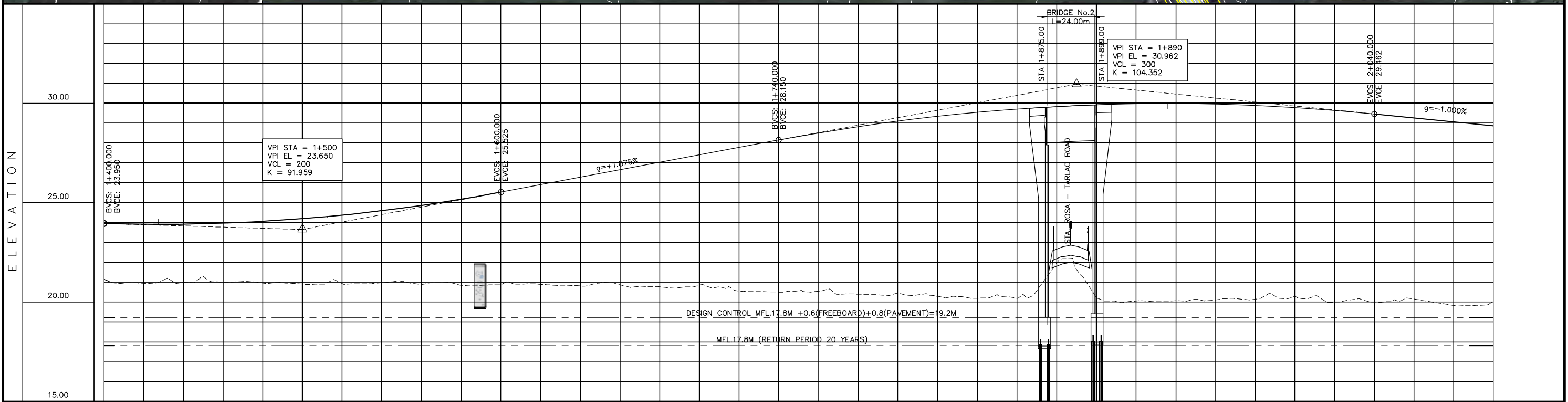
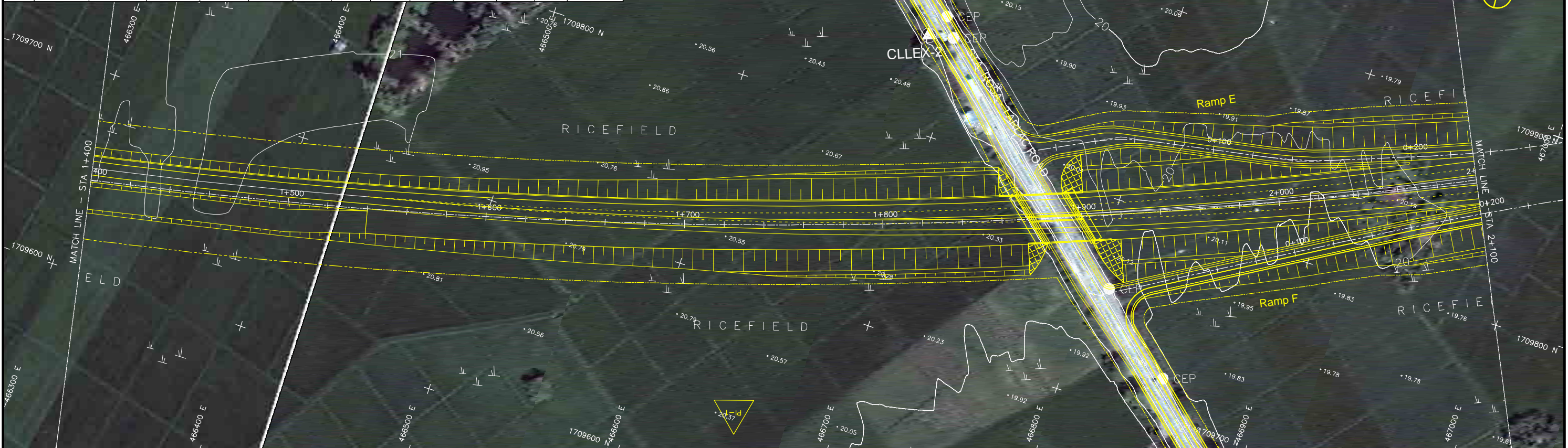


STATION	0+700	0+800	0+900	1+000	1+100	1+200	1+300	1+400
FINISHED GRADE ELEVATION	24.850	24.910	25.030	25.150	25.276	25.394	25.510	25.630
EXISTING GROUND ELEVATION	21.658	21.780	21.661	21.620	21.571	21.680	21.690	21.698
VERTICAL CURVATURE	+0.300% L=250.000		-0.300% L=400.000		-0.300% L=400.000			
HORIZONTAL CURVATURE	R=2700.000 L=2427.736							

