09 EC 36K58DM09 EC 36K63DM09 EC 36K67DM09 EC 36K72DM09 EC 36K58M41 EC 36K72M75

LEVEL

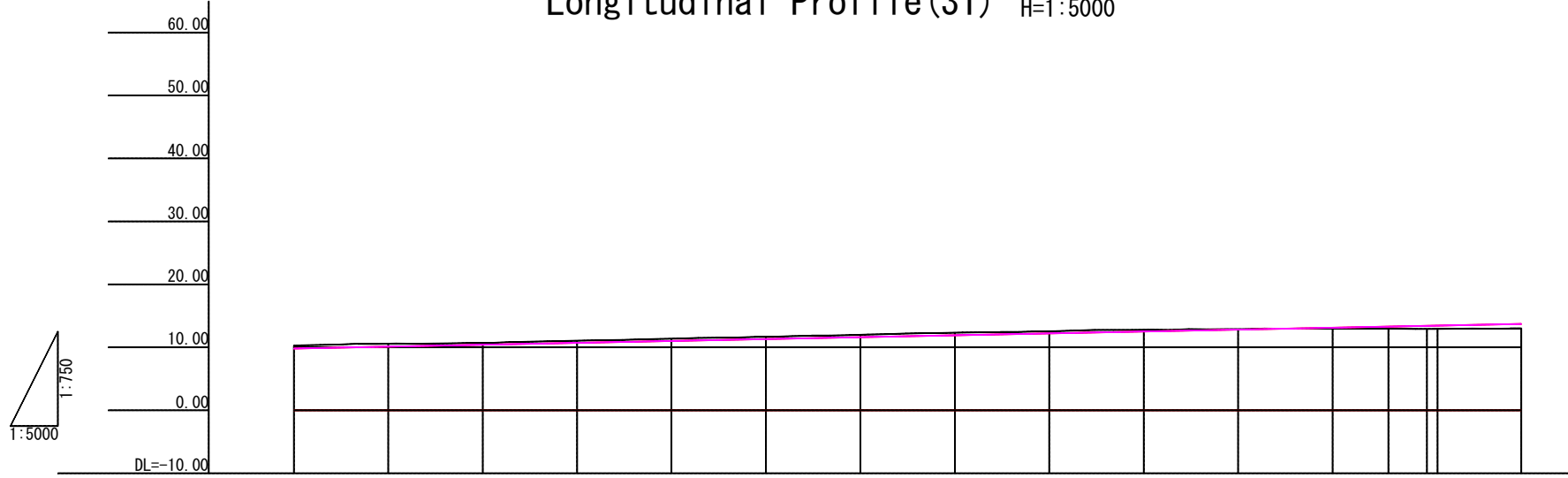
Longitudinal Profile (30)

V=1:750
H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		-6.800	-6.800	LEVEL
80.0	2	-6.748	-6.800	
100.0	3	-6.580	-6.800	
100.0	4	-6.504	-6.800	
100.0	5	-6.858	-6.800	6.8
100.0	560	-7.022	-7.120	
100.0	6	-7.336	-7.920	8
100.0	7	-7.708	-8.720	
100.0	8	-8.078	-9.400	9.4
100.0	8859	-8.402	-9.400	
100.0	38K	-8.782	-9.400	LEVEL
100.0	1	-9.066	-9.400	
60.0	2	-9.240	-9.400	9.4
40.0	260	-9.640	-9.520	
100.0	3	-10.236	-9.820	3
100.0	4	-10.354	-9.880	
20.0				

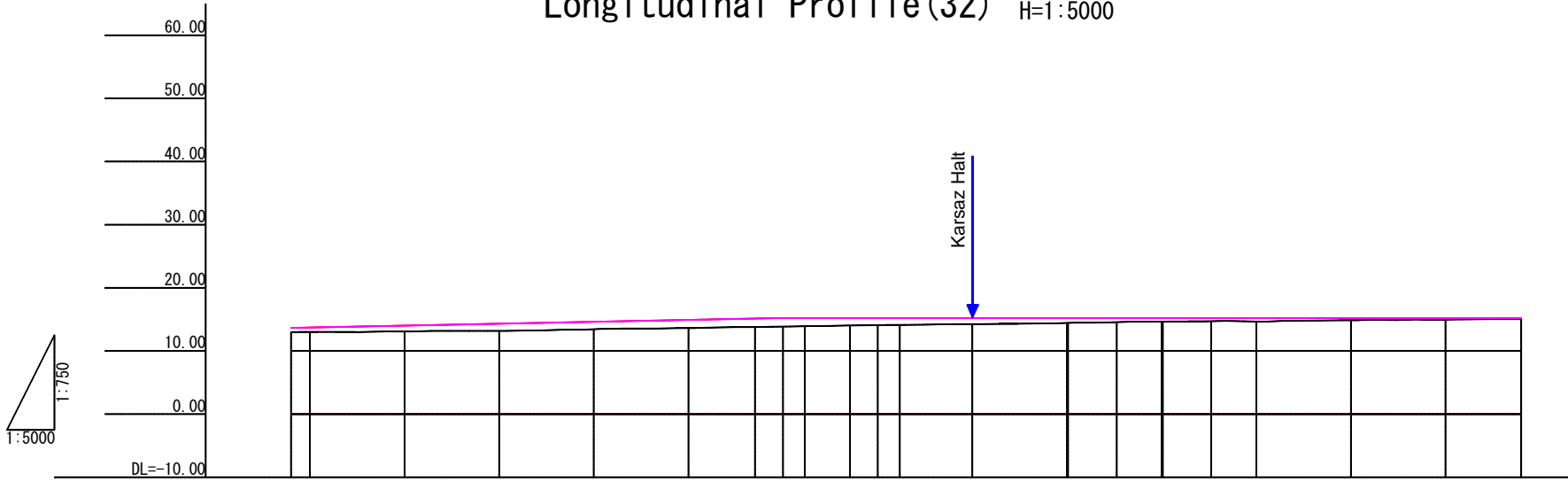
Longitudinal Profile(31) V=1: 750 H=1:5000



Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0	4	+0.236	-9.820	
100.0	5	+0.572	-9.820	
100.0	6	+0.700	-9.820	
100.0	7	+1.036	-9.820	
100.0	8	+1.360	-9.820	
100.0	9	+1.664	-9.820	
100.0	39K	+1.996	-9.820	3
100.0	1	+2.320	-9.820	
100.0	2	+2.558	-9.820	
100.0	3	+2.778	-9.820	
100.0	4	+2.878	-9.820	
100.0	5	+2.954	-9.820	
59.2	39K55M	+2.956	-9.820	
40.8	6	+2.924	-9.820	
11.3	39K61M	+2.927	-9.820	
88.7	7	+3.004	-9.820	

BR400K60900K611M29

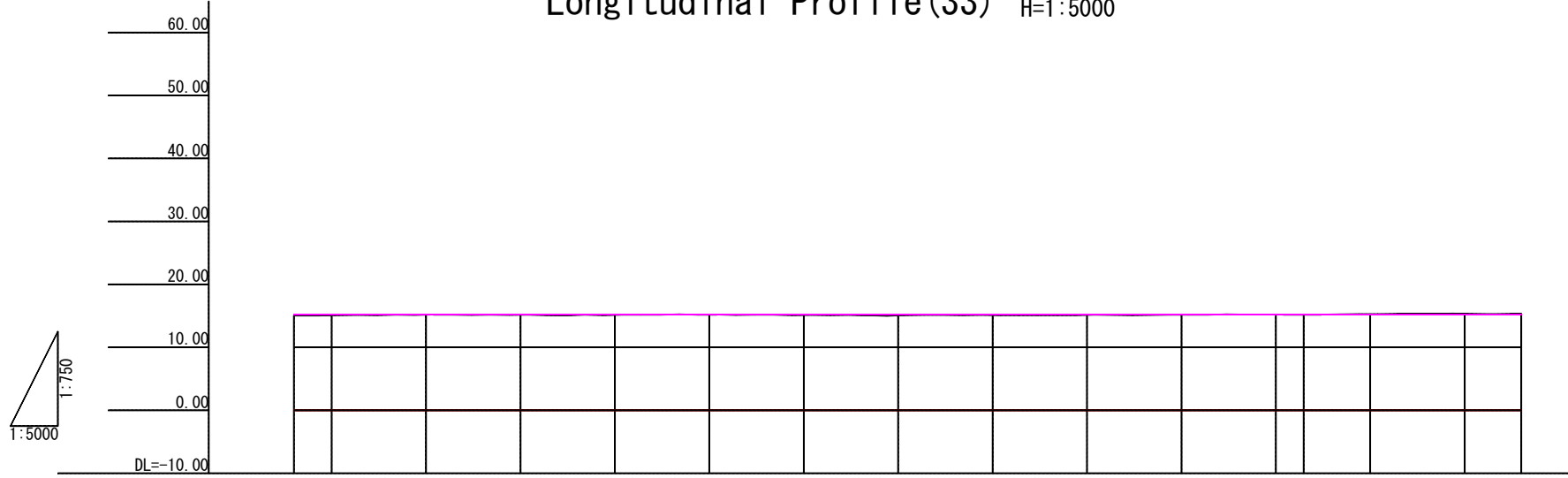
Longitudinal Profile(32) V=1: 750 H=1:5000



Section Distance	Chairs	Ground Level	Rail Level	Gradient	Track Details
68.7	7	3.660	3.660	3	EC 40K323M27
20.0		3.720	3.720		EC 40K323M27
100.0	8	3.098	3.098		EC 40K323M27
100.0	9	3.180	3.180		EC 40K323M27
100.0	40K	3.428	3.428		EC 40K323M27
100.0	1	3.644	3.644		EC 40K323M27
70.3	40K17PM	3.788	3.131	15.2	EC 40K323M27
29.7	193	3.868	3.200		EC 40K323M27
23.1	40K22PM	3.918	3.200		EC 40K323M27
47.5	40K27PM	4.025	3.200		EC 40K323M27
29.4	3	4.078	3.200		EC 40K323M27
23.3	40K32PM	4.105	3.200		EC 40K323M27
76.7	4	4.252	3.200		EC 40K323M27
100.0	5	4.432	3.200		EC 40K323M27
1.2	40K50PM	4.436	3.200		EC 40K323M27
51.3	40K55PM	4.558	3.200		EC 40K323M27
47.5	6	4.644	3.200		EC 40K323M27
1.3	40K60PM	4.647	3.200		EC 40K323M27
51.0	40K65PM	4.695	3.200		EC 40K323M27
47.7	7	4.660	3.200		EC 40K323M27
100.0	8	4.874	3.200		EC 40K323M27
100.0	9	4.954	3.200		EC 40K323M27
80.0		5.054	3.200		EC 40K323M27

Longitudinal Profile (33)

V=1: 750
H=1: 5000

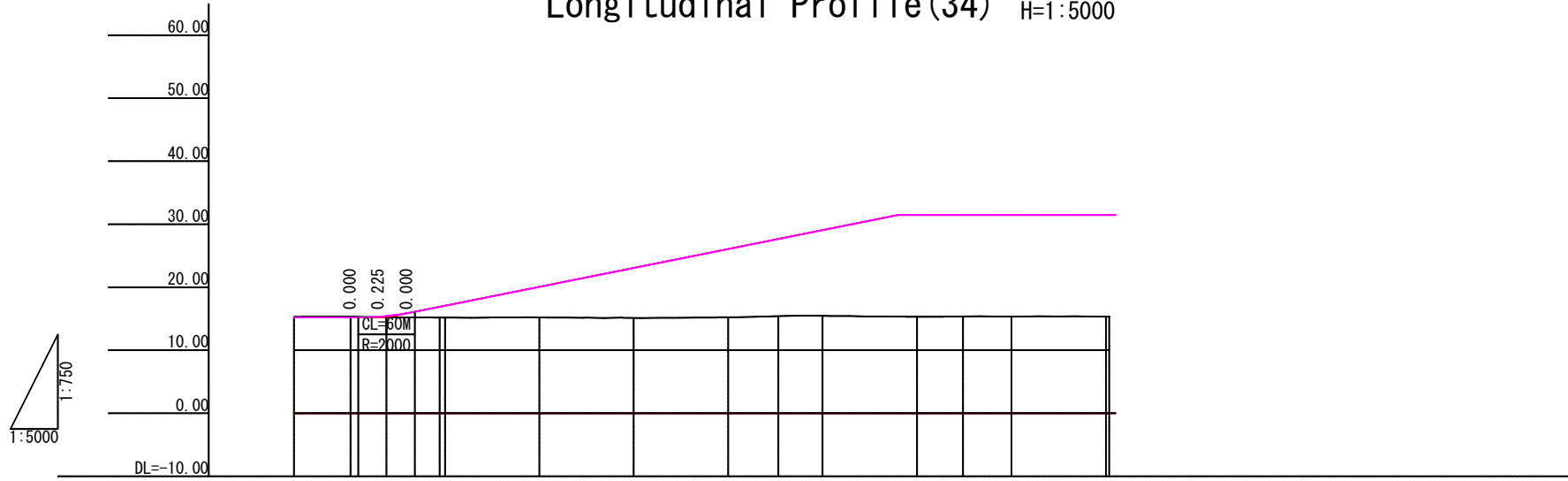


Section Distance	Chainage	Ground Level	Rail Level	Gradient
100.0		+5.034	+5.200	
40.0	41K	+5.088	+5.200	
100.0	1	+5.174	+5.200	
100.0	2	+5.152	+5.200	
100.0	3	+5.150	+5.200	
100.0	4	+5.198	+5.200	
100.0	5	+5.138	+5.200	
100.0	6	+5.068	+5.200	
100.0	7	+5.112	+5.200	
100.0	8	+5.144	+5.200	
100.0	9	+5.160	+5.200	
100.0	42K	+5.206	+5.200	
29.4	42K02BM	+5.173	+5.200	
70.6	1	+5.256	+5.200	
100.0	2	+5.326	+5.200	
60.0		+5.318	+5.200	

BC 42K029M4#2002

LEVEL

Longitudinal Profile(34) V=1: 750 H=1:5000



Gradient	Rail Level	Ground Level	Chainage	Section Distance	Notes
LEVEL 15.2	-5.200	+5.284		100.0	R2002
	-5.200	+5.324	3	60.0	
	-5.425		338		
	-6.886	+5.204	42K39M	94.4	EC 42K394M36
	-7.056	+5.198	4	5.6	
	-8.056	+5.202	5	100.0	
30	-9.056	+5.128	6	100.0	
	-10.056	+5.232	7	100.0	
	-11.653	+5.398	42K75M	53.3	BC 42K753M2002
	-12.056	+5.458	8	46.7	
LEVEL 31.5	-13.450	+5.318	880.9	100.0	
	-14.450	+5.371	42K94M	48.7	EC 42K948M69
	-15.450	+5.340	43K	51.3	
LEVEL 31.5	-16.450	+5.324	43K0M	100.0	
	-17.450	+5.320	43K30M	3.6	

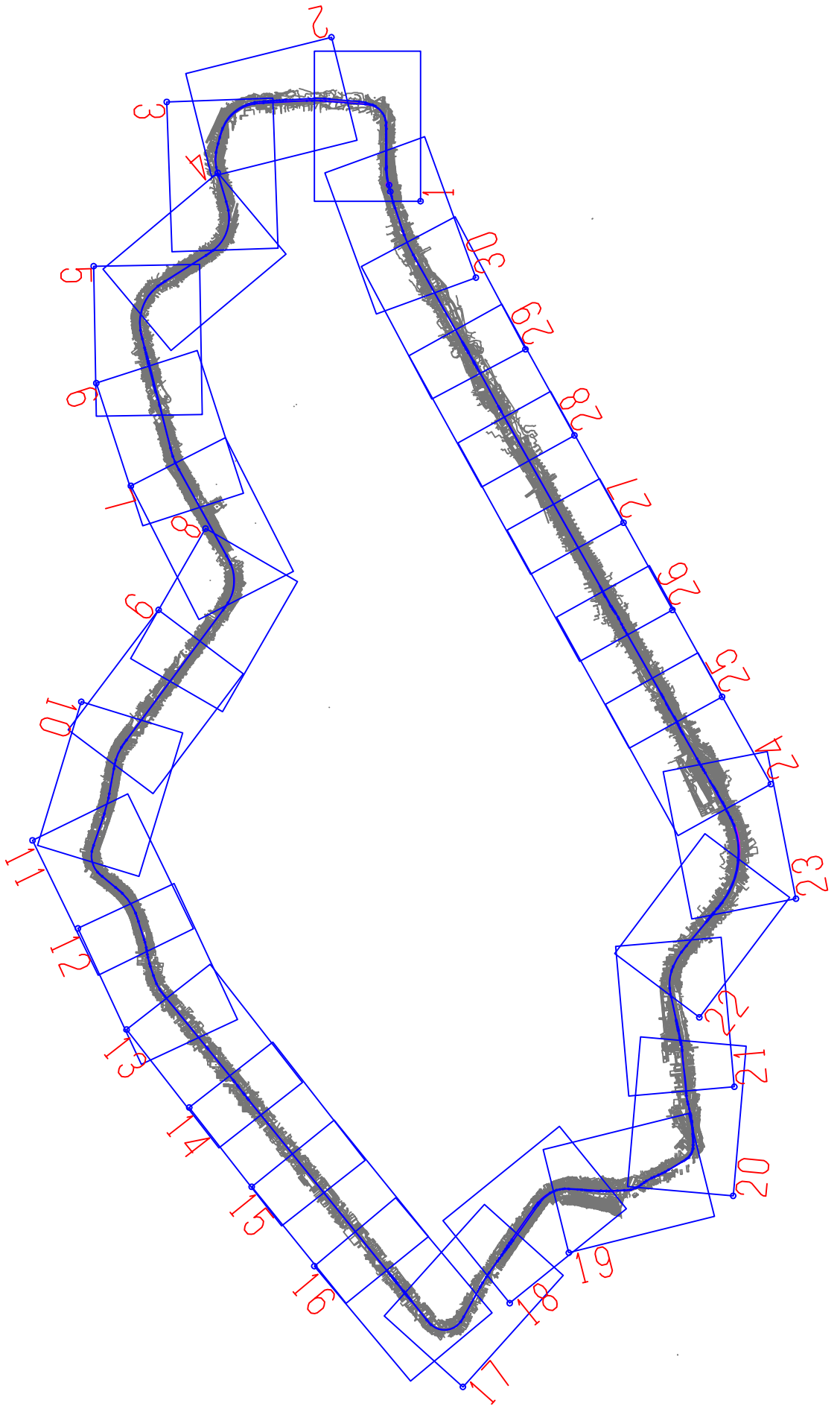
Gradient List

No	Kilometer-age	Formation Level	Gradient(%)	VCL	VCR	Section Distance	Section Distance excluding VCL
1	0K000M000	31.450	0.000			320.000	290.000
2	0K320M000	31.450	-30.000	60	2000	548.333	488.333
3	0K868M333	15.000	0.000	60	2000	31.667	1.667
4	0K900M000	15.000	5.000			200.000	200.000
5	1K100M000	16.000	0.000			200.000	200.000
6	1K300M000	16.000	4.000			2,920.000	2,920.000
7	4K220M000	27.680	8.000			650.000	650.000
8	4K870M000	32.880	0.000			320.000	320.000
9	5K190M000	32.880	5.000			424.000	424.000
10	5K614M000	35.000	0.000			1,236.000	1,236.000
11	6K850M000	35.000	-2.000			300.000	300.000
12	7K150M000	34.400	0.000			830.000	810.000
13	7K980M000	34.400	20.000	40	2000	270.000	225.000
14	8K250M000	39.800	-5.000	50	2000	560.000	535.000
15	8K810M000	37.000	0.000			890.000	890.000
16	9K700M000	37.000	-8.000			500.000	500.000
17	10K200M000	33.000	0.000			540.000	520.000
18	10K740M000	33.000	20.000	40	2000	285.000	245.000
19	11K025M000	38.700	0.000	40	2000	175.000	125.000
20	11K200M000	38.700	-30.000	60	2000	90.000	30.000
21	11K290M000	36.000	0.000	60	2000	428.889	380.889
22	11K718M888	36.000	-18.000	36	2000	761.111	725.111
23	12K480M000	22.300	0.000	36	2000	320.000	290.000
24	12K800M000	22.300	11.375	24	2000	800.000	776.000
25	13K600M000	31.400	0.000	24	2000	290.000	263.000
26	13K890M000	31.400	-15.000	30	2000	480.000	450.000
27	14K370M000	24.200	0.000	30	2000	600.000	560.000
28	14K970M000	24.200	25.000	50	2000	431.000	386.000
29	15K401M000	34.975	5.000	40	2000	585.000	565.000
30	15K986M000	37.900	0.000			284.000	256.000
31	16K270M000	37.900	-28.000	56	2000	521.429	465.429
32	16K791M428	23.300	0.000	56	2000	208.571	164.571
33	17K000M000	23.300	16.000	32	2000	512.500	496.500
34	17K512M500	31.500	4.000			450.000	450.000
35	17K962M500	33.300	0.000			547.500	532.500
36	18K510M000	33.300	-15.000	30	2000	413.333	398.333
37	18K923M333	27.100	0.000			1,876.667	1,864.667
38	20K800M000	27.100	12.000	24	2000	325.000	301.000
39	21K125M000	31.000	0.000	24	2000	175.000	148.000
40	21K300M000	31.000	-15.000	30	2000	600.000	570.000
41	21K900M000	22.000	0.000	30	2000	730.000	705.000
42	22K630M000	22.000	-10.000	20	2000	740.000	720.000
43	23K370M000	14.600	0.000	20	2000	2,380.000	2,350.000
44	25K750M000	14.600	-20.000	40	2000	610.000	570.000
45	26K360M000	2.400	0.000	40	2000	690.000	650.000
46	27K050M000	2.400	20.000	40	2000	455.000	415.000
47	27K505M000	11.500	0.000	40	2000	95.000	47.000
48	27K600M000	11.500	-28.000	56	2000	314.286	258.286
49	27K914M285	2.700	0.000	56	2000	485.714	437.714
50	28K400M000	2.700	20.000	40	2000	750.000	710.000

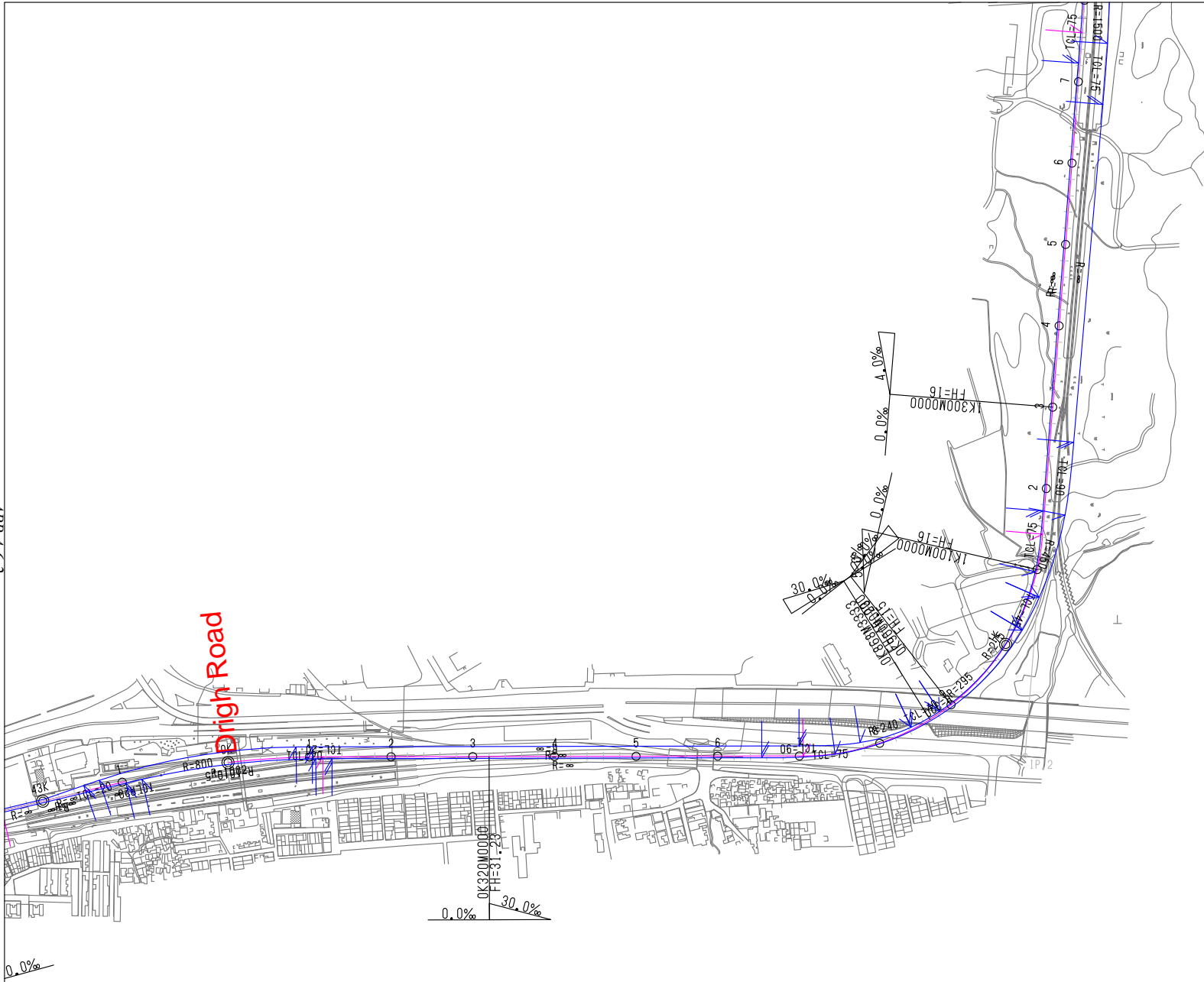
No	Kilometer-age	Formation Level	Gradient(%)	VCL	VCR	Section Distance	Section Distance excluding VCL
51	29K150M000	17.700	0.000	40	2000	650.000	630.000
52	29K800M000	17.700	-5.000			740.000	740.000
53	30K540M000	14.000	0.000			1,360.000	1,340.000
54	31K900M000	14.000	-20.000	40	2000	450.000	430.000
55	32K350M000	5.000	0.000			150.000	150.000
56	32K500M000	5.000	4.000			425.000	396.000
57	32K925M000	6.700	33.000	58	2000	342.424	280.424
58	33K267M424	18.000	0.000	66	2000	1,032.576	974.576
59	34K300M000	18.000	-25.000	50	2000	232.000	182.000
60	34K532M000	12.200	0.000	50	2000	318.000	293.000
61	34K850M000	12.200	-3.500			1,542.857	1,542.857
62	36K392M857	6.800	0.000			1,167.143	1,167.143
63	37K560M000	6.800	8.000			325.000	325.000
64	37K885M000	9.400	0.000			375.000	375.000
65	38K260M000	9.400	3.000			1,933.333	1,933.333
66	40K193M333	15.200	0.000			2,144.813	2,114.813
67	42K338M146	15.200	30.000	60	2000	541.667	511.667
68	42K879M813	31.450	0.000			230.629	230.629
69	43K110M442	31.450					