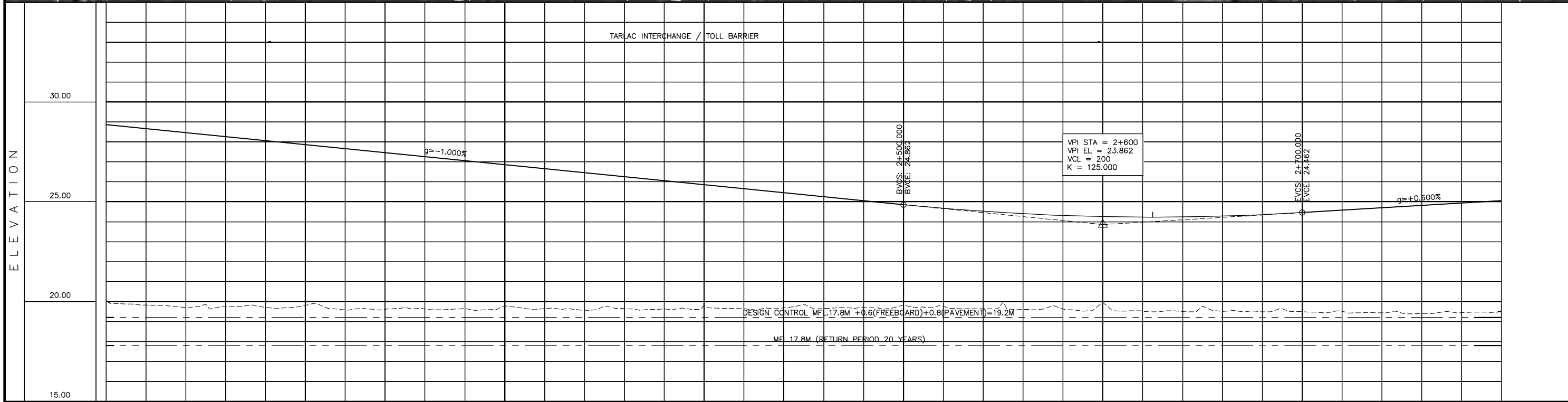
PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 0+700.000-STA 1+400.000	E-46 SHEET NO. 2 OF 44

ELEMENTS OF CURVE													
PI No.	PI STATION	NORTHING	EASTING	AZIMUTH	I (Delta)	R	Lc	E	L1	L2	A Value	V(kph)	CURVE TYPE
PI-1	1+814.648	1709443.624	466711.872	277°52'39"	51°31'05"	2700	2427.74	297.904	1302.853	1302.853		100	CIRCULAR



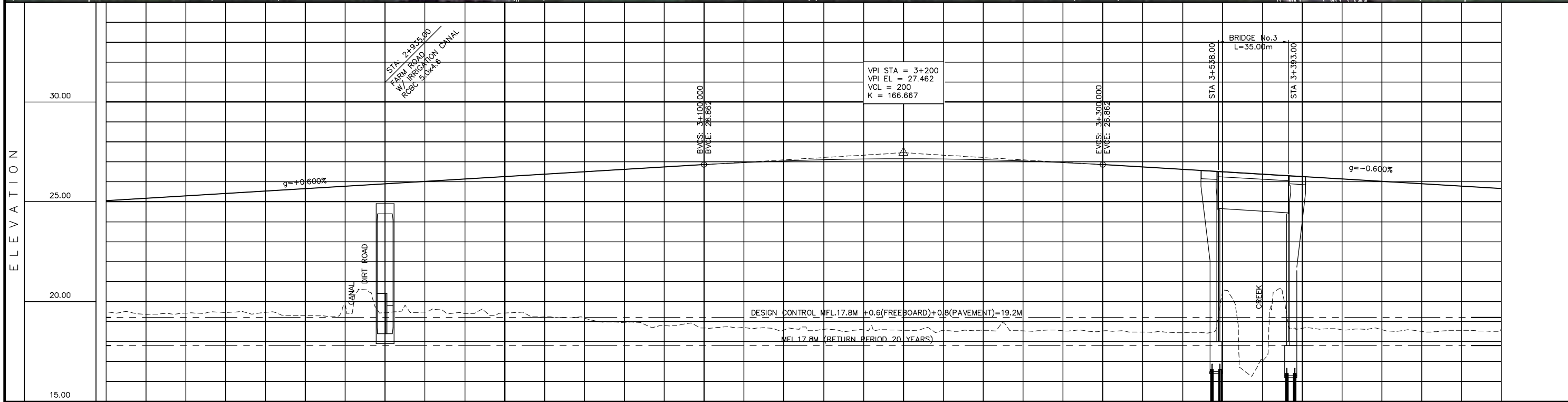
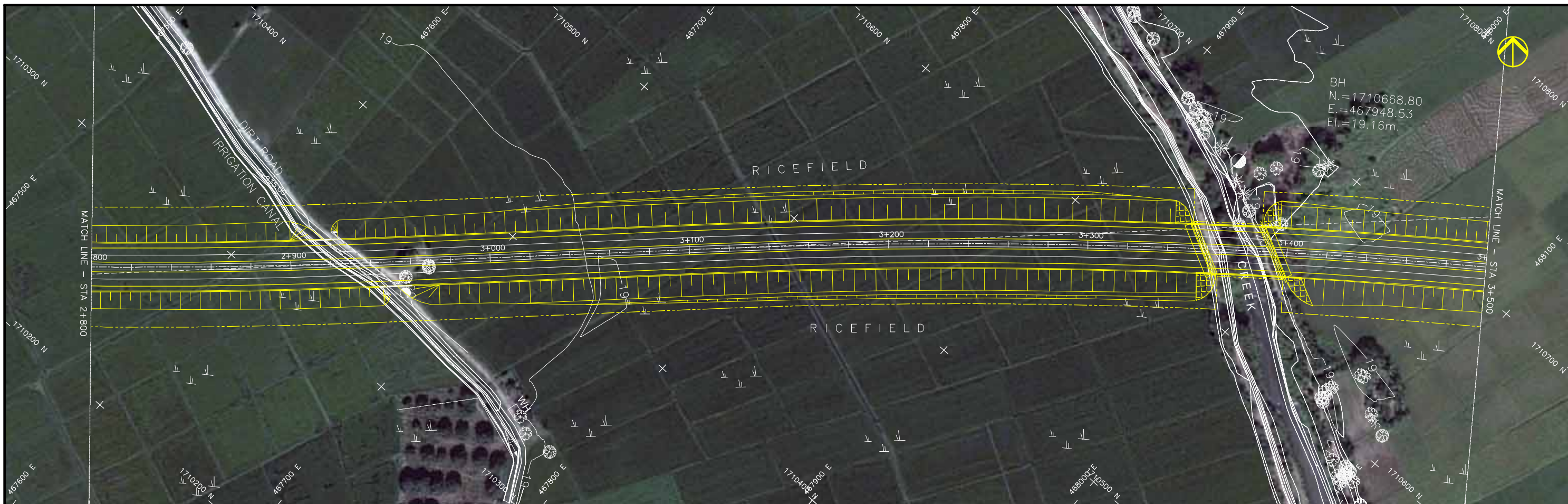
STATION	1+400	1+500	1+600	1+700	1+800	1+900	2+000	2+100
FINISHED GRADE ELEVATION	21.146	23.950						
EXISTING GROUND ELEVATION	21.146	20.936	23.912	20.986	23.917	21.004	23.966	20.954
VERTICAL CURVATURE		23.650	1+500		1.875%	1+890		-1.000%
HORIZONTAL CURVATURE					R=2700.000			

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 1+400.000-STA 2+100.000	E-47 SHEET NO. 3 OF 44



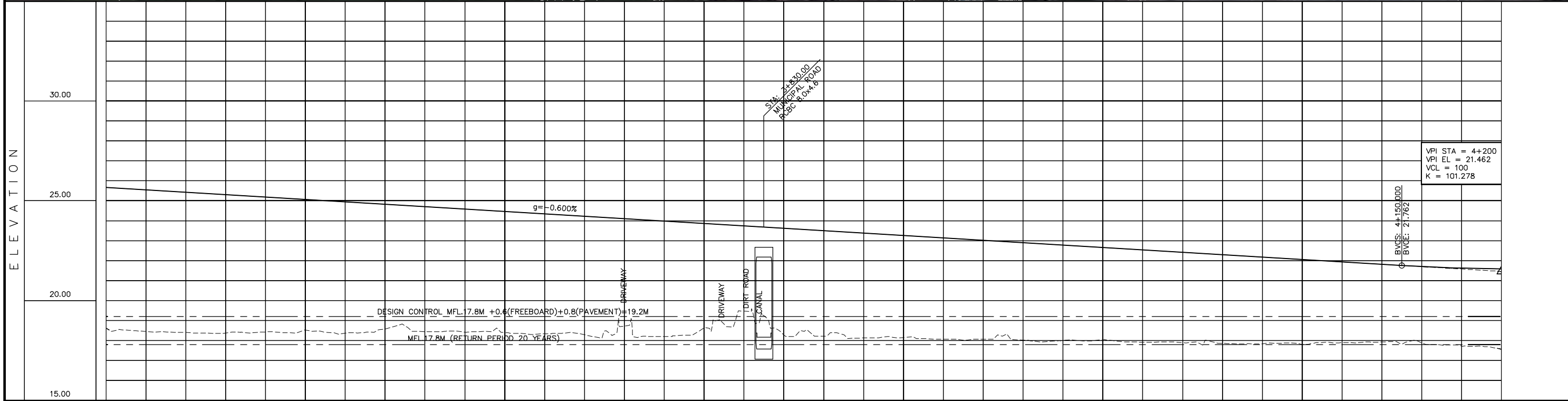
STATION	2+100	2+200	2+300	2+400	2+500	2+600	2+700	2+800
FINISHED GRADE ELEVATION	28.862	28.662	28.462	28.262	28.062	27.862	27.662	27.462
EXISTING GROUND ELEVATION	20.045	19.824	19.713	19.750	19.712	19.814	19.592	19.615
VERTICAL CURVATURE	-1.000% L=400.000				R=2700.000 L=2427.736		+0.500% L=400.000	
HORIZONTAL CURVATURE								

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 2+100.000-STA 2+800.000	E-48 SHEET NO. 4 OF 44



STATION	2+800	2+900	3+000	3+100	3+200	3+300	3+400	3+500																												
FINISHED GRADE ELEVATION	19.498	19.366	19.426	19.461	19.461	19.304	19.876	19.441	19.482	19.408	19.428	19.230	19.180	18.960	18.807	18.675	18.713	18.568	18.611	18.583	18.566	18.563	18.567	18.540	18.537	20.487	17.059	18.663	18.585	18.603	18.509	18.563	18.602			
EXISTING GROUND ELEVATION	25.062	25.182	25.302	25.422	25.542	25.662	25.782	25.902	26.022	26.142	26.262	26.382	26.502	26.622	26.742	26.862	26.970	27.054	27.114	27.150	27.162	27.150	27.114	27.054	26.970	26.862	26.742	26.622	26.502	26.382	26.262	26.142	26.022	25.902	25.782	25.662
VERTICAL CURVATURE	+0.600% L=400.000												-0.600% L=650.000																							
HORIZONTAL CURVATURE	R=2700.000 L=2427.736		R=∞										R=3000.000 L=2305.362																							