APPENDIX 4-6

Alignment Plans and Curve Details

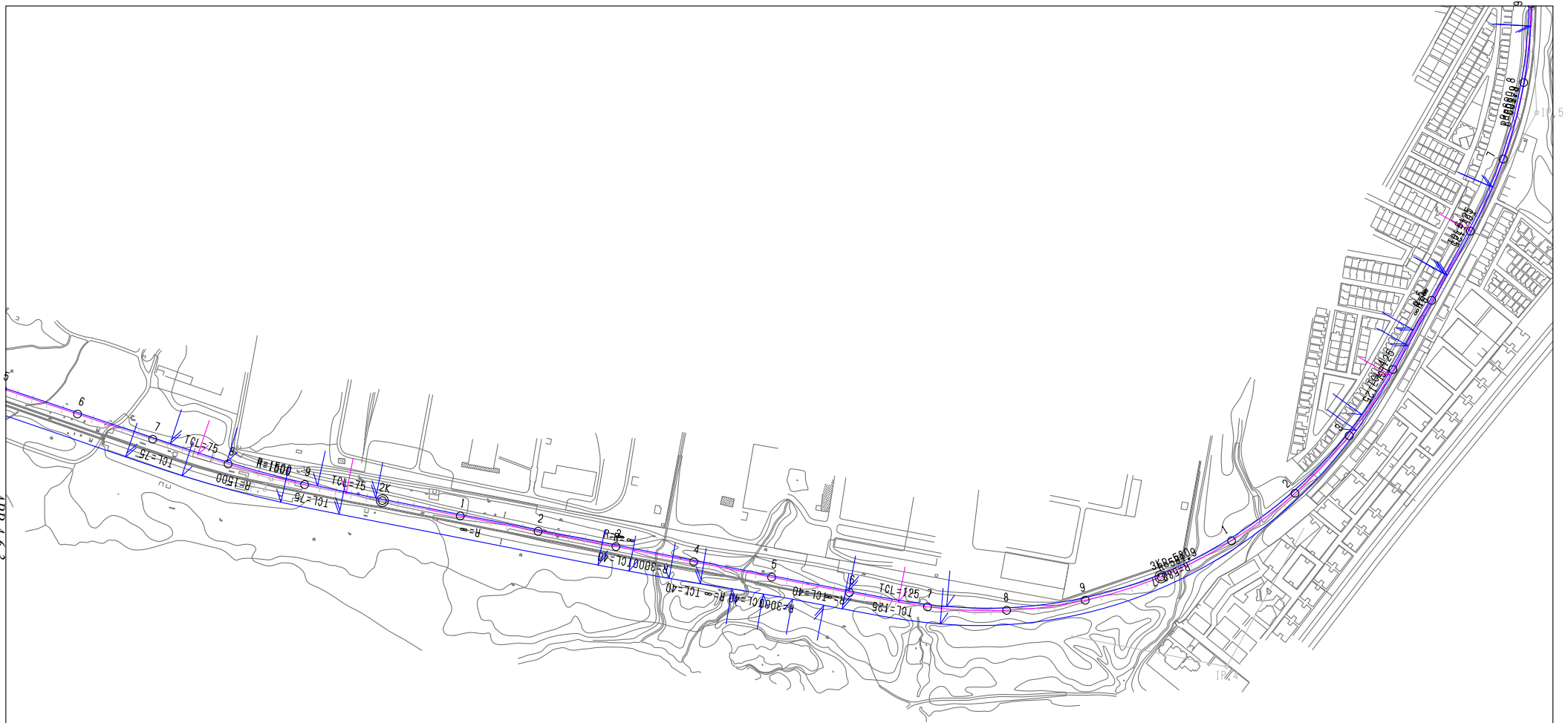


APP-4-6-2



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 1 /30

APP-4-6-3



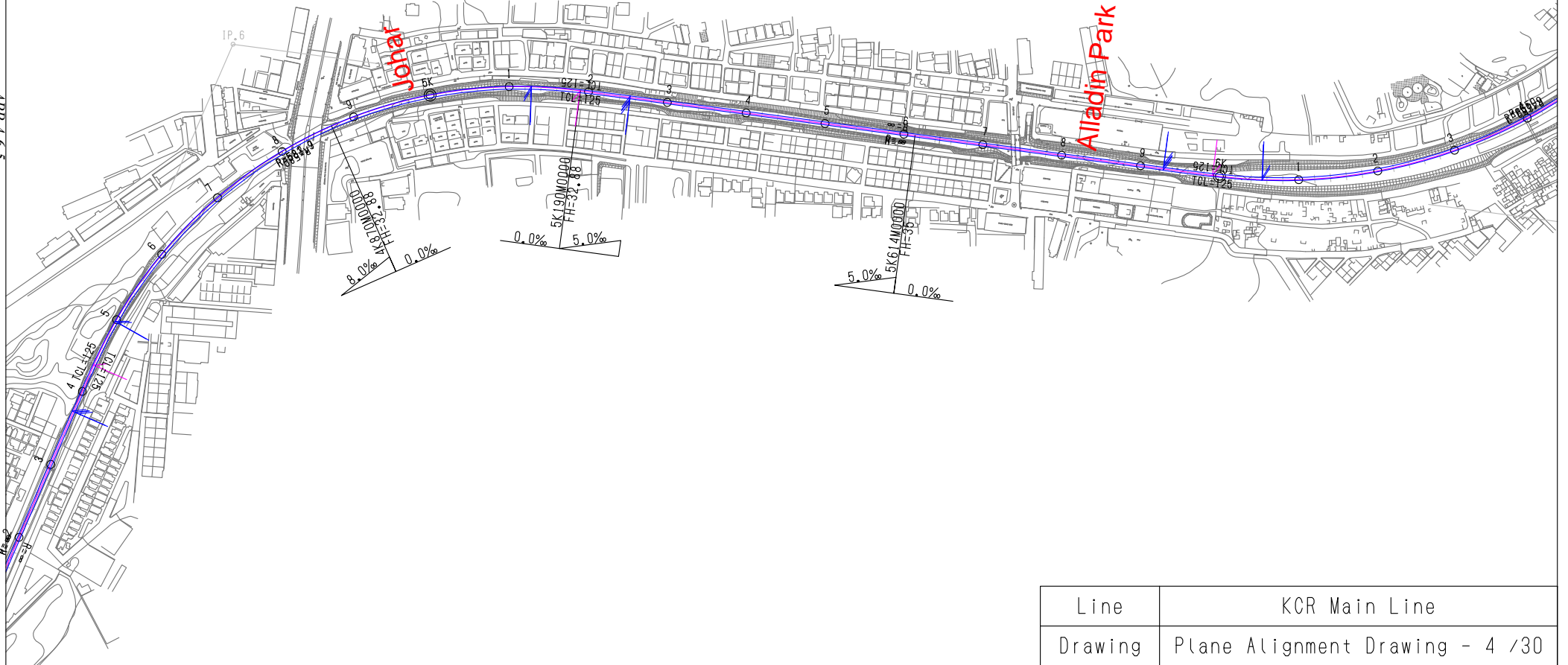
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 2 /30



APP-4-6-4

Line	KCR Main Line
Drawing	Plane Alignment Drawing - 3 /30

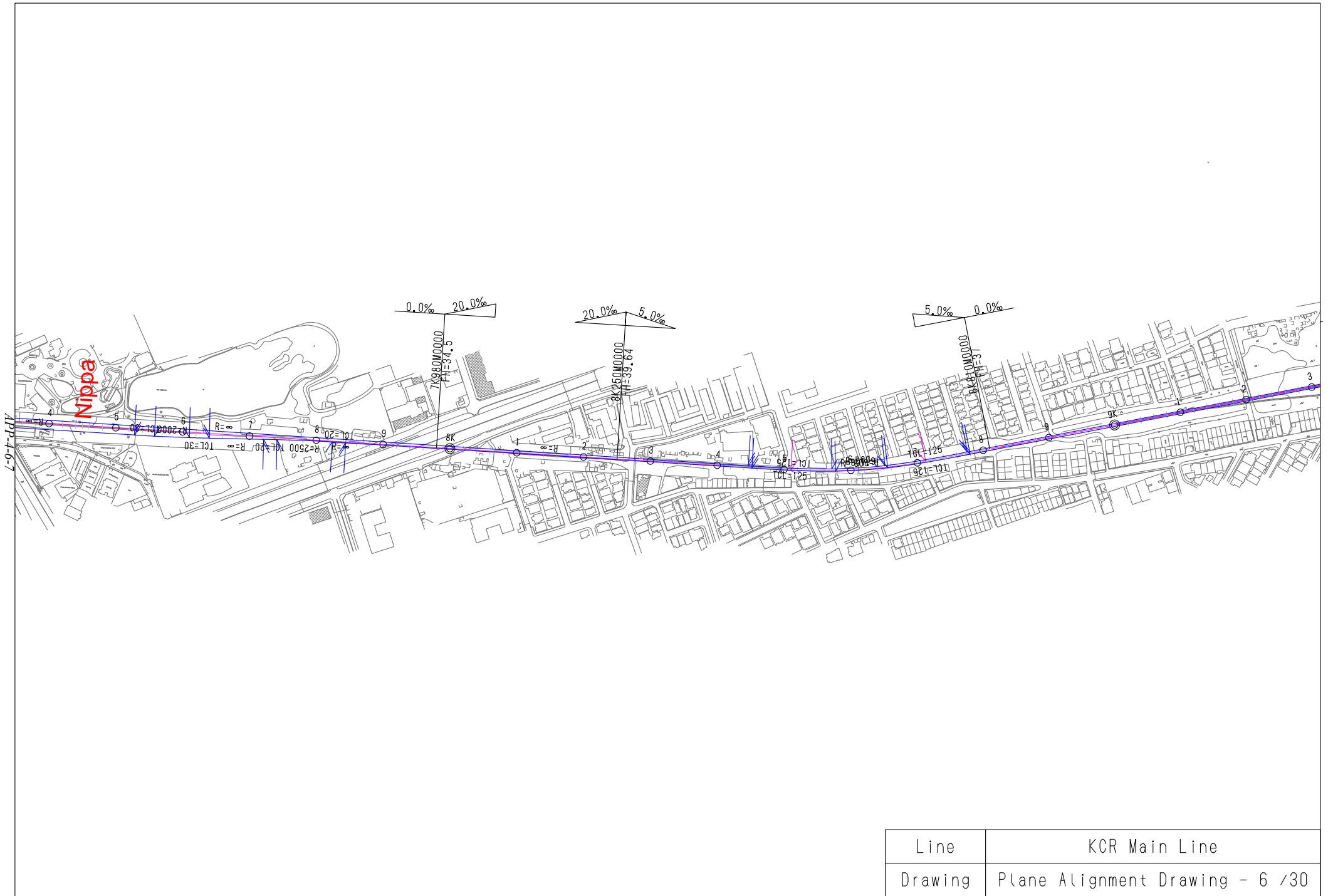
S-9-t-d11



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 4 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 5 /30

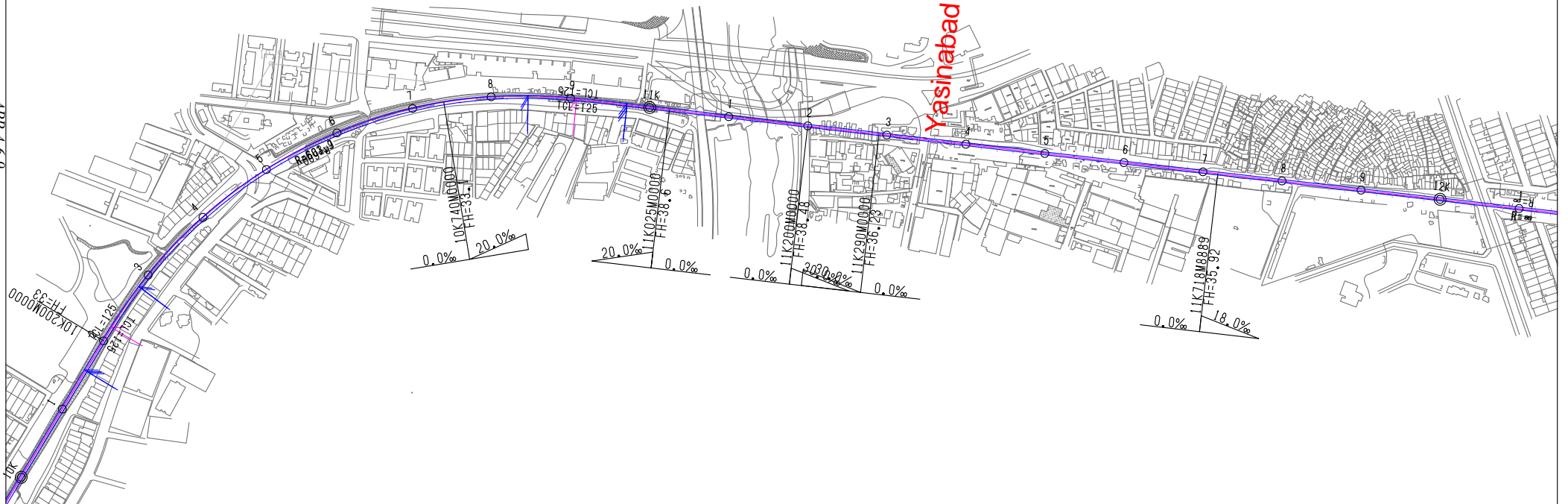


Line	KCR Main Line
Drawing	Plane Alignment Drawing - 6 /30



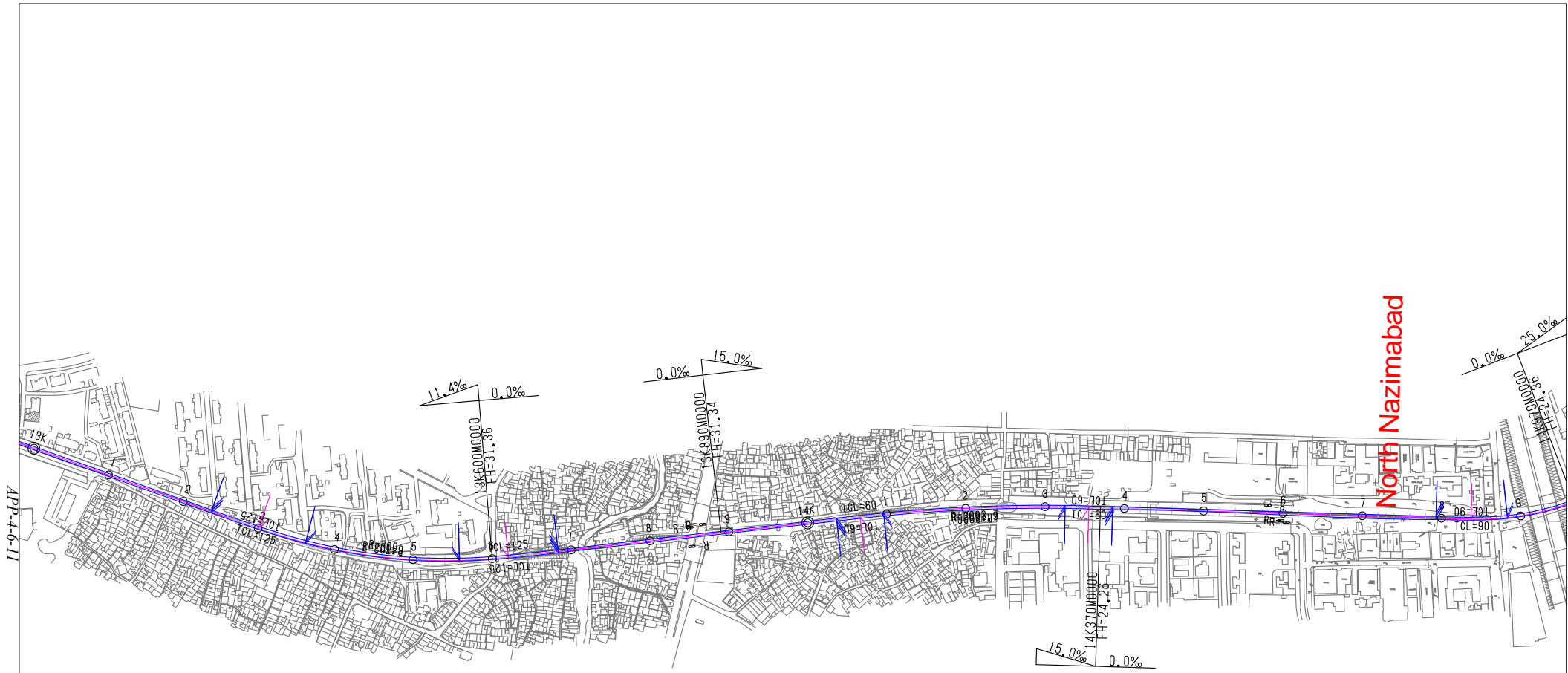
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 7 /30

APP-4-6-9



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 8 /30

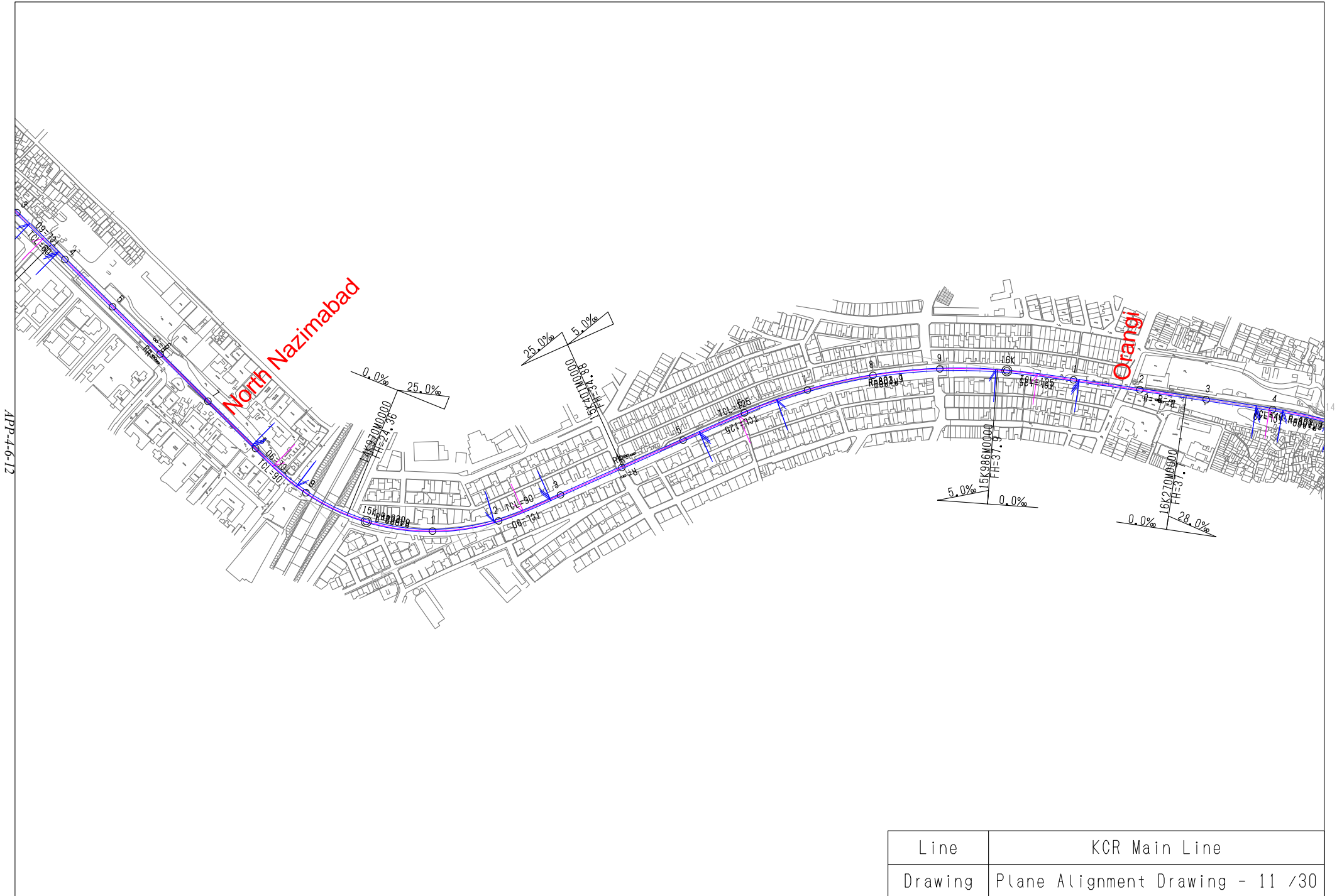




11-9-1-6-II

North Nazimabad

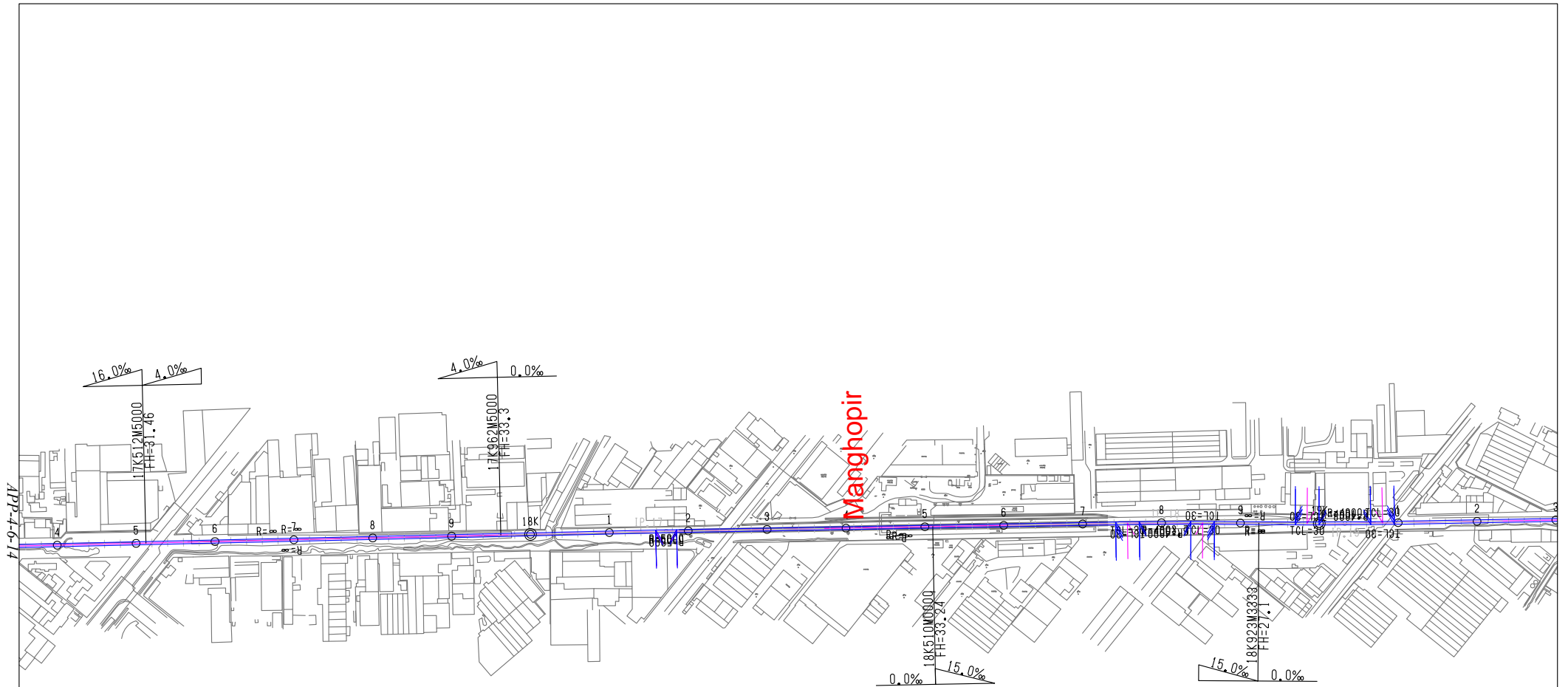
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 10 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 11 /30



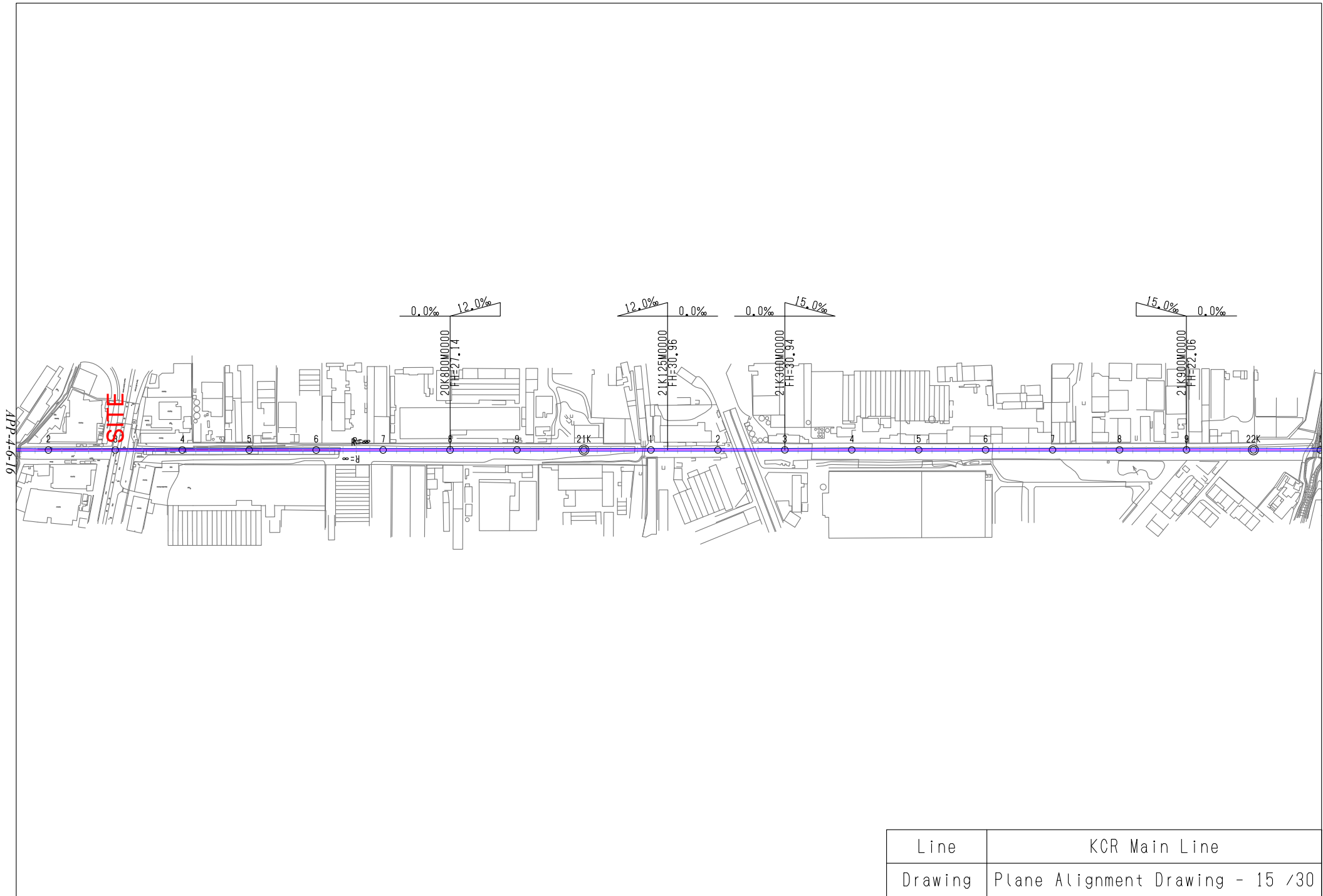
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 12 /30