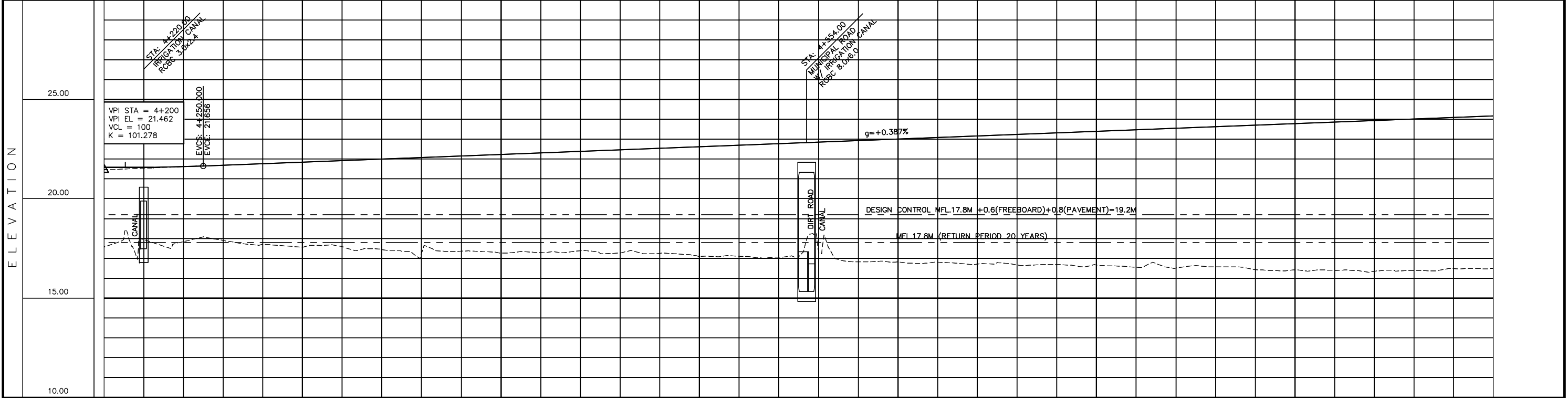
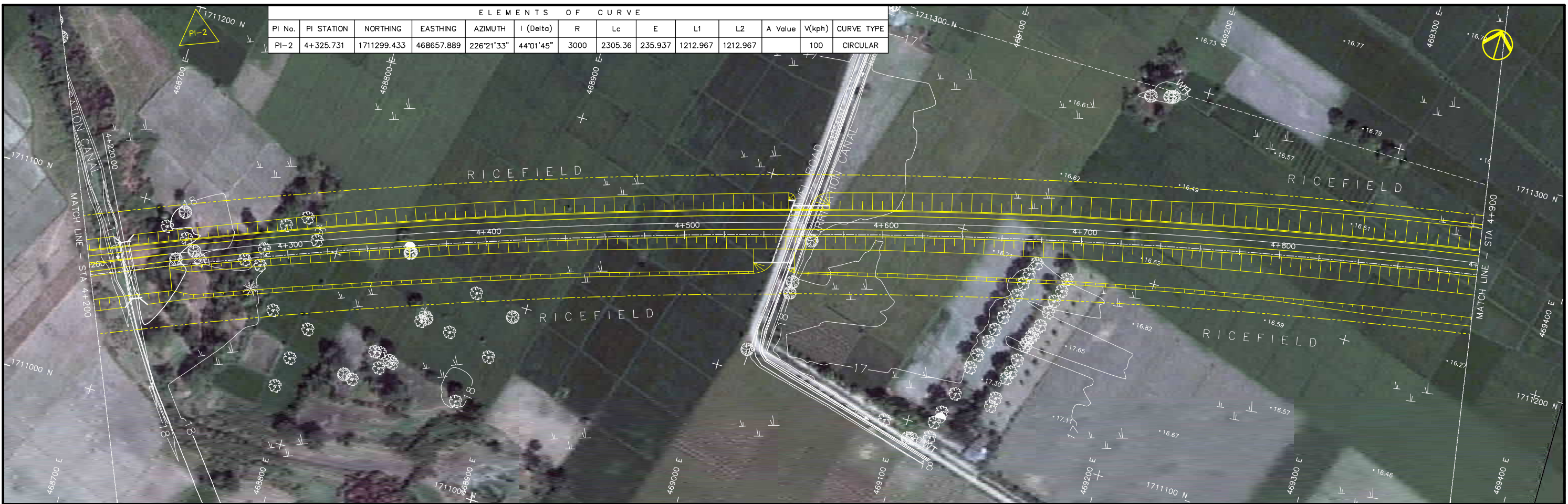
PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 2+800.000-STA 3+500.000	E-49 SHEET NO. 5 OF 44



STATION	3+500	3+600	3+700	3+800	3+900	4+000	4+100	4+200
FINISHED GRADE ELEVATION	25.662	25.542	25.422	25.302	25.182	25.062	24.942	24.822
EXISTING GROUND ELEVATION	18.602	18.456	18.402	18.380	18.433	18.530	18.371	18.583
VERTICAL CURVATURE	$g = -0.600\%$							
HORIZONTAL CURVATURE	$R = 3000.000$ $L = 2305.362$							

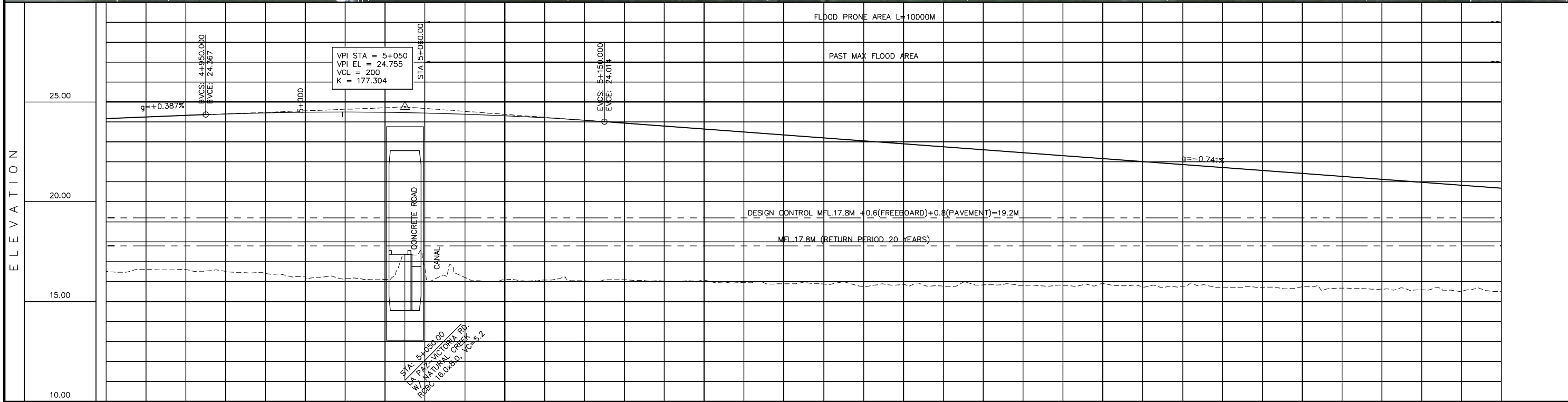
PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 3+500.000-STA 4+200.000	E-50 SHEET NO. 6 OF 44