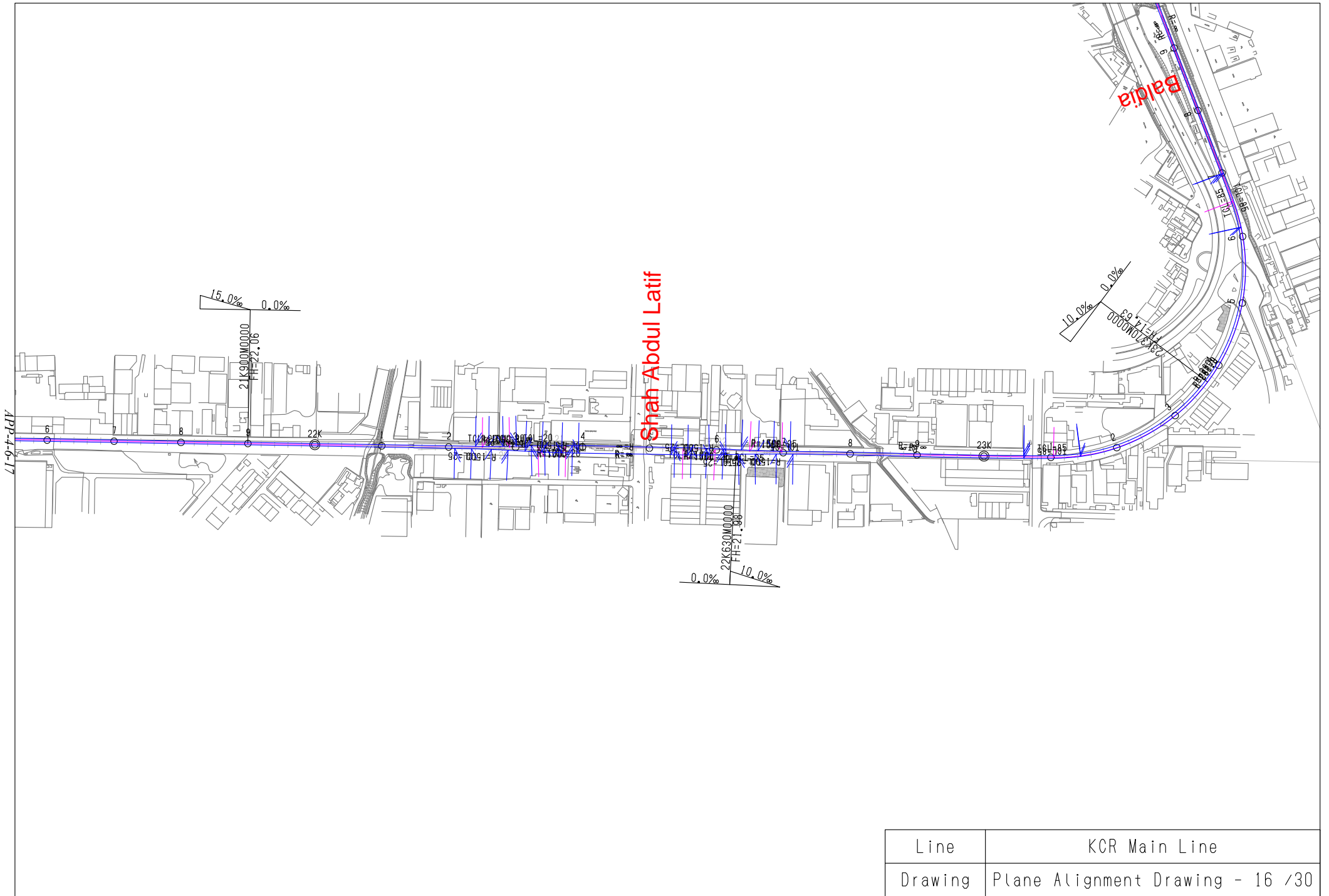
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 13 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 14 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 15 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 16 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 17 /30

HP-4-6-19



Line	KCR Main Line
Drawing	Plane Alignment Drawing 18 / 30



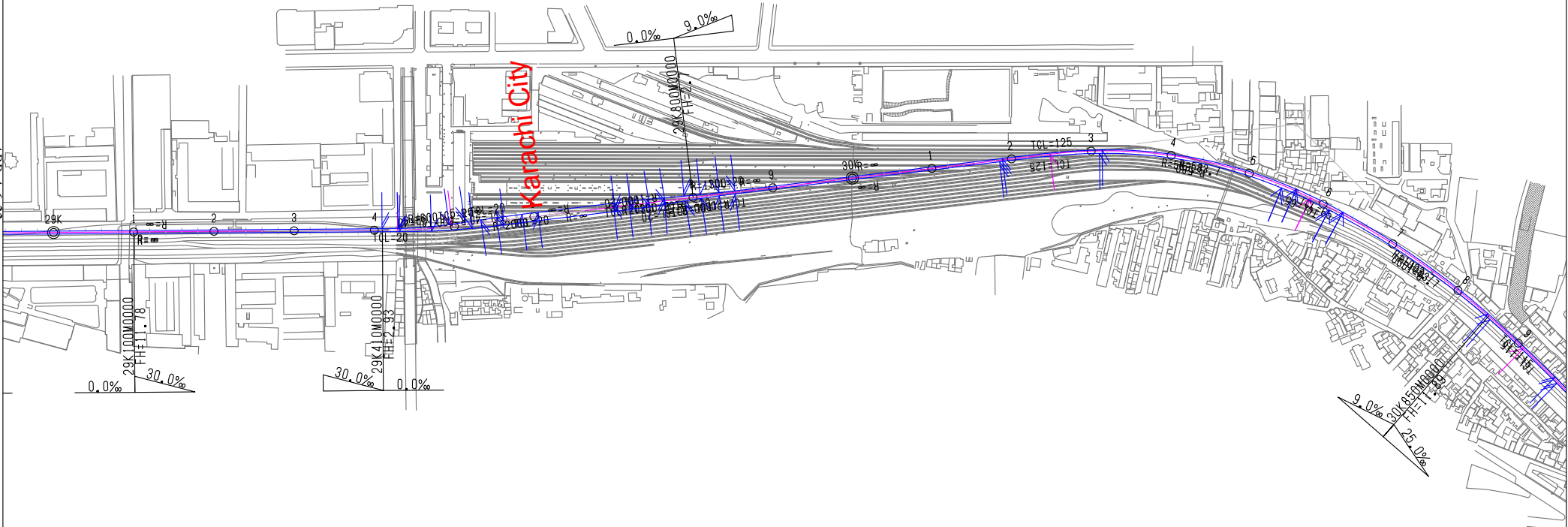
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 19 /30

APP-4-6-21



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 20 /30

Karachi City

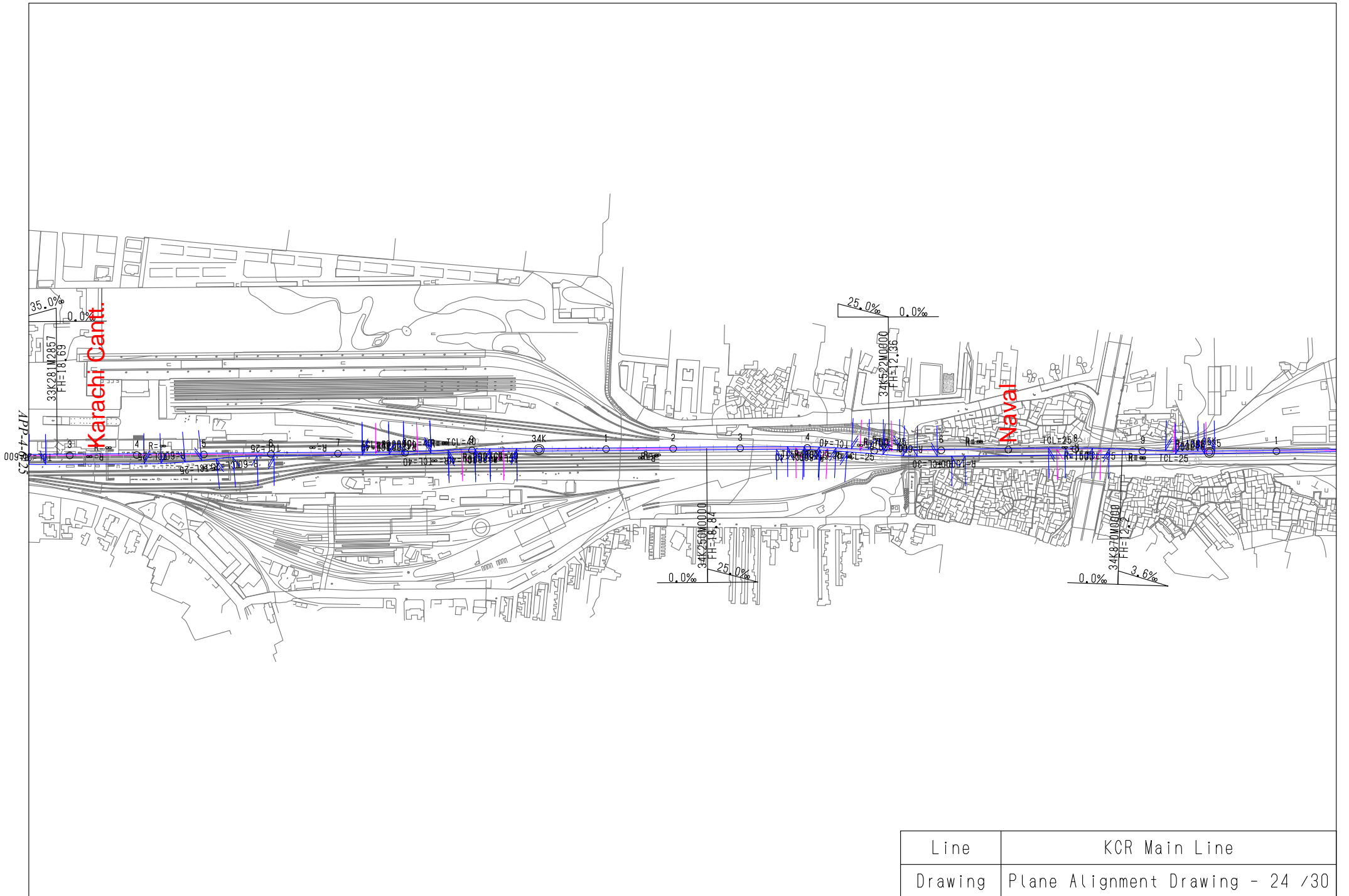


Line	KCR Main Line
Drawing	Plane Alignment Drawing - 21 /30

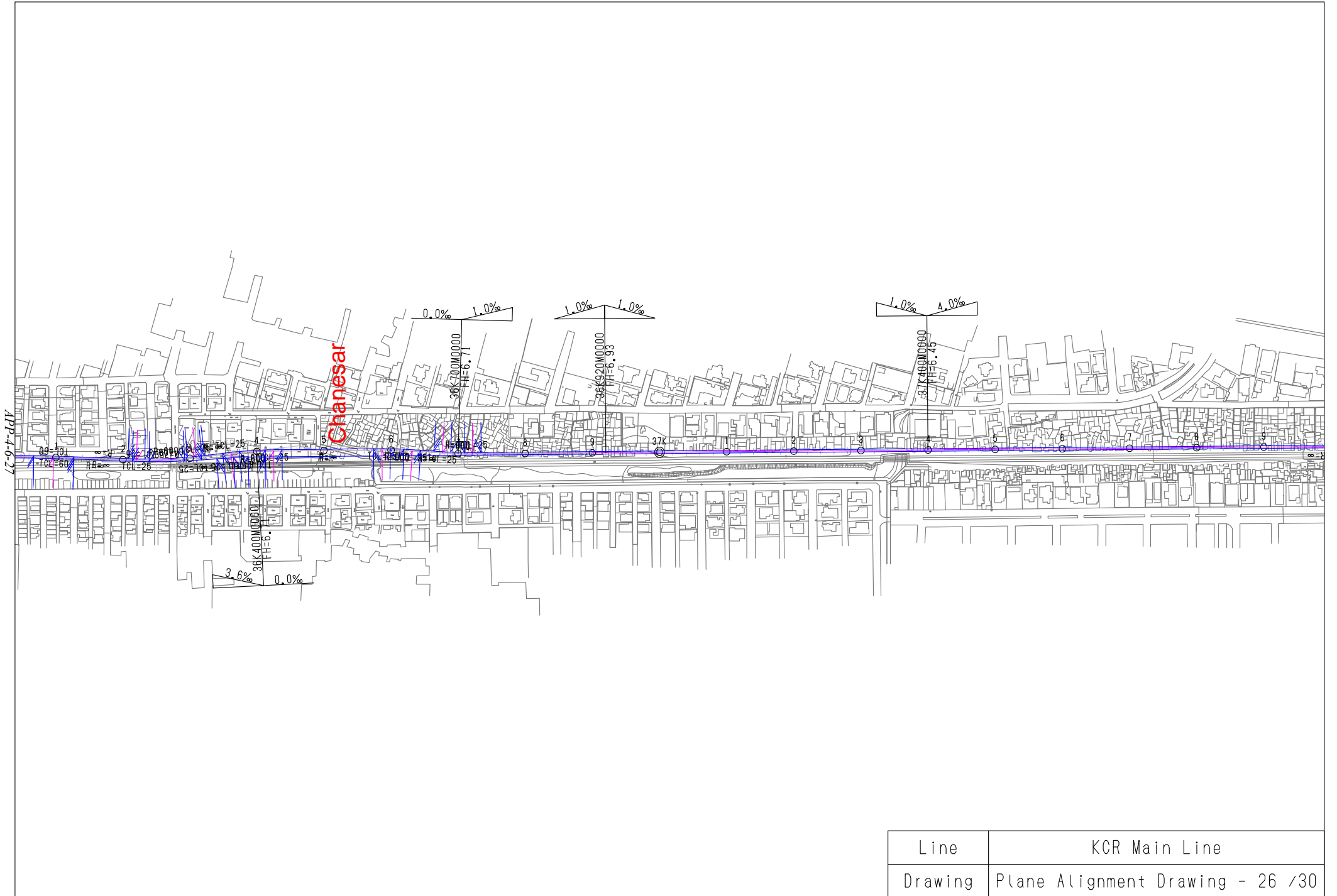
APP-4-0-23



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 23 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 24 /30



17-9-1-1dH

Chanesar

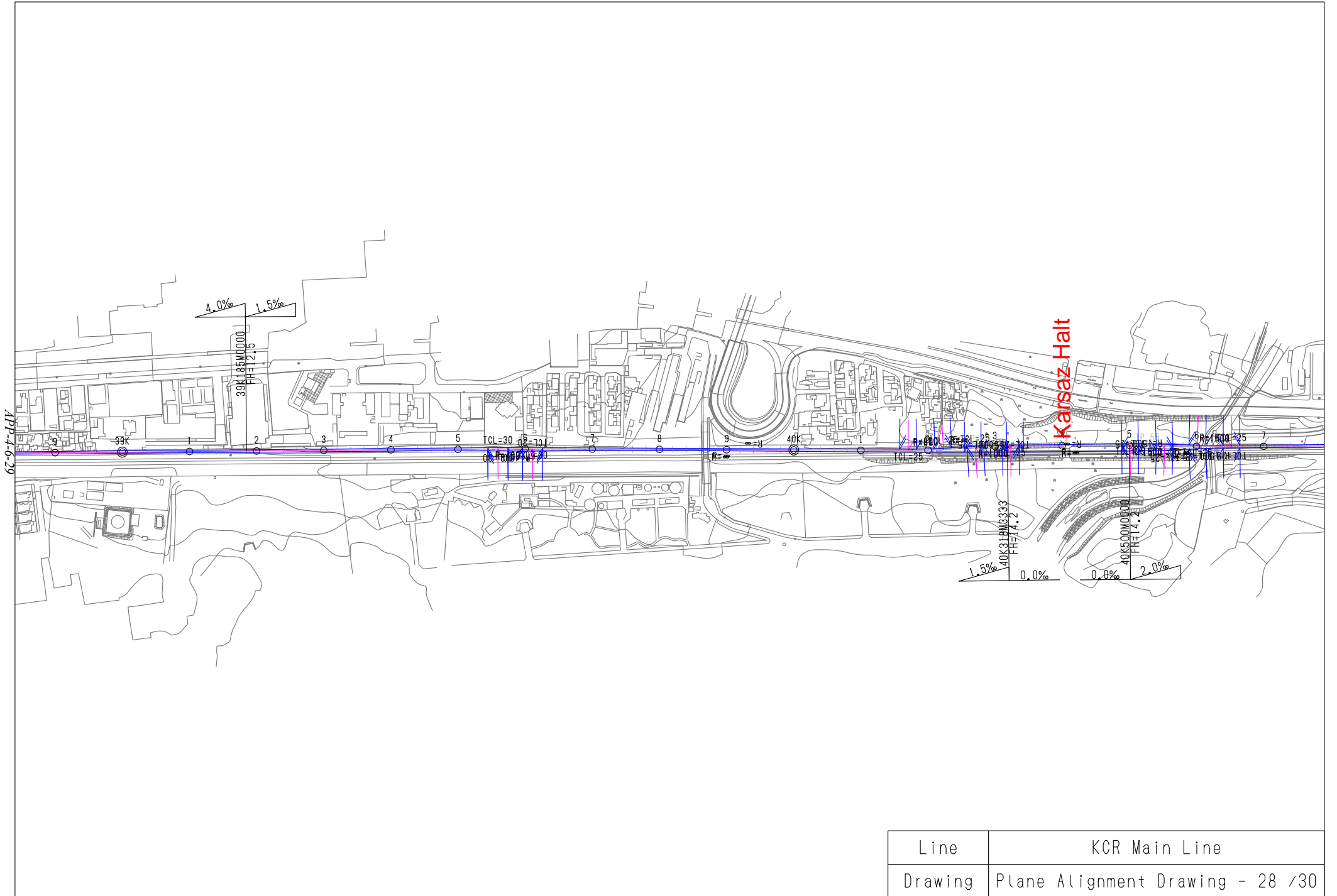
Line	KCR Main Line
Drawing	Plane Alignment Drawing - 26 /30