ELEMENTS OF CURVE													
PI No.	PI STATION	NORTHING	EASTING	AZIMUTH	I (Delta)	R	Lc	E	L1	L2	A Value	V(kph)	CURVE TYPE
PI-2	4+325.731	1711299.433	468657.889	226°21'33"	44°01'45"	3000	2305.36	235.937	1212.967	1212.967		100	CIRCULAR



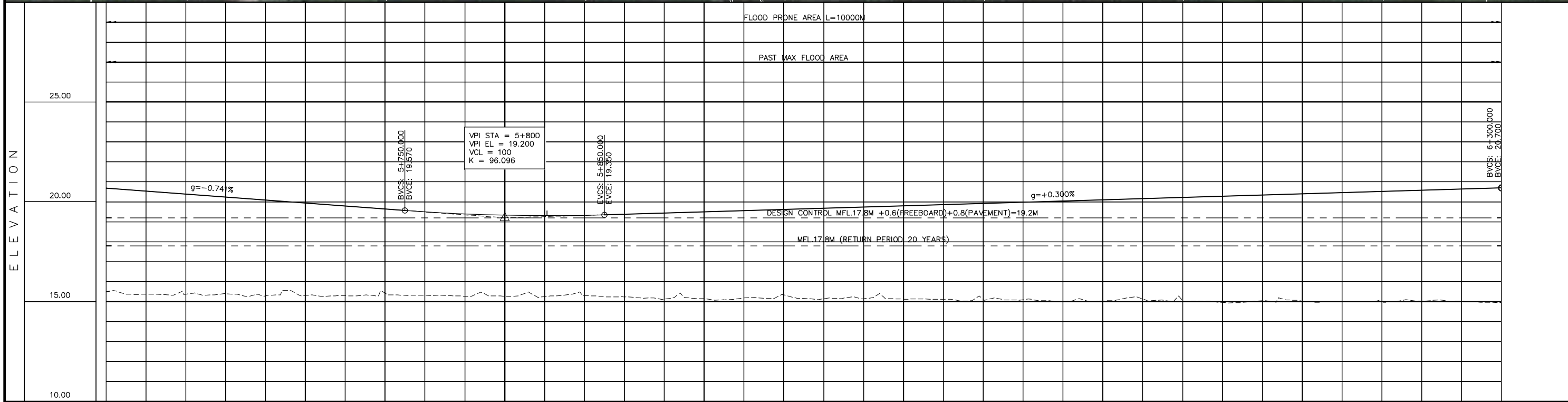
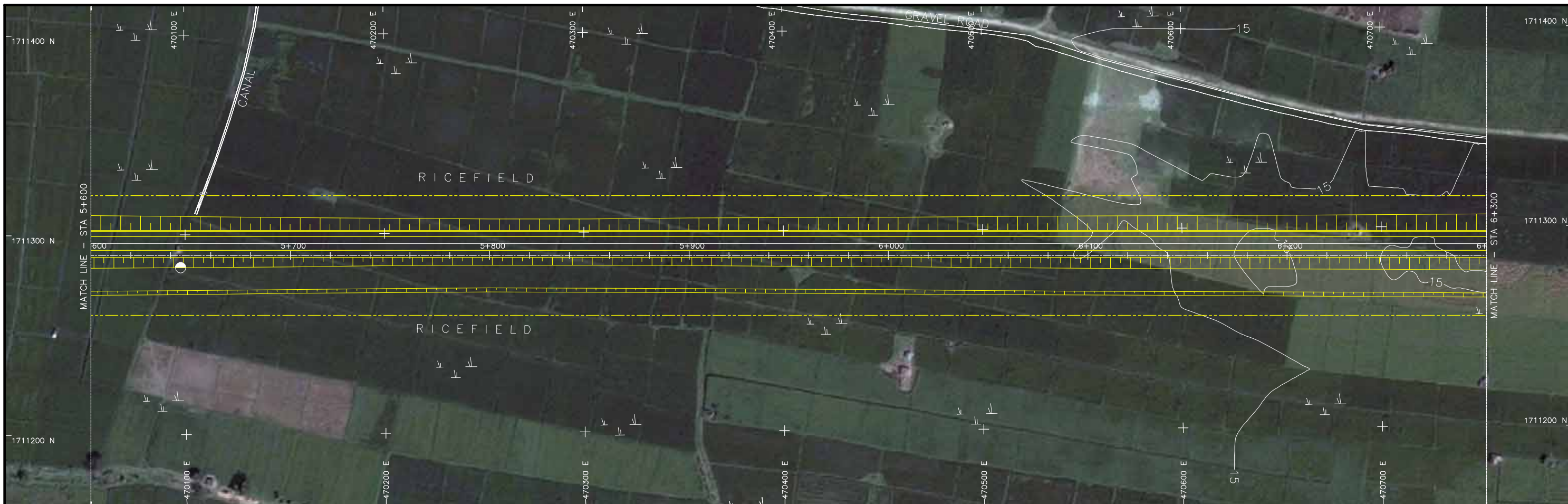
STATION	4+200	4+300	4+400	4+500	4+600	4+700	4+800	4+900
FINISHED GRADE ELEVATION	17.573 21.985	17.953 21.584	17.856 21.622	17.905 21.694	17.711 21.772	17.555 21.849	17.592 21.927	17.447 22.004
EXISTING GROUND ELEVATION	17.573 21.985	17.953 21.584	17.856 21.622	17.905 21.694	17.711 21.772	17.555 21.849	17.592 21.927	17.447 22.004
VERTICAL CURVATURE								
HORIZONTAL CURVATURE	R=3000.000 L=2305.362							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 4+200.000-STA 4+900.000	E-51 SHEET NO. 7 OF 44



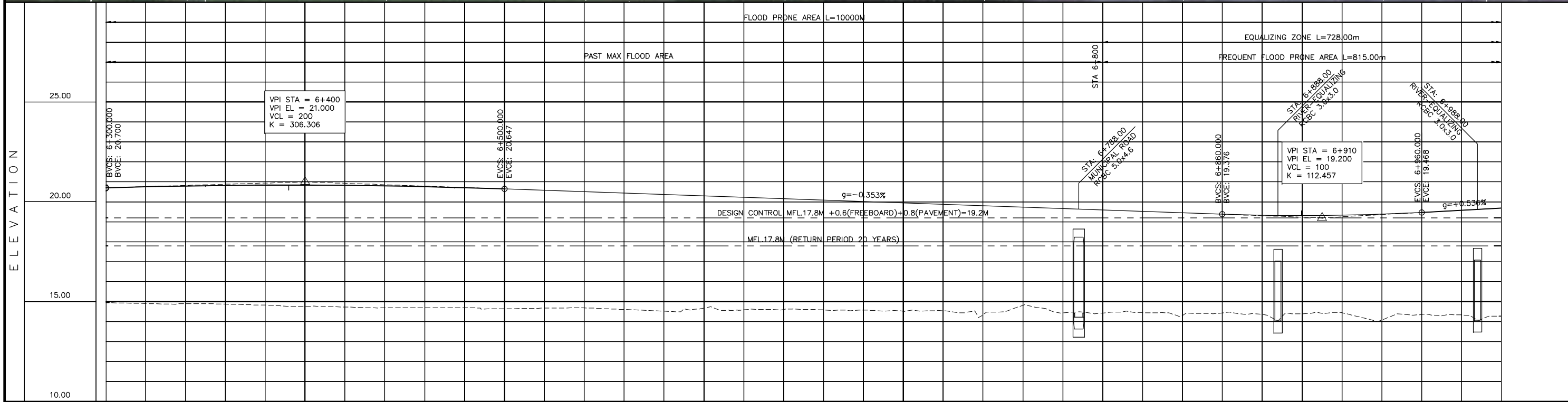
STATION	4+900	5+000	5+100	5+200	5+300	5+400	5+500	5+600
FINISHED GRADE ELEVATION	24.174	24.251	24.329	24.403	24.458	24.491	24.500	24.488
EXISTING GROUND ELEVATION	16.509	16.618	16.612	16.519	16.413	16.249	16.147	16.114
VERTICAL CURVATURE	+0.387% L=100.000		24.755 5+050		-0.741% L=600.000			
HORIZONTAL CURVATURE	R=3000.000 L=2305.362				5+418.126		R=∞	

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 4+900.000-STA 5+600.000	E-52 SHEET NO. 8 OF 44