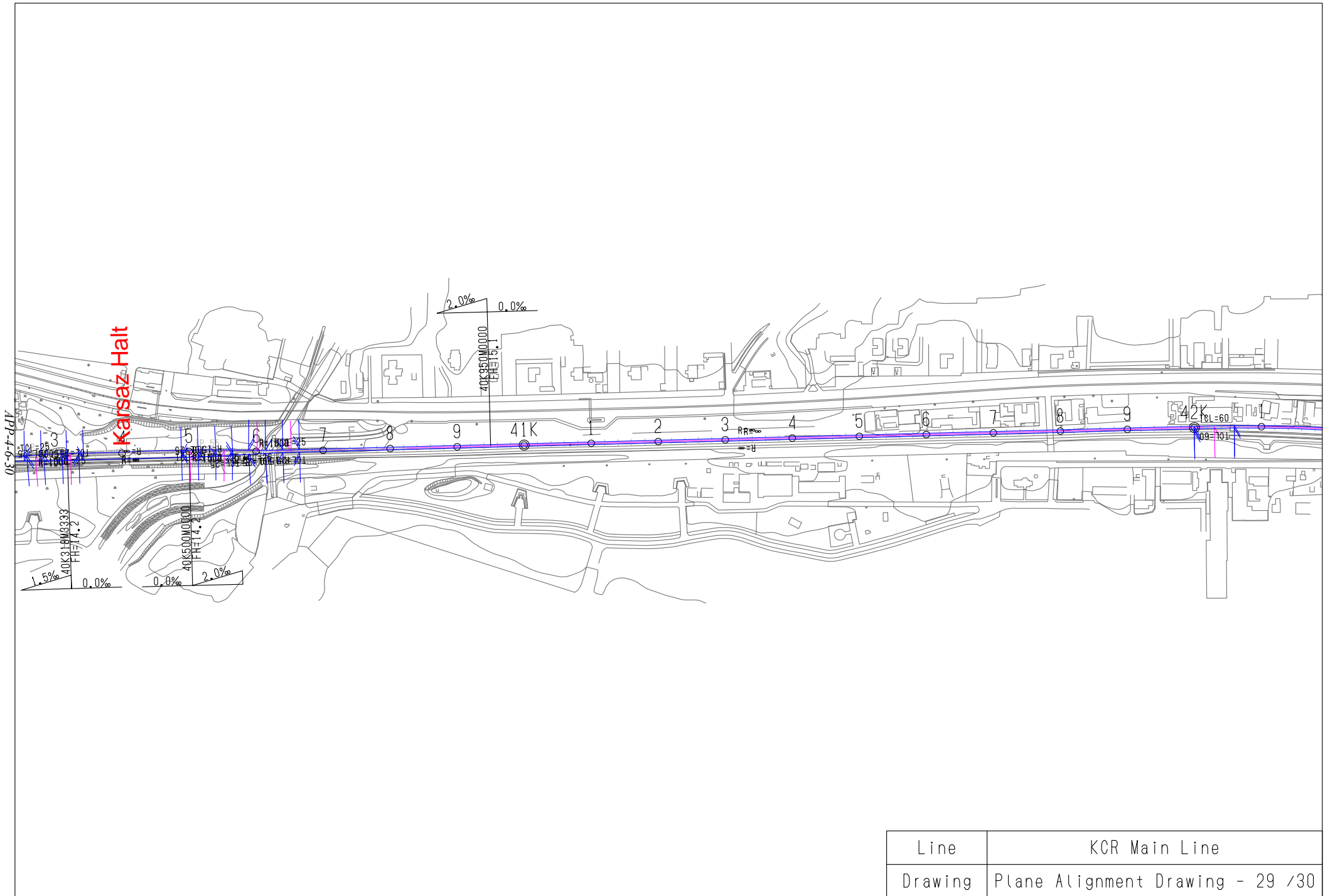
82-9-r-ddk

Shaheed-e-Millat

Line	KCR Main Line
Drawing	Plane Alignment Drawing - 27 /30

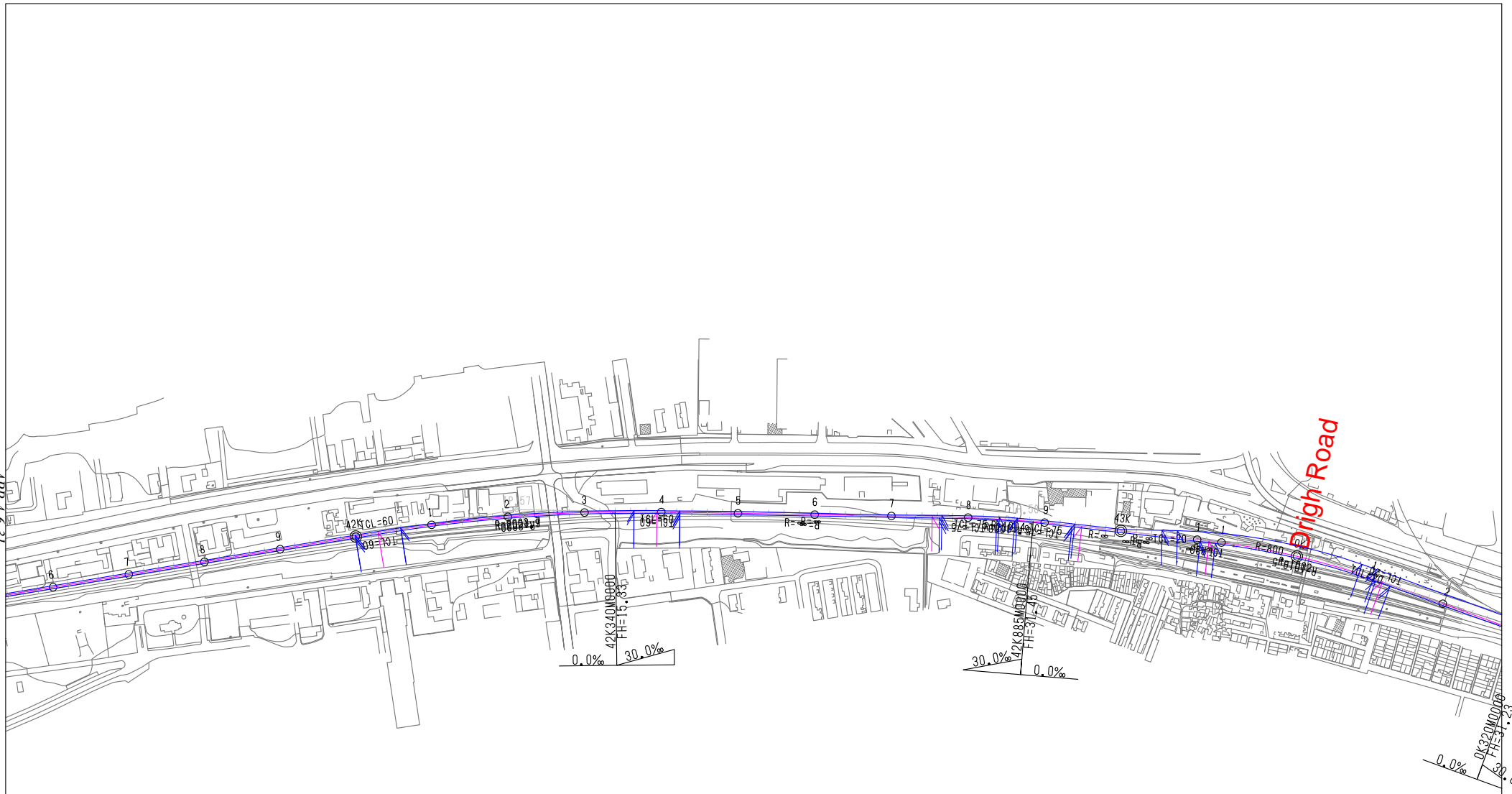


Line	KCR Main Line
Drawing	Plane Alignment Drawing - 28 /30



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 29 /30

10-9-1-111



Line	KCR Main Line
Drawing	Plane Alignment Drawing - 30 /30

Coordinate list of element points

Line Name: survey center line

Type of transition curve: Cubic parabola

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
1	BP	BP	-0K128M423450	2,753,662.445346	310,593.871543	0.000000		0.000000	12.054673	76-34-53.569
2	IP.1	BC 1-0	-0K116M368776	2,753,665.242768	310,605.597138	1,002.000000		1,002.000000	232.737552	76-34-53.569
3	IP.1	EC 1-0	0K116M368776	2,753,692.594323	310,836.195425	0.000000		0.000000	588.037341	89-53-23.315
4	IP.2	BC 2-0	0K704M406117	2,753,693.725226	311,424.231679	-295.000000		-295.000000	439.560501	89-53-23.315
5	IP.2	EC 2-0	1K143M966618	2,753,965.491688	311,717.748049	0.000000		0.000000	616.236893	4-31-01.411
6	IP.3	BC 3-0	1K760M203512	2,754,579.814507	311,766.280343	-1,500.000000		-1,500.000000	193.362079	4-31-01.411
7	IP.3	EC 3-0	1K953M565591	2,754,773.022745	311,769.059550	0.000000		0.000000	708.842011	357-07-52.217
8	IP.4	BC 4-0	2K662M407602	2,755,480.976388	311,733.582299	-581.850000		-581.850000	730.255072	357-07-52.217
9	IP.4	EC 4-0	3K392M662674	2,756,013.292100	311,305.228803	0.000000		0.000000	207.338360	285-13-18.072
10	IP.5	BC 5-0	3K600M001035	2,756,067.729704	311,105.164456	-601.850000		-601.850000	333.704315	285-13-18.072
11	IP.5	EC 5-0	3K933M705350	2,756,063.920212	310,775.740392	0.000000		0.000000	502.224805	253-27-11.609
12	IP.6	BC 6-0	4K435M930155	2,755,920.887585	310,294.313946	581.850000		581.850000	753.302985	253-27-11.609
13	IP.6	EC 6-0	5K189M233140	2,756,167.147735	309,637.156461	0.000000		0.000000	801.975632	327-37-56.198
14	IP.7	BC 7-0	5K991M208772	2,756,844.520130	309,207.817954	-651.850000		-651.850000	819.792882	327-37-56.198
15	IP.7	EC 7-0	6K811M001654	2,757,126.851089	308,494.859845	0.000000		0.000000	1,699.260151	255-34-29.249
16	IP.8	BC 8-0	8K510M261805	2,756,703.538171	306,849.171164	-801.850000		-801.850000	202.315653	255-34-29.249
17	IP.8	EC 8-0	8K712M577458	2,756,629.083424	306,661.630692	0.000000		0.000000	1,507.156829	241-07-06.349
18	IP.9	BC 9-0	10K219M734287	2,755,901.125549	305,341.934120	601.850000		601.850000	688.062101	241-07-06.349
19	IP.9	EC 9-0	10K907M796388	2,755,945.076732	304,692.220447	0.000000		0.000000	2,392.635653	306-37-17.591
20	IP.10	BC 10-0	13K300M432041	2,757,372.348097	302,771.907499	-701.850000		-701.850000	320.115068	306-37-17.591
21	IP.10	EC 10-0	13K620M547110	2,757,499.170454	302,481.002767	0.000000		0.000000	446.055169	280-29-19.836
22	IP.11	BC 11-0	14K066M602279	2,757,580.372149	302,042.401014	2,001.850000		2,001.850000	288.726146	280-29-19.836
23	IP.11	EC 11-0	14K355M328425	2,757,653.189041	301,763.266499	0.000000		0.000000	481.710719	288-45-09.339
24	IP.12	BC 12-0	14K837M039144	2,757,808.050530	301,307.127117	-334.850000		-334.850000	402.416338	288-45-09.339
25	IP.12	EC 12-0	15K239M455483	2,757,705.745621	300,942.577085	0.000000		0.000000	350.273221	219-53-44.232
26	IP.13	BC 13-0	15K589M728703	2,757,437.011037	300,717.915000	801.850000		801.850000	456.069128	219-53-44.232
27	IP.13	EC 13-0	16K045M797832	2,757,186.640645	300,344.061397	0.000000		0.000000	349.283952	252-29-01.698
28	IP.14	BC 14-0	16K395M081783	2,757,081.514782	300,010.973073	801.850000		801.850000	113.450610	252-29-01.698
29	IP.14	EC 14-0	16K508M532394	2,757,055.123692	299,900.731999	0.000000		0.000000	100.630372	260-35-25.297
30	IP.15	BC 15-0	16K609M162766	2,757,038.671437	299,801.455642	-801.850000		-801.850000	130.614192	260-35-25.297
31	IP.15	EC 15-0	16K739M776958	2,757,006.939757	299,674.903364	0.000000		0.000000	216.612582	251-15-26.605
32	IP.16	BC 16-0	16K956M389540	2,756,937.338382	299,469.777405	-601.850000		-601.850000	216.017024	251-15-26.605
33	IP.16	EC 16-0	17K172M406564	2,756,833.090639	299,281.902555	0.000000		0.000000	986.390349	230-41-33.690
34	IP.17	BC 17-0	18K158M796913	2,756,208.232502	298,518.673737	5,000.000000		5,000.000000	26.548716	230-41-33.690
35	IP.17	EC 17-0	18K185M345628	2,756,191.469049	298,498.086865	0.000000		0.000000	571.391754	230-59-48.903
36	IP.18	BC 18-0	18K756M737383	2,755,831.856678	298,054.051416	4,001.850000		4,001.850000	95.470607	230-59-48.903
37	IP.18	EC 18-0	18K852M207989	2,755,772.661722	297,979.150404	0.000000		0.000000	132.328921	232-21-49.684
38	IP.19	BC 19-0	18K984M536910	2,755,691.855648	297,874.358602	-4,001.850000		-4,001.850000	95.714329	232-21-49.684
39	IP.19	EC 19-0	19K080M251239	2,755,632.507297	297,799.268195	0.000000		0.000000	3,169.791846	230-59-36.341
40	IP.20	BC 20-0	22K250M043085	2,753,637.410115	295,336.106084	-1,000.000000		-1,000.000000	41.358257	230-59-36.341

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
41	IP.20	EC 20-0	22K291M401342	2,753,610.721755	295,304.515057	0.000000		0.000000	42.030347	228-37-25.589
42	IP.21	BC 21-0	22K333M431688	2,753,582.939673	295,272.976098	1,000.000000		1,000.000000	41.418762	228-37-25.589
43	IP.21	EC 21-0	22K374M850451	2,753,556.213232	295,241.338051	0.000000		0.000000	175.253205	230-59-48.822
44	IP.22	BC 22-0	22K550M103656	2,753,445.915435	295,105.146708	1,500.000000		1,500.000000	48.175618	230-59-48.822
45	IP.22	EC 22-0	22K598M279274	2,753,416.201865	295,067.228448	0.000000		0.000000	51.476425	232-50-13.445
46	IP.23	BC 23-0	22K649M755698	2,753,385.105797	295,026.205809	-1,500.000000		-1,500.000000	48.176314	232-50-13.445
47	IP.23	EC 23-0	22K697M932013	2,753,355.391789	294,988.287009	0.000000		0.000000	405.919912	230-59-48.726
48	IP.24	BC 24-0	23K103M851924	2,753,099.920870	294,672.841952	-281.850000		-281.850000	550.935444	230-59-48.726
49	IP.24	EC 24-0	23K654M787368	2,752,634.380763	294,713.583649	0.000000		0.000000	552.527089	119-00-00.532
50	IP.25	BC 25-0	24K207M314457	2,752,366.509070	295,196.834040	1,501.850000		1,501.850000	165.745706	119-00-00.532
51	IP.25	EC 25-0	24K373M060163	2,752,278.325513	295,337.074647	0.000000		0.000000	263.559395	125-19-24.127
52	IP.26	BC 26-0	24K636M619559	2,752,125.937989	295,552.113242	-2,000.000000		-2,000.000000	105.877144	125-19-24.127
53	IP.26	EC 26-0	24K742M496702	2,752,067.035450	295,640.078251	0.000000		0.000000	95.379670	122-17-24.763
54	IP.27	BC 27-0	24K837M876373	2,752,016.082873	295,720.707751	2,000.000000		2,000.000000	105.877290	122-17-24.763
55	IP.27	EC 27-0	24K943M753663	2,751,957.180249	295,808.672880	0.000000		0.000000	640.757757	125-19-24.142
56	IP.28	BC 28-0	25K584M511420	2,751,586.700198	296,331.468283	500.000000		500.000000	503.771239	125-19-24.142
57	IP.28	EC 28-0	26K088M282658	2,751,152.134230	296,541.664166	0.000000		0.000000	498.448173	183-03-04.696
58	IP.29	BC 29-0	26K586M730831	2,750,654.392721	296,515.131700	-1,500.000000		-1,500.000000	156.405373	183-03-04.696
59	IP.29	EC 29-0	26K743M136204	2,750,498.058291	296,514.956576	0.000000		0.000000	179.544467	177-04-37.414
60	IP.30	BC 30-0	26K922M680671	2,750,318.747408	296,524.112054	-301.850000		-301.850000	170.476645	177-04-37.414
61	IP.30	EC 30-0	27K093M157315	2,750,159.790522	296,579.163538	0.000000		0.000000	108.870328	144-43-04.679
62	IP.31	BC 31-0	27K202M027643	2,750,070.917632	296,642.047223	601.850000		601.850000	122.539267	144-43-04.679
63	IP.31	EC 31-0	27K324M566910	2,749,964.395640	296,702.189849	0.000000		0.000000	116.693338	156-23-01.087
64	IP.32	BC 32-0	27K441M260248	2,749,857.475562	296,748.938455	-801.850000		-801.850000	95.933583	156-23-01.087
65	IP.32	EC 32-0	27K537M193831	2,749,772.082389	296,792.530722	0.000000		0.000000	291.975911	149-31-43.501
66	IP.33	BC 33-0	27K829M169742	2,749,520.433102	296,940.593442	-240.000000		-240.000000	234.168444	149-31-43.501
67	IP.33	PCC 33-0	28K063M338186	2,749,402.618752	297,132.270664	-1,000.000000		-1,000.000000	155.969542	93-37-30.548
68	IP.33	EC 33-0	28K219M307728	2,749,404.911269	297,288.065296	0.000000		0.000000	220.733553	84-41-19.521
69	IP.34	BC 34-0	28K440M041281	2,749,425.343690	297,507.851141	-800.000000		-800.000000	121.900454	84-41-19.521
70	IP.34	EC 34-0	28K561M941734	2,749,445.813484	297,627.901043	0.000000		0.000000	122.530177	75-57-29.804
71	IP.35	BC 35-0	28K684M471911	2,749,475.542781	297,746.769933	801.850000		801.850000	120.908026	75-57-29.804
72	IP.35	EC 35-0	28K805M379937	2,749,495.940944	297,865.828693	0.000000		0.000000	623.748106	84-35-51.719
73	IP.36	BC 36-0	29K429M128042	2,749,554.665757	298,486.806225	-601.850000		-601.850000	68.327402	84-35-51.719
74	IP.36	EC 36-0	29K497M455444	2,749,564.942050	298,554.319330	0.000000		0.000000	750.799558	78-05-34.691
75	IP.37	BC 37-0	30K248M255002	2,749,719.850205	299,288.964441	583.700000		583.700000	334.711494	78-05-34.691
76	IP.37	PCC 37-0	30K582M966495	2,749,693.829332	299,618.081847	1,003.700000		1,003.700000	326.203156	110-56-53.261
77	IP.37	EC 37-0	30K909M169652	2,749,530.176303	299,898.604317	0.000000		0.000000	501.402498	129-34-09.458
78	IP.38	BC 38-0	31K410M572150	2,749,210.777414	300,285.112810	-1,300.000000		-1,300.000000	45.116585	129-34-09.458
79	IP.38	EC 38-0	31K455M688735	2,749,182.646856	300,320.382820	0.000000		0.000000	52.870076	127-34-51.025
80	IP.39	BC 39-0	31K508M558810	2,749,150.402444	300,362.282018	1,300.000000		1,300.000000	45.115735	127-34-51.025
81	IP.39	EC 39-0	31K553M674545	2,749,122.272427	300,397.551373	0.000000		0.000000	165.026164	129-34-09.323
82	IP.40	BC 40-0	31K718M700709	2,749,017.149034	300,524.762642	-1,170.000000		-1,170.000000	950.000000	129-34-09.323
83	IP.40	PCC 40-0	32K668M700709	2,748,757.653893	301,411.698503	-700.000000		-700.000000	274.104784	83-02-49.352
84	IP.40	EC 40-0	32K942M805492	2,748,842.588816	301,670.473203	0.000000		0.000000	813.489523	60-36-40.538
85	IP.41	BC 41-0	33K756M295016	2,749,241.794581	302,379.274982	-2,001.850000		-2,001.850000	62.576568	60-36-40.538
86	IP.41	EC 41-0	33K818M871584	2,749,273.350054	302,433.309786	0.000000		0.000000	65.400828	58-49-12.830

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
87	IP.42	BC 42-0	33K884M272412	2,749,307.209695	302,489.263276	2,001.850000		2,001.850000	62.576573	58-49-12.830
88	IP.42	EC 42-0	33K946M848985	2,749,338.765171	302,543.298085	0.000000		0.000000	436.122999	60-36-40.539
89	IP.43	BC 43-0	34K382M971984	2,749,552.784909	302,923.296535	801.850000		801.850000	47.456118	60-36-40.539
90	IP.43	EC 43-0	34K430M428102	2,749,574.836349	302,965.310341	0.000000		0.000000	48.211383	64-00-07.968
91	IP.44	BC 44-0	34K478M639485	2,749,595.969154	303,008.643261	-750.000000		-750.000000	47.172619	64-00-07.968
92	IP.44	EC 44-0	34K525M812104	2,749,617.965951	303,050.364520	0.000000		0.000000	246.555600	60-23-54.566
93	IP.45	BC 45-0	34K772M367705	2,749,739.755732	303,264.740156	1,500.000000		1,500.000000	65.697408	60-23-54.566
94	IP.45	EC 45-0	34K838M065113	2,749,770.946825	303,322.555164	0.000000		0.000000	108.690860	62-54-28.608
95	IP.46	BC 46-0	34K946M755972	2,749,820.446972	303,419.320026	-1,000.000000		-1,000.000000	48.616947	62-54-28.608
96	IP.46	EC 46-0	34K995M372920	2,749,843.631375	303,462.047365	0.000000		0.000000	1,004.291038	60-07-20.643
97	IP.47	BC 47-0	35K999M663957	2,750,343.917723	304,332.859663	2,001.850000		2,001.850000	97.368628	60-07-20.643
98	IP.47	EC 47-0	36K097M032585	2,750,390.349819	304,418.433264	0.000000		0.000000	123.159825	62-54-33.223
99	IP.48	BC 48-0	36K220M192410	2,750,446.436990	304,528.080753	-601.850000		-601.850000	89.106066	62-54-33.223
100	IP.48	EC 48-0	36K309M298476	2,750,492.729761	304,604.122698	0.000000		0.000000	52.274595	54-25-34.974
101	IP.49	BC 49-0	36K361M573071	2,750,523.140430	304,646.641218	600.000000		600.000000	63.699018	54-25-34.974
102	IP.49	EC 49-0	36K425M272090	2,750,557.380002	304,700.319957	0.000000		0.000000	161.136393	60-30-33.083
103	IP.50	BC 50-0	36K586M408483	2,750,636.704863	304,840.578659	600.000000		600.000000	45.394507	60-30-33.083
104	IP.50	EC 50-0	36K631M802989	2,750,657.536524	304,880.898882	0.000000		0.000000	44.548349	64-50-38.565
105	IP.51	BC 51-0	36K676M351338	2,750,676.473296	304,921.222003	-600.000000		-600.000000	45.394506	64-50-38.565
106	IP.51	EC 51-0	36K721M745844	2,750,697.304957	304,961.542224	0.000000		0.000000	2,837.494632	60-30-33.084
107	IP.52	BC 52-0	39K559M240476	2,752,094.158034	307,431.395918	4,001.850000		4,001.850000	52.047727	60-30-33.084
108	IP.52	EC 52-0	39K611M288203	2,752,119.484966	307,476.865405	0.000000		0.000000	559.023283	61-15-15.746
109	IP.53	BC 53-0	40K170M311486	2,752,388.331470	307,966.996599	-800.000000		-800.000000	52.740392	61-15-15.746
110	IP.53	EC 53-0	40K223M051878	2,752,415.200781	308,012.368196	0.000000		0.000000	47.511227	57-28-37.638
111	IP.54	BC 54-0	40K270M563105	2,752,440.744543	308,052.428562	1,000.000000		1,000.000000	52.704138	57-28-37.638
112	IP.54	EC 54-0	40K323M267243	2,752,467.896300	308,097.593431	0.000000		0.000000	177.890731	60-29-48.647
113	IP.55	BC 55-0	40K501M157974	2,752,555.502409	308,252.416820	1,500.000000		1,500.000000	51.335592	60-29-48.647
114	IP.55	EC 55-0	40K552M493567	2,752,580.014325	308,297.519501	0.000000		0.000000	48.813938	62-27-27.798
115	IP.56	BC 56-0	40K601M307505	2,752,602.586037	308,340.801349	-1,500.000000		-1,500.000000	51.012964	62-27-27.798
116	IP.56	EC 56-0	40K652M320469	2,752,626.939098	308,385.623220	0.000000		0.000000	1,377.116948	60-30-33.011
117	IP.57	BC 57-0	42K029M437417	2,753,304.872095	309,584.313314	2,001.850000		2,001.850000	364.924623	60-30-33.011
118	IP.57	EC 57-0	42K394M362041	2,753,454.653353	309,916.528881	0.000000		0.000000	358.890277	70-57-13.784
119	IP.58	BC 58-0	42K753M252318	2,753,571.770011	310,255.772038	2,001.850000		2,001.850000	195.438657	70-57-13.784
120	IP.58	EC 58-0	42K948M690975	2,753,626.435428	310,443.329047	0.000000		0.000000	154.789395	76-32-51.215
121	EP	EP	43K103M480370	2,753,662.445346	310,593.871542				0.000000	76-32-51.215

Computation of IP direction and distance

Line Name: survey center line

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
BP	2,753,662.445346	310,593.871543						
			128.949470	76-34-53.569				
IP.1	2,753,692.369513	310,719.300845			13-18-29.747 (Right curve)	0.000000	1,002.000000	0.000000
			977.020450	89-53-23.315				
IP.2	2,753,694.248501	311,696.319488			85-22-21.904 (Left curve)	0.000000	295.000000	0.000000
			985.140350	4-31-01.411				
IP.3	2,754,676.328936	311,773.905108			7-23-09.195 (Left curve)	0.000000	1,500.000000	0.000000
			1,227.694119	357-07-52.217				
IP.4	2,755,902.484428	311,712.459523			71-54-34.145 (Left curve)	0.000000	581.850000	0.000000
			800.637739	285-13-18.072				
IP.5	2,756,112.695408	310,939.910409			31-46-06.463 (Left curve)	0.000000	601.850000	0.000000
			1,113.369741	253-27-11.609				
IP.6	2,755,795.609916	309,872.648037			74-10-44.589 (Right curve)	0.000000	581.850000	0.000000
			1,715.954705	327-37-56.198				
IP.7	2,757,244.956132	308,954.009862			72-03-26.949 (Left curve)	0.000000	651.850000	0.000000
			2,275.054616	255-34-29.249				
IP.8	2,756,678.203592	306,750.679414			14-27-22.899 (Left curve)	0.000000	801.850000	0.000000
			1,996.000860	241-07-06.349				
IP.9	2,755,714.133686	305,002.941262			65-30-11.242 (Right curve)	0.000000	601.850000	0.000000
			2,942.672982	306-37-17.591				
IP.10	2,757,469.517076	302,641.172129			26-07-57.755 (Left curve)	0.000000	701.850000	0.000000
			753.560233	280-29-19.836				
IP.11	2,757,606.698242	301,900.203607			8-15-49.503 (Right curve)	0.000000	2,001.850000	0.000000
			855.845772	288-45-09.339				
IP.12	2,757,881.837543	301,089.789915			68-51-25.107 (Left curve)	0.000000	334.850000	0.000000
			814.182031	219-53-44.232				
IP.13	2,757,257.185539	300,567.580901			32-35-17.466 (Right curve)	0.000000	801.850000	0.000000
			640.491683	252-29-01.698				
IP.14	2,757,064.413325	299,956.787589			8-06-23.598 (Right curve)	0.000000	801.850000	0.000000
			222.902378	260-35-25.297				
IP.15	2,757,027.970581	299,736.884436			9-19-58.692 (Left curve)	0.000000	801.850000	0.000000
			391.247625	251-15-26.605				
IP.16	2,756,902.255941	299,366.384054			20-33-52.915 (Left curve)	0.000000	601.850000	0.000000
			1,108.847899	230-41-33.690				
IP.17	2,756,199.823447	298,508.402553			0-18-15.213 (Right curve)	0.000000	5,000.000000	0.000000
			632.403711	230-59-48.903				
IP.18	2,755,801.812457	298,016.953975			1-22-00.781 (Right curve)	0.000000	4,001.850000	0.000000
			227.925934	232-21-49.684				
IP.19	2,755,662.630488	297,836.458515			1-22-13.343 (Left curve)	0.000000	4,001.850000	0.000000
			3,238.333368	230-59-36.341				
IP.20	2,753,624.392619	295,320.034585			2-22-10.753 (Left curve)	0.000000	1,000.000000	0.000000
			83.424765	228-37-25.589				

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
IP.21	2,753,569.248803	295,257.433858			2-22-23.233 (Right curve)	0.000000	1,000.000000	0.000000
			220.055427	230-59-48.822				
IP.22	2,753,430.754168	295,086.426177			1-50-24.623 (Right curve)	0.000000	1,500.000000	0.000000
			99.656532	232-50-13.445				
IP.23	2,753,370.553284	295,007.007803			1-50-24.719 (Left curve)	0.000000	1,500.000000	0.000000
			847.844155	230-59-48.726				
IP.24	2,752,836.951656	294,348.138307			111-59-48.194 (Left curve)	0.000000	281.850000	0.000000
			1,053.318173	119-00-00.532				
IP.25	2,752,326.290498	295,269.389823			6-19-23.596 (Right curve)	0.000000	1,501.850000	0.000000
			399.467402	125-19-24.127				
IP.26	2,752,095.322262	295,595.316010			3-01-59.364 (Left curve)	0.000000	2,000.000000	0.000000
			201.281621	122-17-24.763				
IP.27	2,751,987.796022	295,765.470054			3-01-59.379 (Right curve)	0.000000	2,000.000000	0.000000
			969.313456	125-19-24.142				
IP.28	2,751,427.348184	296,556.334642			57-43-40.554 (Right curve)	0.000000	500.000000	0.000000
			852.326477	183-03-04.696				
IP.29	2,750,576.230075	296,510.965184			5-58-27.283 (Left curve)	0.000000	1,500.000000	0.000000
			345.396778	177-04-37.414				
IP.30	2,750,231.282652	296,528.577938			32-21-32.735 (Left curve)	0.000000	301.850000	0.000000
			257.931196	144-43-04.679				
IP.31	2,750,020.728580	296,677.559430			11-39-56.408 (Right curve)	0.000000	601.850000	0.000000
			226.199602	156-23-01.087				
IP.32	2,749,813.473570	296,768.177421			6-51-17.585 (Left curve)	0.000000	801.850000	0.000000
			502.618511	149-31-43.501				
IP.33	2,749,380.274853	297,023.058256			64-50-23.980 (Left curve)	0.000000	240.000000	0.000000
							1,000.000000	0.000000
			547.951725	84-41-19.521				
IP.34	2,749,430.996550	297,568.657378			8-43-49.717 (Left curve)	0.000000	800.000000	0.000000
			244.167425	75-57-29.804				
IP.35	2,749,490.238494	297,805.528912			8-38-21.915 (Right curve)	0.000000	801.850000	0.000000
			718.517365	84-35-51.719				
IP.36	2,749,557.885670	298,520.854756			6-30-17.028 (Left curve)	0.000000	601.850000	0.000000
			1,094.498298	78-05-34.691				
IP.37	2,749,783.707208	299,591.803474			51-28-34.767 (Right curve)	0.000000	583.700000	0.000000
							1,003.700000	0.000000
			921.963906	129-34-09.458				
IP.38	2,749,196.406092	300,302.503722			1-59-18.434 (Left curve)	0.000000	1,300.000000	0.000000
			97.990764	127-34-51.025				
IP.39	2,749,136.643467	300,380.160779			1-59-18.299 (Right curve)	0.000000	1,300.000000	0.000000
			952.956687	129-34-09.323				
IP.40	2,748,529.600090	301,114.752356			68-57-28.785 (Left curve)	0.000000	1,170.000000	0.000000
							700.000000	0.000000
			1,482.579384	60-36-40.538				
IP.41	2,749,257.150010	302,406.539005			1-47-27.708 (Left curve)	0.000000	2,001.850000	0.000000
			127.982495	58-49-12.830				
IP.42	2,749,323.409741	302,516.034060			1-47-27.708 (Right curve)	0.000000	2,001.850000	0.000000

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			491.148821	60-36-40.539				
IP.43	2,749,564.432439	302,943.977074			3-23-27.429 (Right curve)	0.000000	801.850000	0.000000
			95.540459	64-00-07.968				
IP.44	2,749,606.311303	303,029.849887			3-36-13.401 (Left curve)	0.000000	750.000000	0.000000
			303.003644	60-23-54.566				
IP.45	2,749,755.984429	303,293.306077			2-30-34.042 (Right curve)	0.000000	1,500.000000	0.000000
			165.858079	62-54-28.608				
IP.46	2,749,831.519753	303,440.965540			2-47-07.965 (Left curve)	0.000000	1,000.000000	0.000000
			1,077.298215	60-07-20.643				
IP.47	2,750,368.174537	304,375.081746			2-47-12.580 (Right curve)	0.000000	2,001.850000	0.000000
			216.488334	62-54-33.223				
IP.48	2,750,466.763652	304,567.818315			8-28-58.250 (Left curve)	0.000000	601.850000	0.000000
			128.788648	54-25-34.974				
IP.49	2,750,541.686257	304,672.570972			6-04-58.109 (Right curve)	0.000000	600.000000	0.000000
			215.723937	60-30-33.083				
IP.50	2,750,647.883690	304,860.344564			4-20-05.482 (Right curve)	0.000000	600.000000	0.000000
			89.964521	64-50-38.565				
IP.51	2,750,686.126131	304,941.776319			4-20-05.481 (Left curve)	0.000000	600.000000	0.000000
			2,886.226948	60-30-33.084				
IP.52	2,752,106.969345	307,454.048310			0-44-42.663 (Right curve)	0.000000	4,001.850000	0.000000
			611.427264	61-15-15.746				
IP.53	2,752,401.018069	307,990.125401			3-46-38.108 (Left curve)	0.000000	800.000000	0.000000
			100.249149	57-28-37.638				
IP.54	2,752,454.915653	308,074.653161			3-01-11.009 (Right curve)	0.000000	1,000.000000	0.000000
			229.919203	60-29-48.647				
IP.55	2,752,568.144300	308,274.758418			1-57-39.151 (Right curve)	0.000000	1,500.000000	0.000000
			99.993181	62-27-27.798				
IP.56	2,752,614.381448	308,363.419358			1-56-54.786 (Left curve)	0.000000	1,500.000000	0.000000
			1,585.595169	60-30-33.011				
IP.57	2,753,394.944991	309,743.576087			10-26-40.773 (Right curve)	0.000000	2,001.850000	0.000000
			639.656577	70-57-13.784				
IP.58	2,753,603.684111	310,348.215249			5-35-37.431 (Right curve)	0.000000	2,001.850000	0.000000
			252.586415	76-32-51.215				
EP	2,753,662.445346	310,593.871542						

Coordinate list of element points

Line Name: Down Track (Counter Clockwise)

Type of transition curve: Cubic parabola

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
1	BP	BP	0K000M000000	2,753,647.966251	310,525.209119	0.000000		0.000000	28.898823	70-51-53.703
2	IP.1	BTC 1-0	0K028M898823	2,753,657.439182	310,552.511235	0.000000	20.000000	800.000000	20.000000	70-51-53.703
3	IP.1	BCC 1-0	0K048M898823	2,753,663.916281	310,571.433222	800.000000		800.000000	245.638958	71-34-51.839
4	IP.1	ECC 1-0	0K294M537780	2,753,704.815759	310,812.665815	800.000000	20.000000	0.000000	20.000000	89-10-25.179
5	IP.1	ETC 1-0	0K314M537780	2,753,704.937553	310,832.665305	0.000000		0.000000	571.943144	89-53-23.314
6	IP.2	BTC 2-0	0K886M480925	2,753,706.037506	311,404.607391	0.000000	85.000000	-270.000000	85.000000	89-53-23.314
7	IP.2	BCC 2-0	0K971M480925	2,753,710.638607	311,489.390349	-270.000000		-270.000000	25.475799	80-57-57.604
8	IP.2	BIT 2-0	0K996M956724	2,753,715.818990	311,514.324234	-270.000000	50.000000	-265.000000	50.000000	75-33-35.527
9	IP.2	EIT 2-0	1K046M956724	2,753,732.677269	311,561.321538	-265.000000		-265.000000	237.845540	65-01-49.182
10	IP.2	ECC 2-0	1K284M802263	2,753,910.570121	311,707.018387	-265.000000	85.000000	0.000000	85.000000	13-36-20.261
11	IP.2	ETC 2-0	1K369M802263	2,753,994.734527	311,718.202509	0.000000		0.000000	549.410224	4-31-01.411
12	IP.3	BTC 3-0	1K919M212487	2,754,542.438244	311,761.471807	0.000000	75.000000	-1,500.000000	75.000000	4-31-01.411
13	IP.3	BCC 3-0	1K994M212487	2,754,617.249834	311,766.755149	-1,500.000000		-1,500.000000	118.382379	3-05-06.187
14	IP.3	ECC 3-0	2K112M594866	2,754,735.589249	311,768.457404	-1,500.000000	75.000000	0.000000	75.000000	358-33-47.441
15	IP.3	ETC 3-0	2K187M594866	2,754,810.521851	311,765.328058	0.000000		0.000000	607.583573	357-07-52.217
16	IP.4	BTC 4-0	2K795M178440	2,755,417.343961	311,734.918751	0.000000	125.000000	-580.000000	125.000000	357-07-52.217
17	IP.4	BCC 4-0	2K920M178440	2,755,541.818868	311,724.195821	-580.000000		-580.000000	603.556462	350-59-16.228
18	IP.4	ECC 4-0	3K523M734902	2,755,991.106798	311,362.654631	-580.000000	125.000000	0.000000	125.000000	291-21-54.061
19	IP.4	ETC 4-0	3K648M734902	2,756,028.210602	311,243.355463	0.000000		0.000000	80.624597	285-13-18.072
20	IP.5	BTC 5-0	3K729M359499	2,756,049.378947	311,165.559404	0.000000	125.000000	-600.000000	125.000000	285-13-18.072
21	IP.5	BCC 5-0	3K854M359499	2,756,077.983839	311,043.937913	-600.000000		-600.000000	208.265379	279-16-52.320
22	IP.5	ECC 5-0	4K062M624878	2,756,075.586965	310,836.730355	-600.000000	125.000000	0.000000	125.000000	259-23-35.956
23	IP.5	ETC 5-0	4K187M624878	2,756,044.176390	310,715.803093	0.000000		0.000000	375.494599	253-27-10.204
24	IP.6	BTC 6-0	4K563M119477	2,755,937.233822	310,355.859373	0.000000	125.000000	583.700000	125.000000	253-27-10.204
25	IP.6	BCC 6-0	4K688M119477	2,755,905.940827	310,234.905112	583.700000		583.700000	631.317538	259-33-27.382
26	IP.6	ECC 6-0	5K319M437015	2,756,116.830919	309,672.128557	583.700000	125.000000	0.000000	125.000000	321-31-39.020
27	IP.6	ETC 6-0	5K444M437015	2,756,219.906169	309,601.526308	0.000000		0.000000	676.192650	327-37-56.198
28	IP.7	BTC 7-0	6K120M629665	2,756,791.038529	309,239.525854	0.000000	125.000000	-650.000000	125.000000	327-37-56.198
29	IP.7	BCC 7-0	6K245M629665	2,756,894.379127	309,169.290888	-650.000000		-650.000000	691.232953	322-08-41.925
30	IP.7	ECC 7-0	6K936M862619	2,757,137.870327	308,556.796099	-650.000000	125.000000	0.000000	125.000000	261-12-52.647
31	IP.7	ETC 7-0	7K061M862619	2,757,110.957199	308,434.780063	0.000000		0.000000	134.232358	255-43-38.374
32	IP.8	BTC 8-0	7K196M094977	2,757,077.863979	308,304.690998	0.000000	30.000000	-1,250.000000	30.000000	255-43-38.374
33	IP.8	BCC 8-0	7K226M094977	2,757,070.351688	308,275.646998	-1,250.000000		-1,250.000000	33.032239	255-02-23.351
34	IP.8	ECC 8-0	7K259M127215	2,757,061.403851	308,243.850748	-1,250.000000	30.000000	0.000000	30.000000	253-31-32.640
35	IP.8	ETC 8-0	7K289M127215	2,757,052.666513	308,215.151490	0.000000		0.000000	26.736485	252-50-17.617
36	IP.9	BTC 9-0	7K315M863700	2,757,044.777361	308,189.605435	0.000000	30.000000	1,500.000000	30.000000	252-50-17.617
37	IP.9	BCC 9-0	7K345M863700	2,757,036.020876	308,160.911952	1,500.000000		1,500.000000	41.678510	253-24-40.176
38	IP.9	ECC 9-0	7K387M542210	2,757,024.678019	308,120.808012	1,500.000000	30.000000	0.000000	30.000000	255-00-11.382
39	IP.9	ETC 9-0	7K417M542210	2,757,017.108428	308,091.778832	0.000000		0.000000	800.371671	255-34-33.941
40	IP.10	BTC 10-0	8K217M913881	2,756,817.740659	307,316.635423	0.000000	40.000000	3,000.000000	40.000000	255-34-33.941

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
41	IP.10	BCC 10-0	8K257M913881	2,756,807.863030	307,277.874281	3,000.000000		3,000.000000	24.457015	255-57-29.013
42	IP.10	ECC 10-0	8K282M370896	2,756,802.025751	307,254.124156	3,000.000000	40.000000	0.000000	40.000000	256-25-30.554
43	IP.10	ETC 10-0	8K322M370896	2,756,792.810053	307,215.200325	0.000000		0.000000	34.642316	256-48-25.626
44	IP.11	BTC 11-0	8K357M013211	2,756,784.903640	307,181.472315	0.000000	30.000000	-4,000.000000	30.000000	256-48-25.626
45	IP.11	BCC 11-0	8K387M013211	2,756,778.020242	307,152.272697	-4,000.000000		-4,000.000000	45.866994	256-35-32.137
46	IP.11	ECC 11-0	8K432M880206	2,756,767.129066	307,107.717783	-4,000.000000	30.000000	0.000000	30.000000	255-56-06.951
47	IP.11	ETC 11-0	8K462M880206	2,756,759.765801	307,078.635465	0.000000		0.000000	172.448283	255-43-13.462
48	IP.12	BTC 12-0	8K635M328489	2,756,717.230764	306,911.515206	0.000000	125.000000	-800.000000	125.000000	255-43-13.462
49	IP.12	BCC 12-0	8K760M328489	2,756,683.267002	306,791.252923	-800.000000		-800.000000	79.211060	251-15-21.440
50	IP.12	ECC 12-0	8K839M539549	2,756,654.144328	306,717.624548	-800.000000	125.000000	0.000000	125.000000	245-34-58.372
51	IP.12	ETC 12-0	8K964M539549	2,756,596.652843	306,606.668328	0.000000		0.000000	1,379.893417	241-07-06.349
52	IP.13	BTC 13-0	10K344M432966	2,755,930.163292	305,398.406137	0.000000	125.000000	603.700000	125.000000	241-07-06.349
53	IP.13	BCC 13-0	10K469M432966	2,755,873.621693	305,286.991343	603.700000		603.700000	565.752780	247-01-22.237
54	IP.13	ECC 13-0	11K035M185746	2,755,910.423884	304,742.958510	603.700000	125.000000	0.000000	125.000000	300-43-01.703
55	IP.13	ETC 13-0	11K160M185746	2,755,981.455446	304,640.173657	0.000000		0.000000	2,266.245625	306-37-17.591
56	IP.14	BTC 14-0	13K426M431371	2,757,333.331769	302,821.300478	0.000000	125.000000	-700.000000	125.000000	306-37-17.591
57	IP.14	BCC 14-0	13K551M431371	2,757,404.857291	302,718.840338	-700.000000		-700.000000	194.700382	301-31-24.311
58	IP.14	ECC 14-0	13K746M131753	2,757,482.415293	302,540.938031	-700.000000	125.000000	0.000000	125.000000	285-35-13.116
59	IP.14	ETC 14-0	13K871M131753	2,757,508.804988	302,418.800549	0.000000		0.000000	353.130317	280-29-19.836
60	IP.15	BTC 15-0	14K224M262070	2,757,573.090266	302,071.570908	0.000000	60.000000	2,003.700000	60.000000	280-29-19.836
61	IP.15	BCC 15-0	14K284M262070	2,757,584.307094	302,012.629318	2,003.700000		2,003.700000	228.998798	281-20-47.795
62	IP.15	ECC 15-0	14K513M260868	2,757,642.079351	301,791.166543	2,003.700000	60.000000	0.000000	60.000000	287-53-41.380
63	IP.15	ETC 15-0	14K573M260868	2,757,661.084321	301,734.256620	0.000000		0.000000	407.704461	288-45-09.339
64	IP.16	BTC 16-0	14K980M965330	2,757,792.154105	301,348.194915	0.000000	90.000000	-330.000000	90.000000	288-45-09.339
65	IP.16	BCC 16-0	15K070M965330	2,757,817.174680	301,261.819399	-330.000000		-330.000000	307.302390	281-00-05.676
66	IP.16	ECC 16-0	15K378M267720	2,757,737.110750	300,976.522160	-330.000000	90.000000	0.000000	90.000000	227-38-47.895
67	IP.16	ETC 16-0	15K468M267720	2,757,670.803036	300,915.776410	0.000000		0.000000	243.385270	219-53-44.232
68	IP.17	BTC 17-0	15K711M652990	2,757,484.074405	300,759.671292	0.000000	125.000000	803.700000	125.000000	219-53-44.232
69	IP.17	BCC 17-0	15K836M652990	2,757,390.306218	300,677.062829	803.700000		803.700000	332.447362	224-20-22.650
70	IP.17	ECC 17-0	16K169M100351	2,757,206.633629	300,402.802529	803.700000	125.000000	0.000000	125.000000	248-02-23.281
71	IP.17	ETC 17-0	16K294M100351	2,757,165.948148	300,284.644488	0.000000		0.000000	266.383323	252-29-01.698
72	IP.18	BTC 18-0	16K560M483674	2,757,085.773332	300,030.612849	0.000000	40.000000	803.700000	40.000000	252-29-01.698
73	IP.18	BCC 18-0	16K600M483674	2,757,074.051437	299,992.370083	803.700000		803.700000	73.723088	253-54-33.202
74	IP.18	ECC 18-0	16K674M206763	2,757,056.893541	299,920.697980	803.700000	40.000000	0.000000	40.000000	259-09-53.793
75	IP.18	ETC 18-0	16K714M206763	2,757,050.026974	299,881.292876	0.000000		0.000000	60.607729	260-35-25.297
76	IP.19	BTC 19-0	16K774M814492	2,757,040.118098	299,821.500644	0.000000	40.000000	-800.000000	40.000000	260-35-25.297
77	IP.19	BCC 19-0	16K814M814492	2,757,033.250022	299,782.095813	-800.000000		-800.000000	90.323671	259-09-30.072
78	IP.19	ECC 19-0	16K905M138164	2,757,011.293992	299,694.530777	-800.000000	40.000000	0.000000	40.000000	252-41-21.829
79	IP.19	ETC 19-0	16K945M138164	2,756,998.757720	299,656.547188	0.000000		0.000000	133.631841	251-15-26.605
80	IP.20	BTC 20-0	17K078M770005	2,756,955.819494	299,530.001632	0.000000	125.000000	-600.000000	125.000000	251-15-26.605
81	IP.20	BCC 20-0	17K203M770005	2,756,911.596957	299,413.149614	-600.000000		-600.000000	90.935755	245-19-00.852
82	IP.20	ECC 20-0	17K294M705760	2,756,867.518002	299,333.710704	-600.000000	125.000000	0.000000	125.000000	236-37-59.443
83	IP.20	ETC 20-0	17K419M705760	2,756,791.769651	299,234.351687	0.000000		0.000000	923.426327	230-41-33.690
84	IP.21	BC 21-0	18K343M132087	2,756,206.797935	298,519.841874	5,000.000000		5,000.000000	26.548716	230-41-33.690
85	IP.21	EC 21-0	18K369M680803	2,756,190.034482	298,499.255002	0.000000		0.000000	556.396470	230-59-48.903
86	IP.22	BTC 22-0	18K926M077273	2,755,839.859577	298,066.872570	0.000000	30.000000	4,003.700000	30.000000	230-59-48.903

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
87	IP.22	BCC 22-0	18K956M077273	2,755,821.007852	298,043.535660	4,003.700000		4,003.700000	65.514924	231-12-41.677
88	IP.22	ECC 22-0	19K021M592197	2,755,780.385907	297,992.135592	4,003.700000	30.000000	0.000000	30.000000	232-08-56.911
89	IP.22	ETC 22-0	19K051M592197	2,755,762.036896	297,968.401383	0.000000		0.000000	102.328529	232-21-49.684
90	IP.23	BTC 23-0	19K153M920725	2,755,699.550430	297,887.367012	0.000000	30.000000	-4,000.000000	30.000000	232-21-49.684
91	IP.23	BCC 23-0	19K183M920725	2,755,681.201391	297,863.632824	-4,000.000000		-4,000.000000	65.670264	232-08-56.196
92	IP.23	ECC 23-0	19K249M590990	2,755,640.481563	297,812.112126	-4,000.000000	30.000000	0.000000	30.000000	231-12-29.830
93	IP.23	ETC 23-0	19K279M590990	2,755,621.628444	297,788.776343	0.000000		0.000000	3,140.922161	230-59-36.341
94	IP.24	BTC 24-0	22K420M513151	2,753,644.702116	295,348.048107	0.000000	20.000000	-1,000.000000	20.000000	230-59-36.341
95	IP.24	BCC 24-0	22K440M513151	2,753,632.062248	295,332.548747	-1,000.000000		-1,000.000000	19.021070	230-25-13.783
96	IP.24	ECC 24-0	22K459M534221	2,753,619.804313	295,318.004566	-1,000.000000	20.000000	0.000000	20.000000	229-19-50.405
97	IP.24	ETC 24-0	22K479M534221	2,753,606.669686	295,302.922191	0.000000		0.000000	29.363917	228-45-27.847
98	IP.25	BTC 25-0	22K508M898138	2,753,587.311691	295,280.842616	0.000000	20.000000	1,000.000000	20.000000	228-45-27.847
99	IP.25	BCC 25-0	22K528M898138	2,753,574.177064	295,265.760241	1,000.000000		1,000.000000	19.081575	229-19-50.405
100	IP.25	ECC 25-0	22K547M979713	2,753,561.880579	295,251.169425	1,000.000000	20.000000	0.000000	20.000000	230-25-26.263
101	IP.25	ETC 25-0	22K567M979713	2,753,549.241648	295,235.669299	0.000000		0.000000	156.489652	230-59-48.822
102	IP.26	BTC 26-0	22K724M469365	2,753,450.752929	295,114.059336	0.000000	20.000000	1,500.000000	20.000000	230-59-48.822
103	IP.26	BCC 26-0	22K744M469365	2,753,438.200272	295,098.489196	1,500.000000		1,500.000000	28.176004	231-22-43.894
104	IP.26	ECC 26-0	22K772M645369	2,753,420.821495	295,076.311687	1,500.000000	20.000000	0.000000	20.000000	232-27-18.372
105	IP.26	ETC 26-0	22K792M645369	2,753,408.704457	295,060.400187	0.000000		0.000000	31.475712	232-50-13.445
106	IP.27	BTC 27-0	22K824M121081	2,753,389.690494	295,035.316535	0.000000	20.000000	-1,500.000000	20.000000	232-50-13.445
107	IP.27	BCC 27-0	22K844M121081	2,753,377.573456	295,019.405035	-1,500.000000		-1,500.000000	28.176699	232-27-18.372
108	IP.27	ECC 27-0	22K872M297780	2,753,360.194244	294,997.226982	-1,500.000000	20.000000	0.000000	20.000000	231-22-43.798
109	IP.27	ETC 27-0	22K892M297780	2,753,347.641581	294,981.656848	0.000000		0.000000	351.341806	230-59-48.726
110	IP.28	BTC 28-0	23K243M639586	2,753,126.520094	294,708.625068	0.000000	85.000000	-280.000000	85.000000	230-59-48.726
111	IP.28	BCC 28-0	23K328M639586	2,753,069.819457	294,645.415553	-280.000000		-280.000000	463.152641	222-23-07.646
112	IP.28	ECC 28-0	23K791M792228	2,752,659.260645	294,681.345568	-280.000000	85.000000	0.000000	85.000000	127-36-41.611
113	IP.28	ETC 28-0	23K876M792228	2,752,614.401390	294,753.443087	0.000000		0.000000	470.461109	119-00-00.532
114	IP.29	BTC 29-0	24K347M253337	2,752,386.316258	295,164.917057	0.000000	75.000000	1,503.700000	75.000000	119-00-00.532
115	IP.29	BCC 29-0	24K422M253337	2,752,349.412404	295,230.207138	1,503.700000		1,503.700000	90.970077	120-25-43.078
116	IP.29	ECC 29-0	24K513M223413	2,752,300.995382	295,307.205990	1,503.700000	75.000000	0.000000	75.000000	123-53-41.581
117	IP.29	ETC 29-0	24K588M223413	2,752,258.142416	295,368.755258	0.000000		0.000000	38.832108	125-19-24.127
118	IP.30	BTC 30-0	24K627M055522	2,752,235.690062	295,400.438446	0.000000	65.000000	-1,750.000000	65.000000	125-19-24.127
119	IP.30	BCC 30-0	24K692M055522	2,752,198.437260	295,453.702874	-1,750.000000		-1,750.000000	40.185634	124-15-34.067
120	IP.30	ECC 30-0	24K732M241155	2,752,176.198414	295,487.172979	-1,750.000000	65.000000	0.000000	65.000000	122-56-37.563
121	IP.30	ETC 30-0	24K797M241155	2,752,141.528843	295,542.153806	0.000000		0.000000	20.116669	121-52-47.504
122	IP.31	BTC 31-0	24K817M357824	2,752,130.904427	295,559.236023	0.000000	60.000000	1,400.000000	60.000000	121-52-47.504
123	IP.31	BCC 31-0	24K877M357824	2,752,098.853596	295,609.956801	1,400.000000		1,400.000000	24.152774	123-06-26.585
124	IP.31	ECC 31-0	24K901M510598	2,752,085.487252	295,630.073533	1,400.000000	60.000000	0.000000	60.000000	124-05-45.061
125	IP.31	ETC 31-0	24K961M510598	2,752,051.147055	295,679.273167	0.000000		0.000000	722.270146	125-19-24.142
126	IP.32	BTC 32-0	25K683M780745	2,751,633.537313	296,268.574675	0.000000	100.000000	600.000000	100.000000	125-19-24.142
127	IP.32	BCC 32-0	25K783M780745	2,751,573.495036	296,348.504505	600.000000		600.000000	220.000000	130-05-01.434
128	IP.32	BIT 32-0	26K003M780745	2,751,404.473562	296,487.399812	600.000000	100.000000	400.000000	100.000000	151-05-31.863
129	IP.32	EIT 32-0	26K103M780745	2,751,312.851822	296,527.029151	400.000000		400.000000	116.510119	162-47-15.057
130	IP.32	ECC 32-0	26K220M290863	2,751,198.140985	296,544.926883	400.000000	50.000000	0.000000	50.000000	179-28-34.900
131	IP.32	ETC 32-0	26K270M290863	2,751,148.175937	296,543.305793	0.000000		0.000000	456.968907	183-03-04.696
132	IP.33	BTC 33-0	26K727M259771	2,750,691.854888	296,518.981274	0.000000	75.000000	-1,500.000000	75.000000	183-03-04.696

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
133	IP.33	BCC 33-0	26K802M259771	2,750,616.932633	296,515.613299	-1,500.000000		-1,500.000000	81.425735	181-37-09.472
134	IP.33	ECC 33-0	26K883M685505	2,750,535.516946	296,515.522099	-1,500.000000	75.000000	0.000000	75.000000	178-30-32.630
135	IP.33	ETC 33-0	26K958M685505	2,750,460.587334	296,518.722216	0.000000		0.000000	96.194993	177-04-37.405
136	IP.34	BTC 34-0	27K054M880498	2,750,364.517488	296,523.627473	0.000000	90.000000	-300.000000	90.000000	177-04-37.405
137	IP.34	BCC 34-0	27K144M880498	2,750,275.063291	296,532.680745	-300.000000		-300.000000	80.293782	168-33-54.072
138	IP.34	ECC 34-0	27K225M174280	2,750,199.417160	296,558.879220	-300.000000	90.000000	0.000000	90.000000	153-13-48.134
139	IP.34	ETC 34-0	27K315M174280	2,750,123.524502	296,607.090418	0.000000		0.000000	43.115681	144-43-04.801
140	IP.35	BTC 35-0	27K358M289962	2,750,088.328348	296,631.994087	0.000000	40.000000	603.700000	40.000000	144-43-04.801
141	IP.35	BCC 35-0	27K398M289962	2,750,055.424084	296,654.735094	603.700000		603.700000	82.934117	146-36-54.908
142	IP.35	ECC 35-0	27K481M224079	2,749,983.262500	296,695.477743	603.700000	40.000000	0.000000	40.000000	154-29-10.820
143	IP.35	ETC 35-0	27K521M224079	2,749,946.793519	296,711.905080	0.000000		0.000000	66.645547	156-23-00.927
144	IP.36	BTC 36-0	27K587M869626	2,749,885.729668	296,738.604050	0.000000	60.000000	-800.000000	60.000000	156-23-00.927
145	IP.36	BCC 36-0	27K647M869626	2,749,831.062886	296,763.324352	-800.000000		-800.000000	35.748139	154-14-10.705
146	IP.36	ECC 36-0	27K683M617765	2,749,799.226134	296,779.576676	-800.000000	60.000000	0.000000	60.000000	151-40-33.726
147	IP.36	ETC 36-0	27K743M617765	2,749,747.140155	296,809.352525	0.000000		0.000000	218.058919	149-31-43.504
148	IP.37	BTC 37-0	27K961M676684	2,749,559.198719	296,919.931495	0.000000	80.000000	-240.000000	80.000000	149-31-43.504
149	IP.37	BCC 37-0	28K041M676684	2,749,492.678705	296,964.198227	-240.000000		-240.000000	167.603463	140-05-30.950
150	IP.37	BIT 37-0	28K209M280147	2,749,410.356777	297,106.292427	-240.000000	50.000000	-1,000.000000	50.000000	100-04-46.384
151	IP.37	EIT 37-0	28K259M280147	2,749,405.420207	297,156.012807	-1,000.000000		-1,000.000000	125.422223	92-44-03.382
152	IP.37	ECC 37-0	28K384M702369	2,749,407.298864	297,281.338758	-1,000.000000	30.000000	0.000000	30.000000	85-32-53.191
153	IP.37	ETC 37-0	28K414M702369	2,749,409.926432	297,311.223167	0.000000		0.000000	173.550316	84-41-19.521
154	IP.38	BTC 38-0	28K588M252685	2,749,425.991290	297,484.028353	0.000000	60.000000	-800.000000	60.000000	84-41-19.521
155	IP.38	BCC 38-0	28K648M252685	2,749,432.291039	297,543.692945	-800.000000		-800.000000	61.936976	82-32-29.299
156	IP.38	ECC 38-0	28K710M189661	2,749,442.699102	297,604.733468	-800.000000	60.000000	0.000000	60.000000	78-06-20.026
157	IP.38	ETC 38-0	28K770M189661	2,749,456.527373	297,663.114366	0.000000		0.000000	65.758334	75-57-29.804
158	IP.39	BTC 39-0	28K835M947995	2,749,472.482211	297,726.907796	0.000000	40.000000	803.700000	40.000000	75-57-29.804
159	IP.39	BCC 39-0	28K875M947995	2,749,481.864900	297,765.790660	803.700000		803.700000	81.197709	77-23-01.308
160	IP.39	ECC 39-0	28K957M145704	2,749,495.570767	297,845.788229	803.700000	40.000000	0.000000	40.000000	83-10-20.215
161	IP.39	ETC 39-0	28K997M145704	2,749,499.666749	297,885.576856	0.000000		0.000000	584.280217	84-35-51.719
162	IP.40	BTC 40-0	29K581M425921	2,749,554.675728	298,467.261809	0.000000	20.000000	-600.000000	20.000000	84-35-51.719
163	IP.40	BCC 40-0	29K601M425921	2,749,556.669253	298,487.161960	-600.000000		-600.000000	63.777311	83-38-34.386
164	IP.40	ECC 40-0	29K665M203232	2,749,567.083318	298,550.052851	-600.000000	20.000000	0.000000	20.000000	77-33-09.361
165	IP.40	ETC 40-0	29K685M203232	2,749,571.610820	298,569.533402	0.000000		0.000000	20.000000	76-35-52.028
166	IP.41	BTC 41-0	29K705M203232	2,749,576.246530	298,588.988740	0.000000	20.000000	2,000.000000	20.000000	76-35-52.028
167	IP.41	BCC 41-0	29K725M203232	2,749,580.849803	298,608.451756	2,000.000000		2,000.000000	32.191982	76-53-03.341
168	IP.41	ECC 41-0	29K757M395214	2,749,587.902138	298,639.861403	2,000.000000	20.000000	0.000000	20.000000	77-48-23.378
169	IP.41	ETC 41-0	29K777M395214	2,749,592.061228	298,659.424150	0.000000		0.000000	94.210095	78-05-34.691
170	IP.42	BTC 42-0	29K871M605309	2,749,611.499056	298,751.607190	0.000000	20.000000	1,300.000000	20.000000	78-05-34.691
171	IP.42	BCC 42-0	29K891M605309	2,749,615.575338	298,771.187328	1,300.000000		1,300.000000	23.884008	78-32-01.302
172	IP.42	ECC 42-0	29K915M489317	2,749,620.107994	298,794.636952	1,300.000000	20.000000	0.000000	20.000000	79-35-10.864
173	IP.42	ETC 42-0	29K935M489317	2,749,623.622136	298,814.325748	0.000000		0.000000	25.000000	80-01-37.476
174	IP.43	BTC 43-0	29K960M489317	2,749,627.951705	298,838.947991	0.000000	20.000000	-1,300.000000	20.000000	80-01-37.476
175	IP.43	BCC 43-0	29K980M489317	2,749,631.465846	298,858.636787	-1,300.000000		-1,300.000000	23.884004	79-35-10.864
176	IP.43	ECC 43-0	30K004M373321	2,749,635.998502	298,882.086406	-1,300.000000	20.000000	0.000000	20.000000	78-32-01.303
177	IP.43	ETC 43-0	30K024M373321	2,749,640.074784	298,901.666545	0.000000		0.000000	335.980917	78-05-34.691
178	IP.44	BTC 44-0	30K360M354238	2,749,709.395794	299,230.418387	0.000000	125.000000	583.700000	125.000000	78-05-34.691