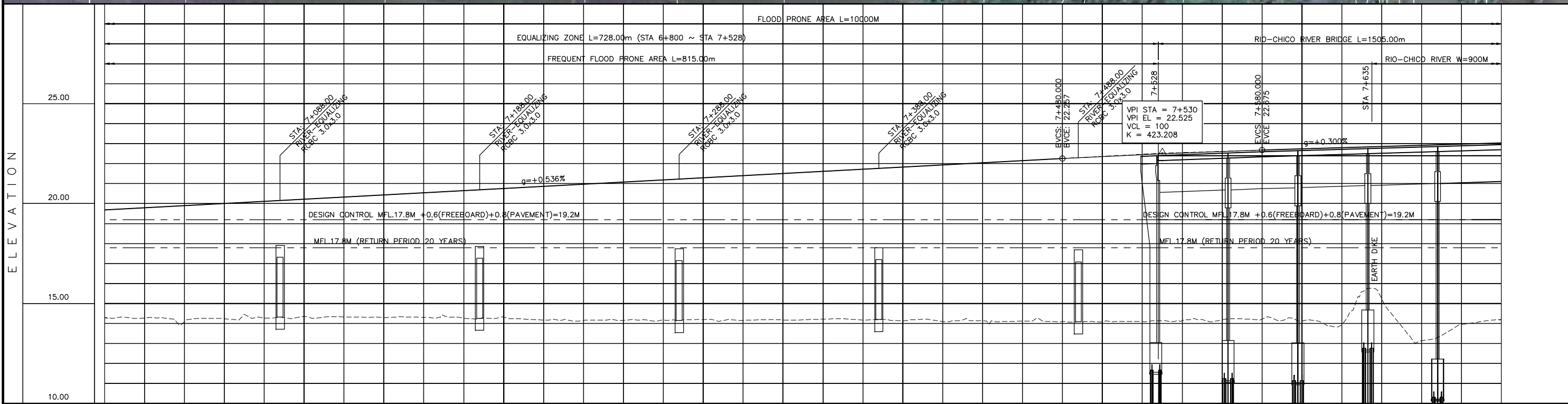
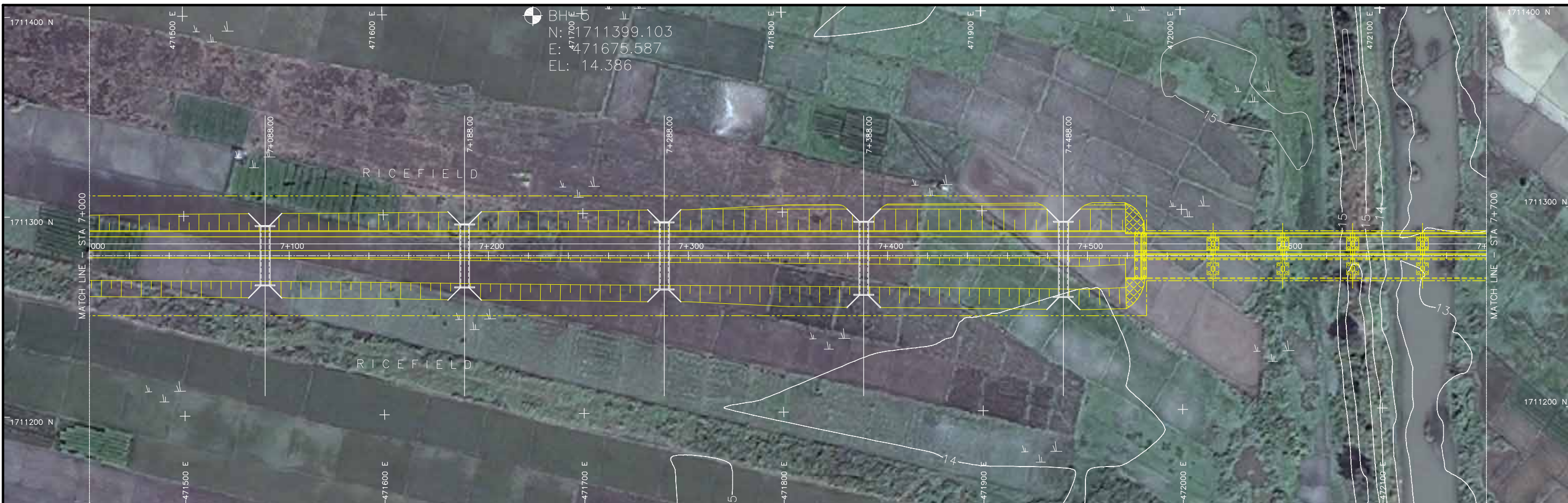
STATION	5+600	5+700	5+800	5+900	6+000	6+100	6+200	6+300
FINISHED GRADE ELEVATION	20.661	20.533	20.385	20.237	20.089	19.941	19.793	19.644
EXISTING GROUND ELEVATION	15.493	15.372	15.376	15.397	15.293	15.307	15.297	15.430
VERTICAL CURVATURE	-0.741% L=600.000		19.200 5+800		+0.300% L=450.000			
HORIZONTAL CURVATURE	R=∞							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 5+600.000-STA 6+300.000	E-53
			SHEET NO.
			9 OF 44



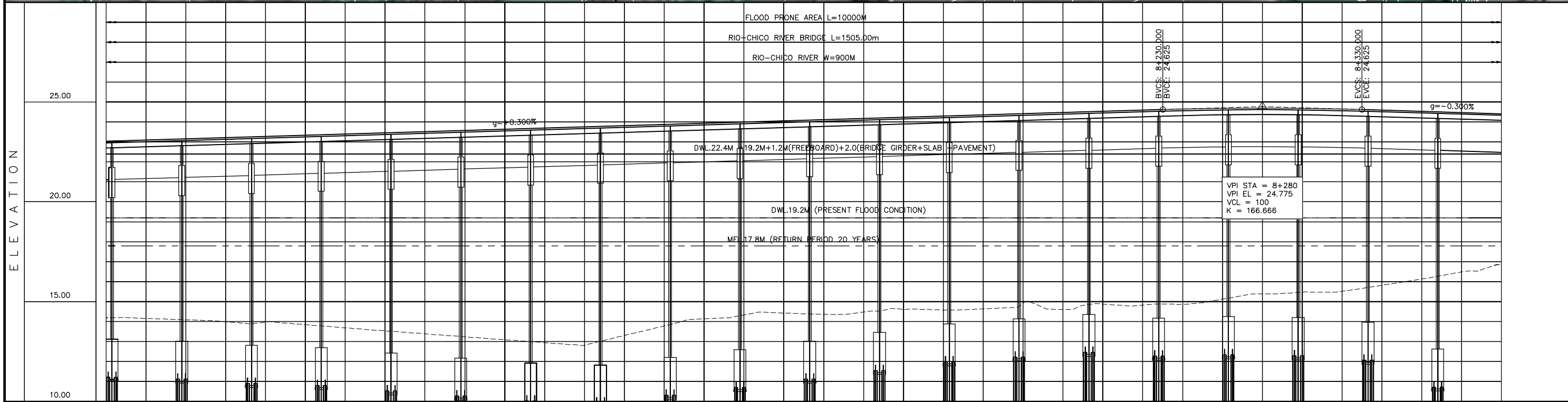
STATION	6+300	6+400	6+500	6+600	6+700	6+800	6+900	7+000
FINISHED GRADE ELEVATION	20.700	20.753	20.794	20.821	20.836	20.837	20.825	20.800
EXISTING GROUND ELEVATION	14.953	14.908	14.905	14.877	14.826	14.764	14.731	14.700
VERTICAL CURVATURE		(21.000 / 6+400)						
HORIZONTAL CURVATURE								