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
179	IP.44	BCC 44-0	30K485M354238	2,749,730.801371	299,353.507729	583.700000		583.700000	248.844520	84-11-51.869
180	IP.44	BIT 44-0	30K734M198758	2,749,703.225469	299,598.927653	583.700000	65.000000	1,003.700000	65.000000	108-37-27.224
181	IP.44	EIT 44-0	30K799M198758	2,749,679.564032	299,659.445510	1,003.700000		1,003.700000	221.435292	113-39-03.779
182	IP.44	ECC 44-0	31K020M634050	2,749,569.166605	299,850.880709	1,003.700000	115.000000	0.000000	115.000000	126-17-29.714
183	IP.44	ETC 44-0	31K135M634050	2,749,497.626071	299,940.897938	0.000000		0.000000	435.532490	129-34-09.458
184	IP.45	BTC 45-0	31K571M166540	2,749,220.187100	300,276.630223	0.000000	25.000000	-1,300.000000	25.000000	129-34-09.458
185	IP.45	BCC 45-0	31K596M166540	2,749,204.323739	300,295.952455	-1,300.000000		-1,300.000000	20.117586	129-01-06.222
186	IP.45	ECC 45-0	31K616M284126	2,749,191.779756	300,311.680064	-1,300.000000	25.000000	0.000000	25.000000	128-07-54.261
187	IP.45	ETC 45-0	31K641M284126	2,749,176.469392	300,331.443354	0.000000		0.000000	27.868455	127-34-51.025
188	IP.46	BTC 46-0	31K669M152581	2,749,159.472974	300,353.528927	0.000000	25.000000	1,300.000000	25.000000	127-34-51.025
189	IP.46	BCC 46-0	31K694M152581	2,749,144.162610	300,373.292217	1,300.000000		1,300.000000	20.116736	128-07-54.261
190	IP.46	ECC 46-0	31K714M269317	2,749,131.619162	300,389.019165	1,300.000000	25.000000	0.000000	25.000000	129-01-06.087
191	IP.46	ETC 46-0	31K739M269317	2,749,115.755814	300,408.341408	0.000000		0.000000	79.939058	129-34-09.323
192	IP.47	BTC 47-0	31K819M208376	2,749,064.833797	300,469.962843	0.000000	95.000000	-1,200.000000	95.000000	129-34-09.323
193	IP.47	BCC 47-0	31K914M208376	2,749,005.293222	300,543.980842	-1,200.000000		-1,200.000000	326.954074	127-18-10.211
194	IP.47	BIT 47-0	32K241M162450	2,748,844.803824	300,827.675126	-1,200.000000	20.000000	-1,110.000000	20.000000	111-41-30.946
195	IP.47	EIT 47-0	32K261M162450	2,748,837.570904	300,846.321167	-1,110.000000		-1,110.000000	917.897377	110-41-54.365
196	IP.47	ECC 47-0	33K179M059826	2,748,884.120628	301,737.072476	-1,110.000000	105.000000	0.000000	105.000000	63-19-06.866
197	IP.47	ETC 47-0	33K284M059826	2,748,934.194300	301,829.351606	0.000000		0.000000	610.102027	60-36-40.538
198	IP.48	BTC 48-0	33K894M161853	2,749,233.591206	302,360.939770	0.000000	40.000000	-2,000.000000	40.000000	60-36-40.538
199	IP.48	BCC 48-0	33K934M161853	2,749,253.336483	302,395.726403	-2,000.000000		-2,000.000000	22.520471	60-02-17.979
200	IP.48	ECC 48-0	33K956M682324	2,749,264.693279	302,415.173496	-2,000.000000	40.000000	0.000000	40.000000	59-23-35.389
201	IP.48	ETC 48-0	33K996M682324	2,749,285.287999	302,449.464068	0.000000		0.000000	25.398190	58-49-12.830
202	IP.49	BTC 49-0	34K022M080515	2,749,298.437276	302,471.193416	0.000000	40.000000	2,003.700000	40.000000	58-49-12.830
203	IP.49	BCC 49-0	34K062M080515	2,749,319.032208	302,505.483861	2,003.700000		2,003.700000	22.636130	59-23-31.581
204	IP.49	ECC 49-0	34K084M716644	2,749,330.447329	302,525.030829	2,003.700000	40.000000	0.000000	40.000000	60-02-21.788
205	IP.49	ETC 49-0	34K124M716644	2,749,350.192392	302,559.817583	0.000000		0.000000	403.619513	60-36-40.539
206	IP.50	BTC 50-0	34K528M336157	2,749,548.261612	302,911.495412	0.000000	25.000000	803.700000	25.000000	60-36-40.539
207	IP.50	BCC 50-0	34K553M336157	2,749,560.416705	302,933.341242	803.700000		803.700000	22.568227	61-30-08.253
208	IP.50	ECC 50-0	34K575M904384	2,749,570.904671	302,953.323584	803.700000	25.000000	0.000000	25.000000	60-36-40.253
209	IP.50	ETC 50-0	34K600M904384	2,749,581.979305	302,975.736505	0.000000		0.000000	23.148534	64-00-07.968
210	IP.51	BTC 51-0	34K624M052919	2,749,592.126151	302,996.542662	0.000000	25.000000	-750.000000	25.000000	64-00-07.968
211	IP.51	BCC 51-0	34K649M052919	2,749,603.209085	303,018.951436	-750.000000		-750.000000	22.175628	63-02-50.634
212	IP.51	ECC 51-0	34K671M228546	2,749,613.551004	303,038.566923	-750.000000	25.000000	0.000000	25.000000	61-21-11.899
213	IP.51	ETC 51-0	34K696M228546	2,749,625.779026	303,060.371969	0.000000		0.000000	221.534712	60-23-54.566
214	IP.52	BTC 52-0	34K917M763259	2,749,735.209370	303,252.992396	0.000000	25.000000	1,500.000000	25.000000	60-23-54.566
215	IP.52	BCC 52-0	34K942M763259	2,749,747.498024	303,274.763595	1,500.000000		1,500.000000	40.698160	60-52-33.388
216	IP.52	ECC 52-0	34K983M461419	2,749,766.821200	303,310.580539	1,500.000000	25.000000	0.000000	25.000000	62-25-49.786
217	IP.52	ETC 52-0	35K008M461419	2,749,778.268481	303,332.805658	0.000000		0.000000	83.684258	62-54-28.608
218	IP.53	BTC 53-0	35K092M145677	2,749,816.380086	303,407.307743	0.000000	25.000000	-1,000.000000	25.000000	62-54-28.608
219	IP.53	BCC 53-0	35K117M145677	2,749,827.858178	303,429.516857	-1,000.000000		-1,000.000000	23.618640	62-11-30.473
220	IP.53	ECC 53-0	35K140M764317	2,749,839.122260	303,450.275823	-1,000.000000	25.000000	0.000000	25.000000	60-50-18.778
221	IP.53	ETC 53-0	35K165M764317	2,749,851.485465	303,472.004662	0.000000		0.000000	961.740133	60-07-20.643
222	IP.54	BTC 54-0	36K127M504450	2,750,330.575132	304,305.921429	0.000000	60.000000	2,003.700000	60.000000	60-07-20.643
223	IP.54	BCC 54-0	36K187M504450	2,750,360.203753	304,358.094920	2,003.700000		2,003.700000	37.464438	60-58-48.602
224	IP.54	ECC 54-0	36K224M968887	2,750,378.070889	304,391.023762	2,003.700000	60.000000	0.000000	60.000000	62-03-05.264

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
225	IP.54	ETC 54-0	36K284M968887	2,750,405.660948	304,444.303373	0.000000		0.000000	80.649923	62-54-33.223
226	IP.55	BTC 55-0	36K365M618811	2,750,442.389045	304,516.104884	0.000000	25.000000	-600.000000	25.000000	62-54-33.223
227	IP.55	BCC 55-0	36K390M618811	2,750,453.928139	304,538.282016	-600.000000		-600.000000	63.836867	61-42-56.848
228	IP.55	ECC 55-0	36K454M455678	2,750,487.107602	304,592.783632	-600.000000	25.000000	0.000000	25.000000	55-37-11.349
229	IP.55	ETC 55-0	36K479M455678	2,750,501.509486	304,613.217957	0.000000		0.000000	27.363022	54-25-34.974
230	IP.56	BTC 56-0	36K506M818700	2,750,517.427884	304,635.474183	0.000000	25.000000	600.000000	25.000000	54-25-34.974
231	IP.56	BCC 56-0	36K531M818700	2,750,531.829768	304,655.908508	600.000000		600.000000	38.703719	55-37-11.349
232	IP.56	ECC 56-0	36K570M522419	2,750,552.640002	304,688.533539	600.000000	25.000000	0.000000	25.000000	59-18-56.708
233	IP.56	ETC 56-0	36K595M522419	2,750,565.097671	304,710.208002	0.000000		0.000000	136.296414	60-30-33.083
234	IP.57	BTC 57-0	36K731M818833	2,750,632.194209	304,828.845126	0.000000	25.000000	600.000000	25.000000	60-30-33.083
235	IP.57	BCC 57-0	36K756M818833	2,750,644.349670	304,850.690507	600.000000		600.000000	20.399207	61-42-09.459
236	IP.57	ECC 57-0	36K777M218040	2,750,653.712703	304,868.812901	600.000000	25.000000	0.000000	25.000000	63-39-02.190
237	IP.57	ETC 57-0	36K802M218040	2,750,664.496462	304,891.366979	0.000000		0.000000	19.540723	64-50-38.565
238	IP.58	BTC 58-0	36K821M758763	2,750,672.802903	304,909.054344	0.000000	25.000000	-600.000000	25.000000	64-50-38.565
239	IP.58	BCC 58-0	36K846M758763	2,750,683.586662	304,931.608422	-600.000000		-600.000000	20.399206	63-39-02.190
240	IP.58	ECC 58-0	36K867M157969	2,750,692.949695	304,949.730815	-600.000000	25.000000	0.000000	25.000000	61-42-09.459
241	IP.58	ETC 58-0	36K892M157969	2,750,705.105156	304,971.576196	0.000000		0.000000	2,809.920658	60-30-33.084
242	IP.59	BTC 59-0	39K702M078626	2,752,088.384008	307,417.428547	0.000000	30.000000	4,003.700000	30.000000	60-30-33.084
243	IP.59	BCC 59-0	39K732M078626	2,752,103.119895	307,443.559994	4,003.700000		4,003.700000	22.071970	60-43-25.857
244	IP.59	ECC 59-0	39K754M150596	2,752,113.860393	307,462.842429	4,003.700000	30.000000	0.000000	30.000000	61-02-22.973
245	IP.59	ETC 59-0	39K784M150596	2,752,128.320876	307,489.127279	0.000000		0.000000	531.459840	61-15-15.746
246	IP.60	BTC 60-0	40K315M610437	2,752,383.911519	307,955.091854	0.000000	25.000000	-800.000000	25.000000	61-15-15.746
247	IP.60	BCC 60-0	40K340M610437	2,752,396.048427	307,976.947788	-800.000000		-800.000000	27.743036	60-21-33.200
248	IP.60	ECC 60-0	40K368M353473	2,752,410.184347	308,000.817743	-800.000000	25.000000	0.000000	25.000000	58-22-20.185
249	IP.60	ETC 60-0	40K393M353473	2,752,423.515144	308,021.966650	0.000000		0.000000	22.495225	57-28-37.638
250	IP.61	BTC 61-0	40K415M848698	2,752,435.609394	308,040.934103	0.000000	25.000000	1,000.000000	25.000000	57-28-37.638
251	IP.61	BCC 61-0	40K440M848698	2,752,448.962264	308,062.069196	1,000.000000		1,000.000000	27.705831	58-11-35.774
252	IP.61	ECC 61-0	40K468M554528	2,752,463.236760	308,085.813727	1,000.000000	25.000000	0.000000	25.000000	59-46-50.511
253	IP.61	ETC 61-0	40K493M554528	2,752,475.639010	308,107.520304	0.000000		0.000000	152.969042	60-29-48.647
254	IP.62	BTC 62-0	40K646M523570	2,752,550.971898	308,240.653634	0.000000	25.000000	1,500.000000	25.000000	60-29-48.647
255	IP.62	BCC 62-0	40K671M523570	2,752,563.223161	308,262.445897	1,500.000000		1,500.000000	26.336345	60-58-27.469
256	IP.62	ECC 62-0	40K697M859915	2,752,575.798792	308,285.585446	1,500.000000	25.000000	0.000000	25.000000	61-58-48.976
257	IP.62	ETC 62-0	40K722M859915	2,752,587.420360	308,307.719928	0.000000		0.000000	23.812851	62-27-27.798
258	IP.63	BTC 63-0	40K746M672765	2,752,598.431494	308,328.834065	0.000000	25.000000	-1,500.000000	25.000000	62-27-27.798
259	IP.63	BCC 63-0	40K771M672765	2,752,610.053063	308,350.968547	-1,500.000000		-1,500.000000	26.013716	61-58-48.976
260	IP.63	ECC 63-0	40K797M686482	2,752,622.472184	308,373.825972	-1,500.000000	25.000000	0.000000	25.000000	60-59-11.833
261	IP.63	ETC 63-0	40K822M686482	2,752,634.718759	308,395.620869	0.000000		0.000000	1,347.593829	60-30-33.011
262	IP.64	BTC 64-0	42K170M280310	2,753,298.117989	309,568.613022	0.000000	60.000000	2,003.700000	60.000000	60-30-33.011
263	IP.64	BCC 64-0	42K230M280310	2,753,327.393746	309,620.985327	2,003.700000		2,003.700000	279.432475	61-22-00.970
264	IP.64	ECC 64-0	42K509M712786	2,753,443.789688	309,874.772689	2,003.700000	60.000000	0.000000	60.000000	69-21-26.297
265	IP.64	ETC 64-0	42K569M712786	2,753,464.380415	309,931.128259	0.000000		0.000000	273.768049	70-12-54.256
266	IP.65	BTC 65-0	42K843M480834	2,753,557.048276	310,188.735736	0.000000	75.000000	1,004.000000	75.000000	70-12-54.256
267	IP.65	BCC 65-0	42K918M480834	2,753,581.553119	310,259.614616	1,004.000000		1,004.000000	36.606369	72-21-13.718
268	IP.65	ECC 65-0	42K955M087203	2,753,592.011577	310,294.693078	1,004.000000	75.000000	0.000000	75.000000	74-26-34.241
269	IP.65	ETC 65-0	43K030M087203	2,753,610.321713	310,367.418877	0.000000		0.000000	132.100890	76-34-53.703
270	EP	EP	43K162M188093	2,753,640.977120	310,495.913590				0.000000	76-34-53.703

Computation of IP direction and distance

Line Name: Down Track (Counter Clockwise)

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
BP	2,753,647.966251	310,525.209119						
			172.955678	70-51-53.703				
IP.1	2,753,704.660505	310,688.608716			19-01-29.611 (Right curve)	20.000000	800.000000	20.000000
			1,006.832406	89-53-23.314				
IP.2	2,753,706.596830	311,695.439260			85-22-21.904 (Left curve)	85.000000	270.000000	50.000000
							265.000000	85.000000
			972.780294	4-31-01.411				
IP.3	2,754,676.355600	311,772.051450			7-23-09.194 (Left curve)	75.000000	1,500.000000	75.000000
			1,226.232842	357-07-52.217				
IP.4	2,755,901.051646	311,710.679002			71-54-34.145 (Left curve)	125.000000	580.000000	125.000000
			798.760758	285-13-18.072				
IP.5	2,756,110.769816	310,939.941019			31-46-07.868 (Left curve)	125.000000	600.000000	125.000000
			1,114.245846	253-27-10.204				
IP.6	2,755,793.427536	309,871.840984			74-10-45.994 (Right curve)	125.000000	583.700000	125.000000
			1,716.020429	327-37-56.198				
IP.7	2,757,242.829265	308,953.167624			71-54-17.824 (Left curve)	125.000000	650.000000	125.000000
			715.653874	255-43-38.374				
IP.8	2,757,066.394227	308,259.603535			2-53-20.757 (Left curve)	30.000000	1,250.000000	30.000000
			124.106592	252-50-17.617				
IP.9	2,757,029.774016	308,141.022735			2-44-16.324 (Right curve)	30.000000	1,500.000000	30.000000
			903.448251	255-34-33.941				
IP.10	2,756,804.730491	307,266.051791			1-13-51.685 (Right curve)	40.000000	3,000.000000	40.000000
			139.806988	256-48-25.626				
IP.11	2,756,772.822354	307,129.934691			1-05-12.163 (Left curve)	30.000000	4,000.000000	30.000000
			390.636418	255-43-13.462				
IP.12	2,756,676.470368	306,751.367516			14-36-07.113 (Left curve)	125.000000	800.000000	125.000000
			1,996.956258	241-07-06.349				
IP.13	2,755,711.939003	305,002.792798			65-30-11.242 (Right curve)	125.000000	603.700000	125.000000
			2,943.433650	306-37-17.591				
IP.14	2,757,467.776152	302,640.413159			26-07-57.755 (Left curve)	125.000000	700.000000	125.000000
			753.264513	280-29-19.836				
IP.15	2,757,604.903484	301,899.735414			8-15-49.503 (Right curve)	60.000000	2,003.700000	60.000000
			854.711343	288-45-09.339				
IP.16	2,757,879.678086	301,090.395931			68-51-25.107 (Left curve)	90.000000	330.000000	90.000000
			813.454729	219-53-44.232				
IP.17	2,757,255.584079	300,568.653402			32-35-17.466 (Right curve)	125.000000	803.700000	125.000000
			641.163548	252-29-01.698				
IP.18	2,757,062.609650	299,957.219379			8-06-23.598 (Right curve)	40.000000	803.700000	40.000000
			222.882463	260-35-25.297				
IP.19	2,757,026.170162	299,737.335873			9-19-58.692 (Left curve)	40.000000	800.000000	40.000000
			390.761004	251-15-26.605				
IP.20	2,756,900.611882	299,367.296307			20-33-52.915 (Left curve)	125.000000	600.000000	125.000000

HP-9-4-10

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			1,108.517198	230-41-33.690				
IP.21	2,756,198.388881	298,509.570690			0-18-15.213 (Right curve)	0.000000	5,000.000000	0.000000
			632.430691	230-59-48.903				
IP.22	2,755,800.360911	298,018.101145			1-22-00.781 (Right curve)	30.000000	4,003.700000	30.000000
			227.925878	232-21-49.684				
IP.23	2,755,661.178976	297,837.605730			1-22-13.343 (Left curve)	30.000000	4,000.000000	30.000000
			3,233.272982	230-59-36.341				
IP.24	2,753,626.126163	295,325.114094			2-14-08.495 (Left curve)	20.000000	1,000.000000	20.000000
			88.420787	228-45-27.847				
IP.25	2,753,567.835262	295,258.627956			2-14-20.975 (Right curve)	20.000000	1,000.000000	20.000000
			220.123456	230-59-48.822				
IP.26	2,753,429.297812	295,087.567409			1-50-24.623 (Right curve)	20.000000	1,500.000000	20.000000
			99.656532	232-50-13.445				
IP.27	2,753,369.096929	295,008.149036			1-50-24.719 (Left curve)	20.000000	1,500.000000	20.000000
			845.071875	230-59-48.726				
IP.28	2,752,837.240070	294,351.433910			111-59-48.194 (Left curve)	85.000000	280.000000	85.000000
			1,050.677792	119-00-00.532				
IP.29	2,752,327.859000	295,270.376100			6-19-23.596 (Right curve)	75.000000	1,503.700000	75.000000
			244.520610	125-19-24.127				
IP.30	2,752,186.479519	295,469.880915			3-26-36.623 (Left curve)	65.000000	1,750.000000	65.000000
			177.319791	121-52-47.504				
IP.31	2,752,092.829860	295,620.453322			3-26-36.639 (Right curve)	60.000000	1,400.000000	60.000000
			1,149.382173	125-19-24.142				
IP.32	2,751,428.268000	296,558.236300			57-43-40.554 (Right curve)	100.000000	600.000000	100.000000
							400.000000	50.000000
			853.249807	183-03-04.696				
IP.33	2,750,576.227870	296,512.817693			5-58-27.291 (Left curve)	75.000000	1,500.000000	75.000000
			344.763352	177-04-37.405				
IP.34	2,750,231.913049	296,530.398160			32-21-32.604 (Left curve)	90.000000	300.000000	90.000000
			257.583681	144-43-04.801				
IP.35	2,750,021.642572	296,679.178802			11-39-56.126 (Right curve)	40.000000	603.700000	40.000000
			226.277448	156-23-00.927				
IP.36	2,749,814.316305	296,769.828140			6-51-17.423 (Left curve)	60.000000	800.000000	60.000000
			500.228025	149-31-43.504				
IP.37	2,749,383.177906	297,023.496738			64-50-23.983 (Left curve)	80.000000	240.000000	50.000000
							1,000.000000	30.000000
			553.617042	84-41-19.521				
IP.38	2,749,434.424018	297,574.736854			8-43-49.717 (Left curve)	60.000000	800.000000	60.000000
			237.577749	75-57-29.804				
IP.39	2,749,492.067120	297,805.215616			8-38-21.915 (Right curve)	40.000000	803.700000	40.000000
			716.958689	84-35-51.719				
IP.40	2,749,559.567549	298,518.989708			7-59-59.691 (Left curve)	20.000000	600.000000	20.000000
			108.056262	76-35-52.028				
IP.41	2,749,584.613424	298,624.103265			1-29-42.662 (Right curve)	20.000000	2,000.000000	20.000000
			162.251952	78-05-34.691				
IP.42	2,749,618.089936	298,782.864151			1-56-02.785 (Right curve)	20.000000	1,300.000000	20.000000

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			88.888567	80-01-37.476				
IP.43	2,749,633.483904	298,870.409586			1-56-02.784 (Left curve)	20.000000	1,300.000000	20.000000
			737.758717	78-05-34.691				
IP.44	2,749,785.701416	299,592.294447			51-28-34.767 (Right curve)	125.000000	583.700000	65.000000
							1,003.700000	115.000000
			922.823664	129-34-09.458				
IP.45	2,749,197.852625	300,303.657444			1-59-18.434 (Left curve)	25.000000	1,300.000000	25.000000
			97.990763	127-34-51.025				
IP.46	2,749,138.090000	300,381.314500			1-59-18.299 (Right curve)	25.000000	1,300.000000	25.000000
			951.718320	129-34-09.323				
IP.47	2,748,531.835476	301,114.951476			68-57-28.785 (Left curve)	95.000000	1,200.000000	20.000000
							1,110.000000	105.000000
			1,481.279996	60-36-40.538				
IP.48	2,749,258.747743	302,405.605954			1-47-27.708 (Left curve)	40.000000	2,000.000000	40.000000
			127.982495	58-49-12.830				
IP.49	2,749,325.007475	302,515.101009			1-47-27.708 (Right curve)	40.000000	2,003.700000	40.000000
			491.232499	60-36-40.539				
IP.50	2,749,566.071236	302,943.116932			3-23-27.429 (Right curve)	25.000000	803.700000	25.000000
			95.537021	64-00-07.968				
IP.51	2,749,607.948592	303,028.986655			3-36-13.401 (Left curve)	25.000000	750.000000	25.000000
			302.985966	60-23-54.566				
IP.52	2,749,757.612986	303,292.427473			2-30-34.042 (Right curve)	25.000000	1,500.000000	25.000000
			165.853619	62-54-28.608				
IP.53	2,749,833.146279	303,440.082966			2-47-07.965 (Left curve)	25.000000	1,000.000000	25.000000
			1,077.298235	60-07-20.643				
IP.54	2,750,369.801073	304,374.199190			2-47-12.580 (Right curve)	60.000000	2,003.700000	60.000000
			216.396134	62-54-33.223				
IP.55	2,750,468.348200	304,566.853675			8-28-58.250 (Left curve)	25.000000	600.000000	25.000000
			128.749742	54-25-34.974				
IP.56	2,750,543.248172	304,671.574687			6-04-58.109 (Right curve)	25.000000	600.000000	25.000000
			215.892248	60-30-33.083				
IP.57	2,750,649.528462	304,859.494784			4-20-05.482 (Right curve)	25.000000	600.000000	25.000000
			89.964521	64-50-38.565				
IP.58	2,750,687.770903	304,940.926539			4-20-05.481 (Left curve)	25.000000	600.000000	25.000000
			2,886.168962	60-30-33.084				
IP.59	2,752,108.585572	307,453.148057			0-44-42.663 (Right curve)	30.000000	4,003.700000	30.000000
			611.378291	61-15-15.746				
IP.60	2,752,402.610743	307,989.182211			3-46-38.108 (Left curve)	25.000000	800.000000	25.000000
			100.236908	57-28-37.638				
IP.61	2,752,456.501747	308,073.699649			3-01-11.009 (Right curve)	25.000000	1,000.000000	25.000000
			229.999626	60-29-48.647				
IP.62	2,752,569.770000	308,273.874900			1-57-39.151 (Right curve)	25.000000	1,500.000000	25.000000
			99.993380	62-27-27.798				
IP.63	2,752,616.007240	308,362.536017			1-56-54.786 (Left curve)	25.000000	1,500.000000	25.000000
			1,585.732798	60-30-33.011				
IP.64	2,753,396.638535	309,742.812543			9-42-21.245 (Right curve)	60.000000	2,003.700000	60.000000

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			567.269349	70-12-54.256				
IP.65	2,753,588.653775	310,276.595891			6-21-59.447 (Right curve)	75.000000	1,004.000000	75.000000
			225.472805	76-34-53.703				
EP	2,753,640.977120	310,495.913590						

Coordinate list of element points

Line Name: UP Track (Clockwise)

Type of transition curve: Cubic parabola

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
1	BP	BP	0K000M000000	2,753,630.893416	310,518.285200	0.000000		0.000000	108.501198	256-34-53.703
2	IP.1	BTC 1-0	0K108M501198	2,753,605.714568	310,412.745940	0.000000	30.000000	-4,000.000000	30.000000	256-34-53.703
3	IP.1	BCC 1-0	0K138M501198	2,753,598.716285	310,383.573643	-4,000.000000		-4,000.000000	414.466638	256-22-00.215
4	IP.1	ECC 1-0	0K552M967836	2,753,480.349362	309,986.562022	-4,000.000000	30.000000	0.000000	30.000000	250-25-47.744
5	IP.1	ETC 1-0	0K582M967836	2,753,470.229950	309,958.320273	0.000000		0.000000	27.566857	250-12-54.256
6	IP.2	BTC 2-0	0K610M534693	2,753,460.898833	309,932.380692	0.000000	60.000000	-2,000.000000	60.000000	250-12-54.256
7	IP.2	BCC 2-0	0K670M534693	2,753,440.307587	309,876.025315	-2,000.000000		-2,000.000000	278.805718	249-21-20.586
8	IP.2	ECC 2-0	0K949M340411	2,753,324.172641	309,622.807026	-2,000.000000	60.000000	0.000000	60.000000	241-22-06.682
9	IP.2	ETC 2-0	1K009M340411	2,753,294.897369	309,570.434452	0.000000		0.000000	1,347.603054	240-30-33.011
10	IP.3	BTC 3-0	2K356M943465	2,752,631.493598	308,397.434270	0.000000	25.000000	-1,500.000000	25.000000	240-30-33.011
11	IP.3	BCC 3-0	2K381M943465	2,752,619.126131	308,375.707745	-1,500.000000		-1,500.000000	26.011163	240-01-54.190
12	IP.3	ECC 3-0	2K407M954628	2,752,605.938304	308,353.288003	-1,500.000000	25.000000	0.000000	25.000000	239-02-17.398
13	IP.3	ETC 3-0	2K432M954628	2,752,592.957775	308,331.922095	0.000000		0.000000	23.649594	238-33-38.576
14	IP.4	BTC 4-0	2K456M604222	2,752,580.622271	308,311.744418	0.000000	25.000000	1,500.000000	25.000000	238-33-38.576
15	IP.4	BCC 4-0	2K481M604222	2,752,567.641742	308,290.378511	1,500.000000		1,500.000000	26.648919	239-02-17.398
16	IP.4	ECC 4-0	2K508M253141	2,752,554.135460	308,267.406211	1,500.000000	25.000000	0.000000	25.000000	240-03-21.887
17	IP.4	ETC 4-0	2K533M253141	2,752,541.777232	308,245.674429	0.000000		0.000000	146.386238	240-32-00.709
18	IP.5	BTC 5-0	2K679M639379	2,752,469.767772	308,118.224170	0.000000	25.000000	5,000.000000	25.000000	240-32-00.709
19	IP.5	BCC 5-0	2K704M639379	2,752,457.488065	308,096.447843	5,000.000000		5,000.000000	38.132011	240-40-36.370
20	IP.5	ECC 5-0	2K742M771389	2,752,438.940402	308,063.130770	5,000.000000	25.000000	0.000000	25.000000	241-06-49.428
21	IP.5	ETC 5-0	2K767M771389	2,752,426.900090	308,041.221170	0.000000		0.000000	627.587121	241-15-25.089
22	IP.6	BTC 6-0	3K395M358511	2,752,125.104661	307,490.962037	0.000000	30.000000	-4,000.000000	30.000000	241-15-25.089
23	IP.6	BCC 6-0	3K425M358511	2,752,110.645338	307,464.676549	-4,000.000000		-4,000.000000	22.205020	241-02-31.600
24	IP.6	ECC 6-0	3K447M563530	2,752,099.840536	307,445.277635	-4,000.000000	30.000000	0.000000	30.000000	240-43-26.572
25	IP.6	ETC 6-0	3K477M563530	2,752,085.104679	307,419.146171	0.000000		0.000000	3,131.701406	240-30-33.084
26	IP.7	BTC 7-0	6K609M264936	2,750,543.418327	304,693.204703	0.000000	25.000000	-750.000000	25.000000	240-30-33.084
27	IP.7	BCC 7-0	6K634M264936	2,750,530.990683	304,671.512809	-750.000000		-750.000000	21.805218	239-33-15.751
28	IP.7	ECC 7-0	6K656M070154	2,750,519.669840	304,652.877560	-750.000000	25.000000	0.000000	25.000000	237-53-18.885
29	IP.7	ETC 7-0	6K681M070154	2,750,506.146402	304,631.851357	0.000000		0.000000	22.809069	236-56-01.552
30	IP.8	BTC 8-0	6K703M879223	2,750,493.701586	304,612.736436	0.000000	25.000000	750.000000	25.000000	236-56-01.552
31	IP.8	BCC 8-0	6K728M879223	2,750,480.178148	304,591.710233	750.000000		750.000000	53.221659	237-53-18.885
32	IP.8	ECC 8-0	6K782M100882	2,750,453.509789	304,545.665091	750.000000	25.000000	0.000000	25.000000	241-57-15.892
33	IP.8	ETC 8-0	6K807M100882	2,750,442.001423	304,523.471801	0.000000		0.000000	87.032021	242-54-33.225
34	IP.9	BTC 9-0	6K894M132903	2,750,402.366910	304,445.988397	0.000000	60.000000	-2,000.000000	60.000000	242-54-33.225
35	IP.9	BCC 9-0	6K954M132903	2,750,374.776360	304,392.709043	-2,000.000000		-2,000.000000	37.284512	242-02-59.555
36	IP.9	ECC 9-0	6K991M417416	2,750,356.995031	304,359.938340	-2,000.000000	60.000000	0.000000	60.000000	240-58-54.313
37	IP.9	ETC 9-0	7K051M417416	2,750,327.366893	304,307.764578	0.000000		0.000000	977.094781	240-07-20.643
38	IP.10	BC 10-0	8K028M512196	2,749,840.628326	303,460.533926	7,000.000000		7,000.000000	43.092597	240-07-20.643
39	IP.10	EC 10-0	8K071M604793	2,749,819.276949	303,423.102860	0.000000		0.000000	313.981210	240-28-30.427
40	IP.11	BC 11-0	8K385M586003	2,749,664.546545	303,149.894693	-15,000.000000		-15,000.000000	20.060859	240-28-30.427

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
41	IP.11	EC 11-0	8K405M646862	2,749,654.648854	303,132.445518	0.000000		0.000000	21.323258	240-23-54.570
42	IP.12	BTC 12-0	8K426M970120	2,749,644.115916	303,113.905330	0.000000	30.000000	600.000000	30.000000	240-23-54.570
43	IP.12	BCC 12-0	8K456M970120	2,749,629.515243	303,087.699026	600.000000		600.000000	21.101099	241-49-49.794
44	IP.12	ECC 12-0	8K478M071220	2,749,619.882920	303,068.925937	600.000000	30.000000	0.000000	30.000000	243-50-43.818
45	IP.12	ETC 12-0	8K508M071220	2,749,607.109938	303,041.781860	0.000000		0.000000	53.856660	245-16-39.042
46	IP.13	BTC 13-0	8K561M927880	2,749,584.585810	302,992.861481	0.000000	40.000000	-800.000000	40.000000	245-16-39.042
47	IP.13	BCC 13-0	8K601M927880	2,749,567.555166	302,956.669377	-800.000000		-800.000000	25.163985	243-50-43.818
48	IP.13	ECC 13-0	8K627M091865	2,749,556.109670	302,934.260126	-800.000000	40.000000	0.000000	40.000000	242-02-35.762
49	IP.13	ETC 13-0	8K667M091865	2,749,536.771996	302,899.246335	0.000000		0.000000	387.366322	240-36-40.538
50	IP.14	BTC 14-0	9K054M458187	2,749,346.678744	302,561.730080	0.000000	40.000000	-2,000.000000	40.000000	240-36-40.538
51	IP.14	BCC 14-0	9K094M458187	2,749,326.933467	302,526.943447	-2,000.000000		-2,000.000000	22.520505	240-02-17.979
52	IP.14	ECC 14-0	9K116M978692	2,749,315.576654	302,507.496324	-2,000.000000	40.000000	0.000000	40.000000	239-23-35.385
53	IP.14	ETC 14-0	9K156M978692	2,749,294.981933	302,473.205753	0.000000		0.000000	25.398071	238-49-12.827
54	IP.15	BTC 15-0	9K182M376763	2,749,281.832717	302,451.476507	0.000000	40.000000	2,003.700000	40.000000	238-49-12.827
55	IP.15	BCC 15-0	9K222M376763	2,749,261.237785	302,417.186062	2,003.700000		2,003.700000	22.636185	239-23-31.577
56	IP.15	ECC 15-0	9K245M012949	2,749,249.822636	302,397.639047	2,003.700000	40.000000	0.000000	40.000000	240-02-21.790
57	IP.15	ETC 15-0	9K285M012949	2,749,230.077573	302,362.852292	0.000000		0.000000	131.713508	240-36-40.541
58	IP.16	BTC 16-0	9K416M726456	2,749,165.441473	302,248.088959	0.000000	25.000000	-600.000000	25.000000	240-36-40.541
59	IP.16	BCC 16-0	9K441M726456	2,749,153.022437	302,226.392336	-600.000000		-600.000000	36.287182	239-25-04.165
60	IP.16	ECC 16-0	9K478M013638	2,749,133.627351	302,195.729837	-600.000000	25.000000	0.000000	25.000000	235-57-09.551
61	IP.16	ETC 16-0	9K503M013638	2,749,119.344413	302,175.212196	0.000000		0.000000	21.540914	234-45-33.175
62	IP.17	BTC 17-0	9K524M554552	2,749,106.915007	302,157.618992	0.000000	25.000000	600.000000	25.000000	234-45-33.175
63	IP.17	BCC 17-0	9K549M554552	2,749,092.632069	302,137.101351	600.000000		600.000000	36.287174	235-57-09.551
64	IP.17	ECC 17-0	9K585M841726	2,749,073.236987	302,106.438858	600.000000	25.000000	0.000000	25.000000	239-25-04.162
65	IP.17	ETC 17-0	9K610M841726	2,749,060.817950	302,084.742236	0.000000		0.000000	146.827708	240-36-40.538
66	IP.18	BTC 18-0	9K757M669434	2,748,988.764819	301,956.809745	0.000000	25.000000	600.000000	25.000000	240-36-40.538
67	IP.18	BCC 18-0	9K782M669434	2,748,976.648294	301,934.942744	600.000000		600.000000	38.282650	241-48-16.914
68	IP.18	BRT 18-0	9K820M952084	2,748,959.648854	301,900.648675	600.000000	50.000000	-600.000000	25.000000	245-27-37.519
		PRC	9K845M952084	2,748,949.582799	301,877.765265					246-39-13.584
69	IP.19	ERT 18-0	9K870M952084	2,748,939.516743	301,854.881856	-600.000000		-600.000000	38.282652	245-27-37.519
70	IP.19	ECC 18-0	9K909M234736	2,748,922.517302	301,820.587784	-600.000000	25.000000	0.000000	25.000000	241-48-16.913
71	IP.19	ETC 18-0	9K934M234736	2,748,910.400778	301,798.720784	0.000000		0.000000	61.427179	240-36-40.537
72	IP.20	BTC 19-0	9K995M661915	2,748,880.256463	301,745.198651	0.000000	50.000000	600.000000	50.000000	240-36-40.537
73	IP.20	BCC 19-0	10K045M661915	2,748,856.328960	301,701.300027	600.000000		600.000000	65.307911	242-59-48.447
74	IP.20	BIT 19-0	10K110M969827	2,748,829.898708	301,641.614553	600.000000	20.000000	1,155.000000	20.000000	249-13-59.653
75	IP.20	EIT 19-0	10K130M969827	2,748,823.069924	301,622.817048	1,155.000000		1,155.000000	1,137.086309	250-41-01.651
76	IP.20	ECC 19-0	11K268M056135	2,748,991.732296	300,544.205155	1,155.000000	100.000000	0.000000	100.000000	307-05-27.354
77	IP.20	ETC 19-0	11K368M056135	2,749,054.309487	300,466.215212	0.000000		0.000000	83.757320	309-34-09.326
78	IP.21	BTC 20-0	11K451M813455	2,749,107.663777	300,401.650450	0.000000	25.000000	1,300.000000	25.000000	309-34-09.326
79	IP.21	BCC 20-0	11K476M813455	2,749,123.650658	300,382.430291	1,300.000000		1,300.000000	20.116772	310-07-12.562
80	IP.21	ECC 20-0	11K496M930228	2,749,136.732262	300,367.148011	1,300.000000	25.000000	0.000000	25.000000	311-00-24.395
81	IP.21	ETC 20-0	11K521M930228	2,749,153.256491	300,348.387822	0.000000		0.000000	27.867358	311-33-27.631
82	IP.22	BTC 21-0	11K549M797586	2,749,171.742962	300,327.535003	0.000000	25.000000	-1,300.000000	25.000000	311-33-27.631
83	IP.22	BCC 21-0	11K574M797586	2,749,188.267191	300,308.774814	-1,300.000000		-1,300.000000	20.115939	311-00-24.395
84	IP.22	ECC 21-0	11K594M913525	2,749,201.348259	300,293.493171	-1,300.000000	25.000000	0.000000	25.000000	310-07-12.695
85	IP.22	ETC 21-0	11K619M913525	2,749,217.335152	300,274.273022	0.000000		0.000000	435.311979	309-34-09.459

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
86	IP.23	BTC 22-0	12K055M225504	2,749,494.633656	299,938.710719	0.000000	115.000000	-1,000.000000	115.000000	309-34-09.459
87	IP.23	BCC 22-0	12K170M225504	2,749,566.167761	299,848.688540	-1,000.000000		-1,000.000000	221.000000	306-16-46.180
88	IP.23	BIT 22-0	12K391M225504	2,749,676.270669	299,657.586771	-1,000.000000	65.000000	-580.000000	65.000000	293-37-01.658
89	IP.23	EIT 22-0	12K456M225504	2,749,699.884248	299,597.050467	-580.000000		-580.000000	246.260919	288-33-48.199
90	IP.23	ECC 22-0	12K702M486424	2,749,727.128302	299,354.158303	-580.000000	125.000000	0.000000	125.000000	264-14-10.680
91	IP.23	ETC 22-0	12K827M486424	2,749,705.750757	299,231.064906	0.000000		0.000000	335.830754	258-05-34.691
92	IP.24	BTC 23-0	13K163M317178	2,749,636.460730	298,902.459995	0.000000	20.000000	-1,000.000000	20.000000	258-05-34.691
93	IP.24	BCC 23-0	13K183M317178	2,749,632.269055	298,882.904272	-1,000.000000		-1,000.000000	23.131094	257-31-12.133
94	IP.24	ECC 23-0	13K206M448272	2,749,627.009723	298,860.379550	-1,000.000000	20.000000	0.000000	20.000000	256-11-41.002
95	IP.24	ETC 23-0	13K226M448272	2,749,622.107919	298,840.989636	0.000000		0.000000	25.000000	255-37-18.443
96	IP.25	BTC 24-0	13K251M448272	2,749,615.899882	298,816.772694	0.000000	20.000000	1,000.000000	20.000000	255-37-18.443
97	IP.25	BCC 24-0	13K271M448272	2,749,610.998078	298,797.382780	1,000.000000		1,000.000000	23.132933	256-11-41.002
98	IP.25	ECC 24-0	13K294M581205	2,749,605.738348	298,774.856263	1,000.000000	20.000000	0.000000	20.000000	257-31-12.512
99	IP.25	ETC 24-0	13K314M581205	2,749,601.546710	298,755.300532	0.000000		0.000000	139.718957	258-05-35.071
100	IP.26	BTC 25-0	13K454M300162	2,749,572.719552	298,618.587761	0.000000	40.000000	800.000000	40.000000	258-05-35.071
101	IP.26	BCC 25-0	13K494M300162	2,749,564.793291	298,579.382078	800.000000		800.000000	50.832520	259-31-30.295
102	IP.26	ECC 25-0	13K545M132682	2,749,557.145416	298,529.136821	800.000000	40.000000	0.000000	40.000000	263-09-56.495
103	IP.26	ETC 25-0	13K585M132682	2,749,553.047908	298,489.348361	0.000000		0.000000	606.115332	264-35-51.719
104	IP.27	BTC 26-0	14K191M248014	2,749,495.983192	297,885.925281	0.000000	40.000000	-800.000000	40.000000	264-35-51.719
105	IP.27	BCC 26-0	14K231M248014	2,749,491.885684	297,846.136820	-800.000000		-800.000000	80.639898	263-09-56.495
106	IP.27	ECC 26-0	14K311M887912	2,749,478.273948	297,766.688663	-800.000000	40.000000	0.000000	40.000000	257-23-25.029
107	IP.27	ETC 26-0	14K351M887912	2,749,468.892752	297,727.805449	0.000000		0.000000	146.135522	255-57-29.804
108	IP.28	BTC 27-0	14K498M023434	2,749,433.436129	297,586.036558	0.000000	20.000000	600.000000	20.000000	255-57-29.804
109	IP.28	BCC 27-0	14K518M023434	2,749,428.691481	297,566.607754	600.000000		600.000000	71.427744	256-54-47.137
110	IP.28	ECC 27-0	14K589M451177	2,749,416.692653	297,496.237816	600.000000	20.000000	0.000000	20.000000	263-44-02.187
111	IP.28	ETC 27-0	14K609M451177	2,749,414.730756	297,476.334522	0.000000		0.000000	79.483268	264-41-19.520
112	IP.29	BTC 28-0	14K688M934446	2,749,407.373308	297,397.192512	0.000000	20.000000	600.000000	20.000000	264-41-19.520
113	IP.29	BCC 28-0	14K708M934446	2,749,405.632668	297,377.268649	600.000000		600.000000	20.281083	265-38-36.853
114	IP.29	ECC 28-0	14K729M215529	2,749,404.434139	297,357.023978	600.000000	20.000000	0.000000	20.000000	267-34-48.976
115	IP.29	ETC 28-0	14K749M215529	2,749,403.811789	297,337.033911	0.000000		0.000000	26.367107	268-32-06.309
116	IP.30	BTC 29-0	14K775M582636	2,749,403.137720	297,310.675421	0.000000	20.000000	-800.000000	20.000000	268-32-06.309
117	IP.30	BCC 29-0	14K795M582636	2,749,402.543128	297,290.684401	-800.000000		-800.000000	19.884710	267-49-08.173
118	IP.30	ECC 29-0	14K815M467346	2,749,401.539509	297,270.825546	-800.000000	20.000000	0.000000	20.000000	266-23-41.278
119	IP.30	ETC 29-0	14K835M467346	2,749,400.115620	297,250.876436	0.000000		0.000000	57.423158	265-40-43.143
120	IP.31	BTC 30-0	14K892M890505	2,749,395.788769	297,193.616525	0.000000	25.000000	400.000000	25.000000	265-40-43.143
121	IP.31	BCC 30-0	14K917M890505	2,749,394.164821	297,168.670411	400.000000		400.000000	38.000000	267-28-06.193
122	IP.31	BIT 30-0	14K955M890505	2,749,394.290744	297,130.684908	400.000000	50.000000	200.000000	50.000000	272-54-41.349
123	IP.31	EIT 30-0	15K005M890505	2,749,400.939082	297,081.201334	200.000000		200.000000	123.793616	283-28-50.795
124	IP.31	ECC 30-0	15K129M684121	2,749,464.072173	296,977.009182	200.000000	75.000000	0.000000	75.000000	318-56-42.126
125	IP.31	ETC 30-0	15K204M684121	2,749,526.129003	296,935.095779	0.000000		0.000000	254.251274	329-31-43.504
126	IP.32	BTC 31-0	15K458M935395	2,749,745.264041	296,806.163450	0.000000	60.000000	803.700000	60.000000	329-31-43.504
127	IP.32	BCC 31-0	15K518M935395	2,749,797.348337	296,776.384589	803.700000		803.700000	36.190471	331-39-58.182
128	IP.32	ECC 31-0	15K555M125865	2,749,829.578981	296,759.931187	803.700000	60.000000	0.000000	60.000000	334-14-46.250
129	IP.32	ETC 31-0	15K615M125865	2,749,884.247216	296,735.214015	0.000000		0.000000	66.645385	336-23-00.927
130	IP.33	BTC 32-0	15K681M771250	2,749,945.310920	296,708.515110	0.000000	40.000000	-600.000000	40.000000	336-23-00.927
131	IP.33	BCC 32-0	15K721M771250	2,749,981.778761	296,692.085300	-600.000000		-600.000000	82.181394	334-28-28.741

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
132	IP.33	ECC 32-0	15K803M952644	2,750,053.285715	296,651.712228	-600.000000	40.000000	0.000000	40.000000	326-37-36.859
133	IP.33	ETC 32-0	15K843M952644	2,750,086.191492	296,628.973454	0.000000		0.000000	43.128799	324-43-04.673
134	IP.34	BTC 33-0	15K887M081444	2,750,121.398339	296,604.062186	0.000000	90.000000	303.700000	90.000000	324-43-04.673
135	IP.34	BCC 33-0	15K977M081444	2,750,197.263644	296,555.803996	303.700000		303.700000	82.363129	333-07-41.646
136	IP.34	ECC 33-0	16K059M444572	2,750,274.853136	296,528.932454	303.700000	90.000000	0.000000	90.000000	348-40-00.450
137	IP.34	ETC 33-0	16K149M444572	2,750,364.314897	296,519.932979	0.000000		0.000000	215.771862	357-04-37.423
138	IP.35	BTC 34-0	16K365M216435	2,750,579.806046	296,508.930174	0.000000	40.000000	800.000000	40.000000	357-04-37.423
139	IP.35	BCC 34-0	16K405M216435	2,750,619.768506	296,507.223449	800.000000		800.000000	43.427101	358-30-32.647
140	IP.35	ECC 34-0	16K448M643536	2,750,663.190248	296,507.272094	800.000000	40.000000	0.000000	40.000000	1-37-09.501
141	IP.35	ETC 34-0	16K488M643536	2,750,703.148784	296,509.068353	0.000000		0.000000	399.767891	3-03-04.725
142	IP.36	BTC 35-0	16K888M411428	2,751,102.349910	296,530.348109	0.000000	110.000000	-450.000000	110.000000	3-03-04.725
143	IP.36	BCC 35-0	16K998M411428	2,751,212.268780	296,531.732895	-450.000000		-450.000000	344.097707	356-05-35.866
144	IP.36	ECC 35-0	17K342M509135	2,751,514.541579	296,385.526210	-450.000000	110.000000	0.000000	110.000000	312-16-53.095
145	IP.36	ETC 35-0	17K452M509135	2,751,581.693786	296,298.493706	0.000000		0.000000	776.793670	305-19-24.236
146	IP.37	BTC 36-0	18K229M302804	2,752,030.828799	295,664.706561	0.000000	60.000000	1,400.000000	60.000000	305-19-24.236
147	IP.37	BCC 36-0	18K289M302804	2,752,065.868298	295,616.002490	1,400.000000		1,400.000000	23.892076	306-33-03.317
148	IP.37	ECC 36-0	18K313M194880	2,752,080.259991	295,596.931659	1,400.000000	60.000000	0.000000	60.000000	307-31-43.384
149	IP.37	ETC 36-0	18K373M194880	2,752,117.484595	295,549.876564	0.000000		0.000000	20.516329	308-45-22.465
150	IP.38	BTC 37-0	18K393M711209	2,752,130.327989	295,533.877596	0.000000	65.000000	-1,750.000000	65.000000	308-45-22.465
151	IP.38	BCC 37-0	18K458M711209	2,752,170.703371	295,482.939407	-1,750.000000		-1,750.000000	39.630511	307-41-32.405
152	IP.38	ECC 37-0	18K498M341719	2,752,194.577162	295,451.307898	-1,750.000000	65.000000	0.000000	65.000000	306-23-41.331
153	IP.38	ETC 37-0	18K563M341719	2,752,232.493473	295,398.513734	0.000000		0.000000	39.010723	305-19-51.272
154	IP.39	BTC 38-0	18K602M352442	2,752,255.053289	295,366.687781	0.000000	75.000000	-1,500.000000	75.000000	305-19-51.272
155	IP.39	BCC 38-0	18K677M352442	2,752,297.913088	295,305.143283	-1,500.000000		-1,500.000000	90.759494	303-53-56.047
156	IP.39	ECC 38-0	18K768M111937	2,752,346.223078	295,228.325850	-1,500.000000	75.000000	0.000000	75.000000	300-25-55.721
157	IP.39	ETC 38-0	18K843M111937	2,752,383.128253	295,163.036528	0.000000		0.000000	470.718648	299-00-00.497
158	IP.40	BTC 39-0	19K313M830585	2,752,611.338174	294,751.337271	0.000000	85.000000	283.700000	85.000000	299-00-00.497
159	IP.40	BCC 39-0	19K398M830585	2,752,656.151431	294,679.208564	283.700000		283.700000	470.363900	307-30-04.976
160	IP.40	ECC 39-0	19K869M194485	2,753,072.870572	294,642.739393	283.700000	85.000000	0.000000	85.000000	42-29-44.246
161	IP.40	ETC 39-0	19K954M194485	2,753,129.531338	294,705.987602	0.000000		0.000000	351.883779	50-59-48.725
162	IP.41	BTC 40-0	20K306M078264	2,753,350.993922	294,979.440554	0.000000	20.000000	-1,250.000000	20.000000	50-59-48.725
163	IP.41	BCC 40-0	20K326M078264	2,753,363.622545	294,994.949121	-1,250.000000		-1,250.000000	27.400060	50-32-18.653
164	IP.41	ECC 40-0	20K353M478324	2,753,381.267357	295,015.910843	-1,250.000000	20.000000	0.000000	20.000000	49-16-57.318
165	IP.41	ETC 40-0	20K373M478324	2,753,394.394553	295,030.999728	0.000000		0.000000	32.825057	48-49-27.246
166	IP.42	BTC 41-0	20K406M303380	2,753,416.005623	295,055.706934	0.000000	20.000000	1,250.000000	20.000000	48-49-27.246
167	IP.42	BCC 41-0	20K426M303380	2,753,429.132819	295,070.795819	1,250.000000		1,250.000000	27.400642	49-16-57.318
168	IP.42	ECC 41-0	20K453M704023	2,753,446.778001	295,091.757991	1,250.000000	20.000000	0.000000	20.000000	50-32-18.749
169	IP.42	ETC 41-0	20K473M704023	2,753,459.406616	295,107.266563	0.000000		0.000000	154.048640	50-59-48.822
170	IP.43	BTC 42-0	20K627M752663	2,753,556.359055	295,226.979588	0.000000	20.000000	1,000.000000	20.000000	50-59-48.822
171	IP.43	BCC 42-0	20K647M752663	2,753,568.894373	295,242.563626	1,000.000000		1,000.000000	23.637458	51-34-11.380
172	IP.43	ECC 42-0	20K671M390121	2,753,583.366278	295,261.252323	1,000.000000	20.000000	0.000000	20.000000	52-55-26.956
173	IP.43	ETC 42-0	20K691M390121	2,753,595.317019	295,277.289037	0.000000		0.000000	24.474784	53-29-49.515
174	IP.44	BTC 43-0	20K715M864905	2,753,609.876178	295,296.962520	0.000000	20.000000	-1,000.000000	20.000000	53-29-49.515
175	IP.44	BCC 43-0	20K735M864905	2,753,621.826920	295,312.999235	-1,000.000000		-1,000.000000	23.697963	52-55-26.956
176	IP.44	ECC 43-0	20K759M562868	2,753,636.336434	295,331.735328	-1,000.000000	20.000000	0.000000	20.000000	51-33-58.900
177	IP.44	ETC 43-0	20K779M562868	2,753,648.872694	295,347.318608	0.000000		0.000000	3,138.864060	50-59-36.341

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
178	IP.45	BTC 44-0	23K918M426928	2,755,624.503632	297,786.447548	0.000000	30.000000	4,003.700000	30.000000	50-59-36.341
179	IP.45	BCC 44-0	23K948M426928	2,755,643.356778	297,809.783309	4,003.700000		4,003.700000	65.758795	51-12-29.115
180	IP.45	ECC 44-0	24K014M185723	2,755,684.131501	297,861.373462	4,003.700000	30.000000	0.000000	30.000000	52-08-56.913
181	IP.45	ETC 44-0	24K044M185723	2,755,702.480512	297,885.107671	0.000000		0.000000	102.328429	52-21-49.686
182	IP.46	BTC 45-0	24K146M514151	2,755,764.966916	297,966.141963	0.000000	30.000000	-4,000.000000	30.000000	52-21-49.686
183	IP.46	BCC 45-0	24K176M514151	2,755,783.315954	297,989.876151	-4,000.000000		-4,000.000000	65.426694	52-08-56.198
184	IP.46	ECC 45-0	24K241M940845	2,755,823.883193	298,041.206999	-4,000.000000	30.000000	0.000000	30.000000	51-12-42.392
185	IP.46	ETC 45-0	24K271M940845	2,755,842.734891	298,064.543931	0.000000		0.000000	556.386746	50-59-48.903
186	IP.47	BC 46-0	24K828M327591	2,756,192.903677	298,496.918805	-5,000.000000		-5,000.000000	26.548718	50-59-48.903
187	IP.47	EC 46-0	24K854M876309	2,756,209.667132	298,517.505679	0.000000		0.000000	923.420919	50-41-33.690
188	IP.48	BTC 47-0	25K778M297228	2,756,794.635422	299,232.011307	0.000000	125.000000	603.700000	125.000000	50-41-33.690
189	IP.48	BCC 47-0	25K903M297228	2,756,870.405263	299,331.354851	603.700000		603.700000	92.256710	56-35-49.578
190	IP.48	ECC 47-0	25K995M553938	2,756,915.123806	299,411.946423	603.700000	125.000000	0.000000	125.000000	65-21-10.719
191	IP.48	ETC 47-0	26K120M553938	2,756,959.321841	299,528.808489	0.000000		0.000000	133.636443	71-15-26.607
192	IP.49	BTC 48-0	26K254M190380	2,757,002.261544	299,655.358402	0.000000	40.000000	803.700000	40.000000	71-15-26.607
193	IP.49	BCC 48-0	26K294M190380	2,757,014.799275	299,693.341520	803.700000		803.700000	90.926268	72-40-58.111
194	IP.49	ECC 48-0	26K385M116649	2,757,036.901737	299,781.490558	803.700000	40.000000	0.000000	40.000000	79-09-53.794
195	IP.49	ETC 48-0	26K425M116649	2,757,043.768304	299,820.895662	0.000000		0.000000	60.607707	80-35-25.298
196	IP.50	BTC 49-0	26K485M724356	2,757,053.677175	299,880.687872	0.000000	40.000000	-800.000000	40.000000	80-35-25.298
197	IP.50	BCC 49-0	26K525M724356	2,757,060.545251	299,920.092703	-800.000000		-800.000000	73.199696	79-09-30.074
198	IP.50	ECC 49-0	26K598M924051	2,757,077.581366	299,991.256099	-800.000000	40.000000	0.000000	40.000000	73-54-56.923
199	IP.50	ETC 49-0	26K638M924051	2,757,089.301790	300,029.499305	0.000000		0.000000	266.380737	72-29-01.698
200	IP.51	BTC 50-0	26K905M304789	2,757,169.475828	300,283.528478	0.000000	125.000000	-800.000000	125.000000	72-29-01.698
201	IP.51	BCC 50-0	27K030M304789	2,757,210.175339	300,401.681361	-800.000000		-800.000000	330.345916	68-01-09.676
202	IP.51	ECC 50-0	27K360M650704	2,757,392.691407	300,674.214741	-800.000000	125.000000	0.000000	125.000000	44-21-36.255
203	IP.51	ETC 50-0	27K485M650704	2,757,486.449482	300,756.834213	0.000000		0.000000	243.398437	39-53-44.232
204	IP.52	BTC 51-0	27K729M049141	2,757,673.188215	300,912.947776	0.000000	90.000000	333.700000	90.000000	39-53-44.232
205	IP.52	BCC 51-0	27K819M049141	2,757,739.527492	300,973.661433	333.700000		333.700000	311.733442	47-33-43.307
206	IP.52	ECC 51-0	28K130M782583	2,757,820.726961	301,263.005018	333.700000	90.000000	0.000000	90.000000	101-05-10.265
207	IP.52	ETC 51-0	28K220M782583	2,757,795.662734	301,349.369550	0.000000		0.000000	407.720124	108-45-09.339
208	IP.53	BTC 52-0	28K628M502707	2,757,664.587915	301,735.446085	0.000000	60.000000	-2,000.000000	60.000000	108-45-09.339
209	IP.53	BCC 52-0	28K688M502707	2,757,645.583470	301,792.356182	-2,000.000000		-2,000.000000	228.465173	107-53-35.669
210	IP.53	ECC 52-0	28K916M967880	2,757,587.945807	302,013.303009	-2,000.000000	60.000000	0.000000	60.000000	101-20-53.506
211	IP.53	ETC 52-0	28K976M967880	2,757,576.728435	302,072.244493	0.000000		0.000000	353.133534	100-29-19.836
212	IP.54	BTC 53-0	29K330M101414	2,757,512.442572	302,419.477298	0.000000	125.000000	703.700000	125.000000	100-29-19.836
213	IP.54	BCC 53-0	29K455M101414	2,757,486.071832	302,541.619344	703.700000		703.700000	196.383486	105-33-37.271
214	IP.54	ECC 53-0	29K651M484900	2,757,407.845062	302,721.055666	703.700000	125.000000	0.000000	125.000000	121-33-00.156
215	IP.54	ETC 53-0	29K776M484900	2,757,336.303296	302,823.505026	0.000000		0.000000	2,265.911404	126-37-17.591
216	IP.55	BTC 54-0	32K042M396304	2,755,984.626346	304,642.109962	0.000000	125.000000	-600.000000	125.000000	126-37-17.591
217	IP.55	BCC 54-0	32K167M396304	2,755,913.616976	304,744.909263	-600.000000		-600.000000	561.529834	120-40-51.839
218	IP.55	ECC 54-0	32K728M926138	2,755,877.085845	305,284.935133	-600.000000	125.000000	0.000000	125.000000	67-03-32.102
219	IP.55	ETC 54-0	32K853M926138	2,755,933.603507	305,396.361256	0.000000		0.000000	1,378.872650	61-07-06.349
220	IP.56	BTC 55-0	34K232M798788	2,756,599.600027	306,603.729642	0.000000	125.000000	803.700000	125.000000	61-07-06.349
221	IP.56	BCC 55-0	34K357M798788	2,756,657.104924	306,714.679261	803.700000		803.700000	80.151006	65-33-44.767
222	IP.56	ECC 55-0	34K437M949795	2,756,686.573004	306,789.180895	803.700000	125.000000	0.000000	125.000000	71-16-35.044
223	IP.56	ETC 55-0	34K562M949795	2,756,720.522467	306,909.447537	0.000000		0.000000	157.680419	75-43-13.462

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
224	IP.57	BC 56-0	34K720M630214	2,756,759.414954	307,062.256205	-10,000.000000		-10,000.000000	25.414599	75-43-13.462
225	IP.57	EC 56-0	34K746M044813	2,756,765.714854	307,086.877593	0.000000		0.000000	420.597960	75-34-29.249
226	IP.58	BTC 57-0	35K166M642773	2,756,870.492541	307,494.215635	0.000000	20.000000	-2,500.000000	20.000000	75-34-29.249
227	IP.58	BCC 57-0	35K186M642773	2,756,875.500679	307,513.578434	-2,500.000000		-2,500.000000	82.731937	75-20-44.195
228	IP.58	ECC 57-0	35K269M374709	2,756,897.751299	307,593.258159	-2,500.000000	20.000000	0.000000	20.000000	73-26-58.320
229	IP.58	ETC 57-0	35K289M374709	2,756,903.499593	307,612.414269	0.000000		0.000000	80.915267	73-13-13.267
230	IP.59	BTC 58-0	35K370M289976	2,756,926.859162	307,689.884334	0.000000	30.000000	2,000.000000	30.000000	73-13-13.267
231	IP.59	BCC 58-0	35K400M289976	2,756,935.448059	307,718.628488	2,000.000000		2,000.000000	52.186174	73-39-00.215
232	IP.59	ECC 58-0	35K452M476150	2,756,949.483688	307,768.890236	2,000.000000	30.000000	0.000000	30.000000	75-08-42.301
233	IP.59	ETC 58-0	35K482M476150	2,756,957.029761	307,797.925599	0.000000		0.000000	300.633134	75-34-29.249
234	IP.60	BTC 59-0	35K783M109284	2,757,031.922288	308,089.080867	0.000000	30.000000	1,600.000000	30.000000	75-34-29.249
235	IP.60	BCC 59-0	35K813M109284	2,757,039.304910	308,118.158175	1,600.000000		1,600.000000	39.602759	76-06-42.908
236	IP.60	ECC 59-0	35K852M712043	2,757,048.333870	308,156.716914	1,600.000000	30.000000	0.000000	30.000000	77-31-48.318
237	IP.60	ETC 59-0	35K882M712043	2,757,054.628459	308,186.048998	0.000000		0.000000	26.570189	78-04-01.977
238	IP.61	BTC 60-0	35K909M282232	2,757,060.122219	308,212.045027	0.000000	30.000000	-1,600.000000	30.000000	78-04-01.977
239	IP.61	BCC 60-0	35K939M282232	2,757,066.416808	308,241.377110	-1,600.000000		-1,600.000000	35.343187	77-31-48.318
240	IP.61	ECC 60-0	35K974M625418	2,757,074.428865	308,275.799443	-1,600.000000	30.000000	0.000000	30.000000	76-15-52.033
241	IP.61	ETC 60-0	36K004M625418	2,757,081.734050	308,304.896303	0.000000		0.000000	133.086167	75-43-38.374
242	IP.62	BTC 61-0	36K137M711585	2,757,114.544692	308,433.874555	0.000000	125.000000	653.700000	125.000000	75-43-38.374
243	IP.62	BCC 61-0	36K262M711585	2,757,141.479995	308,555.886286	653.700000		653.700000	695.870800	81-11-01.715
244	IP.62	ECC 61-0	36K958M582385	2,756,896.378914	309,172.430683	653.700000	125.000000	0.000000	125.000000	142-10-32.857
245	IP.62	ETC 61-0	37K083M582385	2,756,793.025149	309,242.647293	0.000000		0.000000	676.171200	147-37-56.198
246	IP.63	BTC 62-0	37K759M753585	2,756,221.910907	309,604.636264	0.000000	125.000000	-580.000000	125.000000	147-37-56.198
247	IP.63	BCC 62-0	37K884M753585	2,756,118.852323	309,675.261415	-580.000000		-580.000000	626.527137	141-29-20.209
248	IP.63	ECC 62-0	38K511M280722	2,755,909.532500	310,233.835999	-580.000000	125.000000	0.000000	125.000000	79-35-49.005
249	IP.63	ETC 62-0	38K636M280722	2,755,940.796233	310,354.796996	0.000000		0.000000	375.493354	73-27-13.016
250	IP.64	BTC 63-0	39K011M774076	2,756,047.733540	310,714.740980	0.000000	125.000000	603.700000	125.000000	73-27-13.016
251	IP.64	BCC 63-0	39K136M774076	2,756,079.168270	310,835.662717	603.700000		603.700000	210.301627	79-21-28.904
252	IP.64	ECC 63-0	39K347M075703	2,756,081.587065	311,044.888629	603.700000	125.000000	0.000000	125.000000	99-19-02.183
253	IP.64	ETC 63-0	39K472M075703	2,756,052.956239	311,166.504765	0.000000		0.000000	101.403802	105-13-18.071
254	IP.65	BTC 64-0	39K573M479505	2,756,026.332223	311,264.351037	0.000000	125.000000	583.700000	125.000000	105-13-18.071
255	IP.65	BCC 64-0	39K698M479505	2,755,989.255218	311,383.659379	583.700000		583.700000	605.522869	111-19-35.248
256	IP.65	ECC 64-0	40K304M002374	2,755,539.206037	311,747.511811	583.700000	125.000000	0.000000	125.000000	170-45-51.704
257	IP.65	ETC 64-0	40K429M002374	2,755,414.778114	311,758.775778	0.000000		0.000000	23.547152	176-52-08.882
258	IP.66	BTC 65-0	40K452M549525	2,755,391.266109	311,760.061847	0.000000	40.000000	-3,000.000000	40.000000	176-52-08.882
259	IP.66	BCC 65-0	40K492M549525	2,755,351.330846	311,762.335262	-3,000.000000		-3,000.000000	37.710653	176-29-13.809
260	IP.66	ECC 65-0	40K530M260178	2,755,313.706561	311,764.882377	-3,000.000000	40.000000	0.000000	40.000000	175-46-01.016
261	IP.66	ETC 65-0	40K570M260178	2,755,273.829273	311,768.012169	0.000000		0.000000	40.320932	175-23-05.944
262	IP.67	BTC 66-0	40K610M581111	2,755,233.639068	311,771.256397	0.000000	40.000000	3,000.000000	40.000000	175-23-05.944
263	IP.67	BCC 66-0	40K650M581111	2,755,193.761780	311,774.386189	3,000.000000		3,000.000000	51.433507	175-46-01.016
264	IP.67	ECC 66-0	40K702M014618	2,755,142.438550	311,777.742802	3,000.000000	40.000000	0.000000	40.000000	176-44-57.323
265	IP.67	ETC 66-0	40K742M014618	2,755,102.493305	311,779.833519	0.000000		0.000000	332.271320	177-07-52.396
266	IP.68	BTC 67-0	41K074M285938	2,754,770.638395	311,796.463273	0.000000	75.000000	1,500.000000	75.000000	177-07-52.396
267	IP.68	BCC 67-0	41K149M285938	2,754,695.705790	311,799.592554	1,500.000000		1,500.000000	128.998218	178-33-47.620
268	IP.68	ECC 67-0	41K278M284156	2,754,566.768032	311,797.281355	1,500.000000	75.000000	0.000000	75.000000	183-29-26.148
269	IP.68	ETC 67-0	41K353M284156	2,754,491.995713	311,791.468626	0.000000		0.000000	444.333564	184-55-21.373

No	IP name	Point name	Station	X	Y	Curve radius (Starting)	Transition curve length	Curve radius (Ending)	Length	Angle of tangential line
270	IP.69	BTC 68-0	41K797M617720	2,754,049.301064	311,753.340371	0.000000	85.000000	350.000000	85.000000	184-55-21.373
271	IP.69	BCC 68-0	41K882M617720	2,753,965.033016	311,742.639459	350.000000		350.000000	275.391358	191-50-09.627
272	IP.69	BIT 68-0	42K158M009078	2,753,743.559725	311,591.123534	350.000000	55.000000	390.000000	55.000000	236-55-05.470
273	IP.69	EIT 68-0	42K213M009078	2,753,717.084166	311,542.972190	390.000000		390.000000	117.266765	245-22-04.509
274	IP.69	ECC 68-0	42K330M275842	2,753,684.847182	311,430.682495	390.000000	100.000000	0.000000	100.000000	262-35-45.038
275	IP.69	ETC 68-0	42K430M275842	2,753,680.395617	311,330.854064	0.000000		0.000000	471.665289	269-53-23.314
276	IP.70	BTC 69-0	42K901M941131	2,753,679.488517	310,859.189647	0.000000	20.000000	-1,100.000000	20.000000	269-53-23.314
277	IP.70	BCC 69-0	42K921M941131	2,753,679.389449	310,839.189966	-1,100.000000		-1,100.000000	235.500302	269-22-08.247
278	IP.70	ECC 69-0	43K157M441433	2,753,651.703919	310,605.775332	-1,100.000000	20.000000	0.000000	20.000000	257-06-08.770
279	IP.70	ETC 69-0	43K177M441433	2,753,647.121697	310,586.307402	0.000000		0.000000	69.931231	256-34-53.703
280	EP	EP	43K247M372664	2,753,630.893416	310,518.285200				0.000000	256-34-53.703

Computation of IP direction and distance

Line Name: UP Track (Clockwise)

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
BP	2,753,630.893416	310,518.285200						
			345.963972	256-34-53.703				
IP.1	2,753,550.608824	310,181.765581			6-21-59.447 (Left curve)	30.000000	4,000.000000	30.000000
			464.844898	250-12-54.256				
IP.2	2,753,393.263280	309,744.360553			9-42-21.245 (Left curve)	60.000000	2,000.000000	60.000000
			1,585.426627	240-30-33.011				
IP.3	2,752,612.782707	308,364.350530			1-56-54.435 (Left curve)	25.000000	1,500.000000	25.000000
			99.985181	238-33-38.576				
IP.4	2,752,560.630963	308,279.043836			1-58-22.133 (Right curve)	25.000000	1,500.000000	25.000000
			228.779974	240-32-00.709				
IP.5	2,752,448.090861	308,079.857988			0-43-24.380 (Right curve)	25.000000	5,000.000000	25.000000
			712.756511	241-15-25.089				
IP.6	2,752,105.338994	307,454.923590			0-44-52.005 (Left curve)	30.000000	4,000.000000	30.000000
			3,208.715515	240-30-33.084				
IP.7	2,750,525.739833	304,661.946372			3-34-31.531 (Left curve)	25.000000	750.000000	25.000000
			110.368258	236-56-01.552				
IP.8	2,750,465.522007	304,569.453314			5-58-31.673 (Right curve)	25.000000	750.000000	25.000000
			217.333482	242-54-33.225				
IP.9	2,750,366.548011	304,375.964320			2-47-12.582 (Left curve)	60.000000	2,000.000000	60.000000
			1,077.294595	240-07-20.643				
IP.10	2,749,829.895030	303,441.851253			0-21-09.784 (Right curve)	0.000000	7,000.000000	0.000000
			345.558008	240-28-30.427				
IP.11	2,749,659.603533	303,141.166796			0-04-35.857 (Left curve)	0.000000	15,000.000000	0.000000
			71.922040	240-23-54.570				
IP.12	2,749,624.076580	303,078.631882			4-52-44.472 (Right curve)	30.000000	600.000000	30.000000
			147.028003	245-16-39.042				
IP.13	2,749,562.585996	302,945.079863			4-39-58.504 (Left curve)	40.000000	800.000000	40.000000
			491.232567	240-36-40.538				
IP.14	2,749,321.522199	302,517.063881			1-47-27.711 (Left curve)	40.000000	2,000.000000	40.000000
			127.982421	238-49-12.827				
IP.15	2,749,255.262504	302,407.568891			1-47-27.714 (Right curve)	40.000000	2,003.700000	40.000000
			226.206900	240-36-40.541				
IP.16	2,749,144.255424	302,210.472494			5-51-07.365 (Left curve)	25.000000	600.000000	25.000000
			107.885501	234-45-33.175				
IP.17	2,749,082.003998	302,122.358697			5-51-07.363 (Right curve)	25.000000	600.000000	25.000000
			234.171924	240-36-40.538				
IP.18	2,748,967.088219	301,918.322294			6-02-33.046 (Right curve)	25.000000	600.000000	25.000000 *
			88.347322	246-39-13.584				
IP.19	2,748,932.077378	301,837.208236			6-02-33.047 (Left curve)	25.000000 *	600.000000	25.000000
			834.778835	240-36-40.537				
IP.20	2,748,522.424253	301,109.856863			68-57-28.789 (Right curve)	50.000000	600.000000	20.000000
							1,155.000000	100.000000

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			953.789224	309-34-09.326				
IP.21	2,749,129.997975	300,374.623529			1-59-18.304 (Right curve)	25.000000	1,300.000000	25.000000
			97.988861	311-33-27.631				
IP.22	2,749,195.001201	300,301.299608			1-59-18.172 (Left curve)	25.000000	1,300.000000	25.000000
			921.038774	309-34-09.459				
IP.23	2,749,781.712999	299,591.312503			51-28-34.767 (Left curve)	115.000000	1,000.000000	65.000000
							580.000000	125.000000
			735.569217	258-05-34.691				
IP.24	2,749,629.947235	298,871.570031			2-28-16.248 (Left curve)	20.000000	1,000.000000	20.000000
			88.139354	255-37-18.443				
IP.25	2,749,608.060337	298,786.191408			2-28-16.627 (Right curve)	20.000000	1,000.000000	20.000000
			236.758513	258-05-35.071				
IP.26	2,749,559.211742	298,554.526977			6-30-16.648 (Right curve)	40.000000	800.000000	40.000000
			752.025125	264-35-51.719				
IP.27	2,749,488.409869	297,805.842209			8-38-21.915 (Left curve)	40.000000	800.000000	40.000000
			282.380449	255-57-29.804				
IP.28	2,749,419.896361	297,531.899483			8-43-49.716 (Right curve)	20.000000	600.000000	20.000000
			165.436771	264-41-19.520				
IP.29	2,749,404.582541	297,367.173006			3-50-46.789 (Right curve)	20.000000	600.000000	20.000000
			86.463010	268-32-06.309				
IP.30	2,749,402.372132	297,280.738255			2-51-23.166 (Left curve)	20.000000	800.000000	20.000000
			261.958820	265-40-43.143				
IP.31	2,749,382.633460	297,019.524151			63-51-00.361 (Right curve)	25.000000	400.000000	50.000000
							200.000000	75.000000
			498.904349	329-31-43.504				
IP.32	2,749,812.631004	296,766.526797			6-51-17.423 (Right curve)	60.000000	803.700000	60.000000
			226.121072	336-23-00.927				
IP.33	2,750,019.813992	296,675.940105			11-39-56.254 (Left curve)	40.000000	600.000000	40.000000
			258.279028	324-43-04.673				
IP.34	2,750,230.652002	296,526.757699			32-21-32.750 (Right curve)	90.000000	303.700000	90.000000
			411.364194	357-04-37.423				
IP.35	2,750,641.481020	296,505.781100			5-58-27.302 (Right curve)	40.000000	800.000000	40.000000
			765.526279	3-03-04.725				
IP.36	2,751,405.921985	296,546.530278			57-43-40.489 (Left curve)	110.000000	450.000000	110.000000
			1,152.758082	305-19-24.236				
IP.37	2,752,072.436190	295,605.993192			3-25-58.229 (Right curve)	60.000000	1,400.000000	60.000000
			177.311147	308-45-22.465				
IP.38	2,752,183.434459	295,467.723068			3-25-31.194 (Left curve)	65.000000	1,750.000000	65.000000
			244.316230	305-19-51.272				
IP.39	2,752,324.722001	295,268.403599			6-19-50.775 (Left curve)	75.000000	1,500.000000	75.000000
			1,056.282205	299-00-00.497				
IP.40	2,752,836.820000	294,344.559599			111-59-48.229 (Right curve)	85.000000	283.700000	85.000000
			850.678407	50-59-48.725				
IP.41	2,753,372.205403	295,005.631624			2-10-21.480 (Left curve)	20.000000	1,250.000000	20.000000
			100.231551	48-49-27.246				
IP.42	2,753,438.194965	295,081.075257			2-10-21.576 (Right curve)	20.000000	1,250.000000	20.000000

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			219.574555	50-59-48.822				
IP.43	2,753,576.386957	295,251.709247	88.150096	53-29-49.515	2-30-00.693 (Right curve)	20.000000	1,000.000000	20.000000
IP.44	2,753,628.824245	295,322.566641	3,233.598634	50-59-36.341	2-30-13.173 (Left curve)	20.000000	1,000.000000	20.000000
IP.45	2,755,664.082027	297,835.311333	227.925928	52-21-49.686	1-22-13.345 (Right curve)	30.000000	4,003.700000	30.000000
IP.46	2,755,803.263991	298,015.806789	632.376851	50-59-48.903	1-22-00.783 (Left curve)	30.000000	4,000.000000	30.000000
IP.47	2,756,201.258077	298,507.234495	1,109.178505	50-41-33.690	0-18-15.213 (Left curve)	0.000000	5,000.000000	0.000000
IP.48	2,756,903.900003	299,365.471803	391.734258	71-15-26.607	20-33-52.917 (Right curve)	125.000000	603.700000	125.000000
IP.49	2,757,029.771003	299,736.433015	222.922270	80-35-25.298	9-19-58.692 (Right curve)	40.000000	803.700000	40.000000
IP.50	2,757,066.216998	299,956.355792	639.819826	72-29-01.698	8-06-23.600 (Left curve)	40.000000	800.000000	40.000000
IP.51	2,757,258.787000	300,566.508399	814.909334	39-53-44.232	32-35-17.466 (Left curve)	125.000000	800.000000	125.000000
IP.52	2,757,883.997000	301,089.183900	856.980202	108-45-09.339	68-51-25.107 (Right curve)	90.000000	333.700000	90.000000
IP.53	2,757,608.492999	301,900.671800	753.855950	100-29-19.836	8-15-49.503 (Left curve)	60.000000	2,000.000000	60.000000
IP.54	2,757,471.258000	302,641.931099	2,941.582638	126-37-17.591	26-07-57.755 (Right curve)	125.000000	703.700000	125.000000
IP.55	2,755,716.525030	305,002.825129	1,994.035381	61-07-06.349	65-30-11.242 (Left curve)	125.000000	600.000000	125.000000
IP.56	2,756,679.645609	306,748.842269	336.113311	75-43-13.462	14-36-07.113 (Right curve)	125.000000	803.700000	125.000000
IP.57	2,756,762.549260	307,074.570902	494.678595	75-34-29.249	0-08-44.214 (Left curve)	0.000000	10,000.000000	0.000000
IP.58	2,756,885.781620	307,553.654087	198.387824	73-13-13.267	2-21-15.982 (Left curve)	20.000000	2,500.000000	20.000000
IP.59	2,756,943.054545	307,743.594975	406.539696	75-34-29.249	2-21-15.982 (Right curve)	30.000000	2,000.000000	30.000000
IP.60	2,757,044.330093	308,137.317958	124.054093	78-04-01.977	2-29-32.727 (Right curve)	30.000000	1,600.000000	30.000000
IP.61	2,757,069.980019	308,258.691346	718.337398	75-43-38.374	2-20-23.603 (Left curve)	30.000000	1,600.000000	30.000000
IP.62	2,757,247.076645	308,954.856127	1,715.881458	147-37-56.198	71-54-17.824 (Right curve)	125.000000	653.700000	125.000000
IP.63	2,755,797.792296	309,873.455089	1,112.493633	73-27-13.016	74-10-43.182 (Left curve)	125.000000	580.000000	125.000000
IP.64	2,756,114.620999	310,939.879797	821.220217	105-13-18.071	31-46-05.055 (Right curve)	125.000000	603.700000	125.000000
IP.65	2,755,899.006004	311,732.289298			71-38-50.811 (Right curve)	125.000000	583.700000	125.000000

IP No.	X	Y	IP Distance	IP Direction	IA	Transition curve length 1	Radius	Transition curve length 2
			567.356642	176-52-08.882				
IP.66	2,755,332.496203	311,763.276465			1-29-02.938 (Left curve)	40.000000	3,000.000000	40.000000
			164.899292	175-23-05.944				
IP.67	2,755,168.131544	311,776.544287			1-44-46.452 (Right curve)	40.000000	3,000.000000	40.000000
			537.658358	177-07-52.396				
IP.68	2,754,631.146992	311,803.453400			7-47-28.977 (Right curve)	75.000000	1,500.000000	75.000000
			953.516861	184-55-21.373				
IP.69	2,753,681.147157	311,721.632137			84-58-01.942 (Right curve)	85.000000	350.000000	55.000000
							390.000000	100.000000
			1,000.773438	269-53-23.314				
IP.70	2,753,679.222484	310,720.860550			13-18-29.611 (Left curve)	20.000000	1,100.000000	20.000000
			208.260584	256-34-53.703				
EP	2,753,630.893416	310,518.285200						