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 6+300.000-STA 7+000.000	E-54
			SHEET NO. 10 OF 44



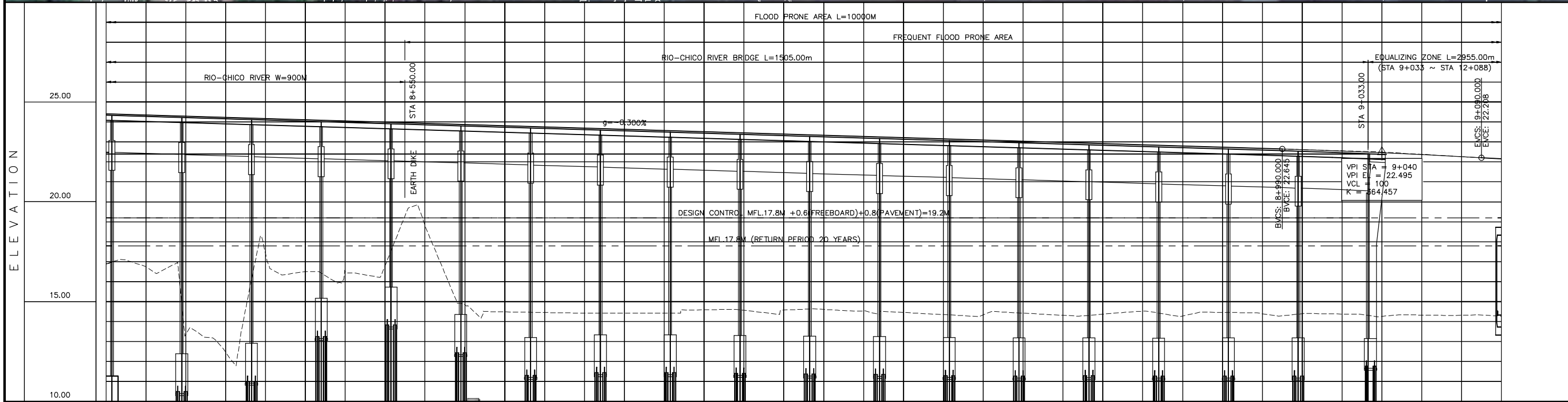
STATION	7+000	7+100	7+200	7+300	7+400	7+500	7+600	7+700
FINISHED GRADE ELEVATION	19.683	19.790	19.897	20.004	20.112	20.219	20.326	20.433
EXISTING GROUND ELEVATION	14.281	14.272	14.088	14.243	14.283	14.351	14.330	14.293
VERTICAL CURVATURE	+0.536% L=520.000							
HORIZONTAL CURVATURE	R=∞							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 7+000.000-STA 7+700.000	E-55 SHEET NO. 11 OF 44



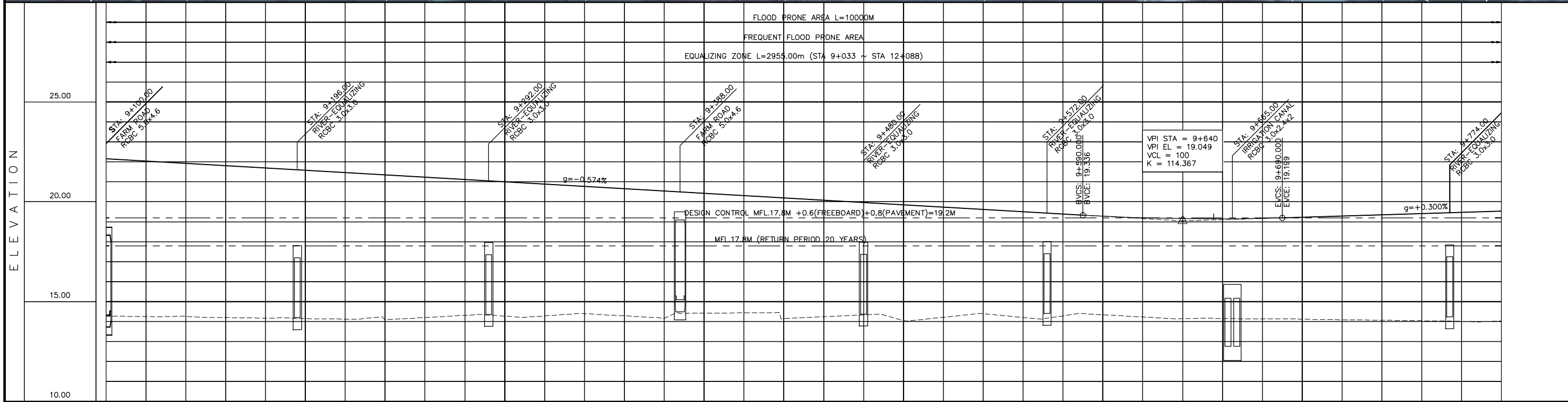
STATION	7+700	7+800	7+900	8+000	8+100	8+200	8+300	8+400
FINISHED GRADE ELEVATION	23.035	23.095	23.155	23.215	23.275	23.335	23.395	23.455
EXISTING GROUND ELEVATION	14.188	14.161	14.091	13.995	13.978	13.848	13.690	13.537
VERTICAL CURVATURE	$g = -0.300\%$ $R = \infty$							
HORIZONTAL CURVATURE	$R = \infty$							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 7+700.000-STA 8+400.000	E-56
			SHEET NO. 12 OF 44



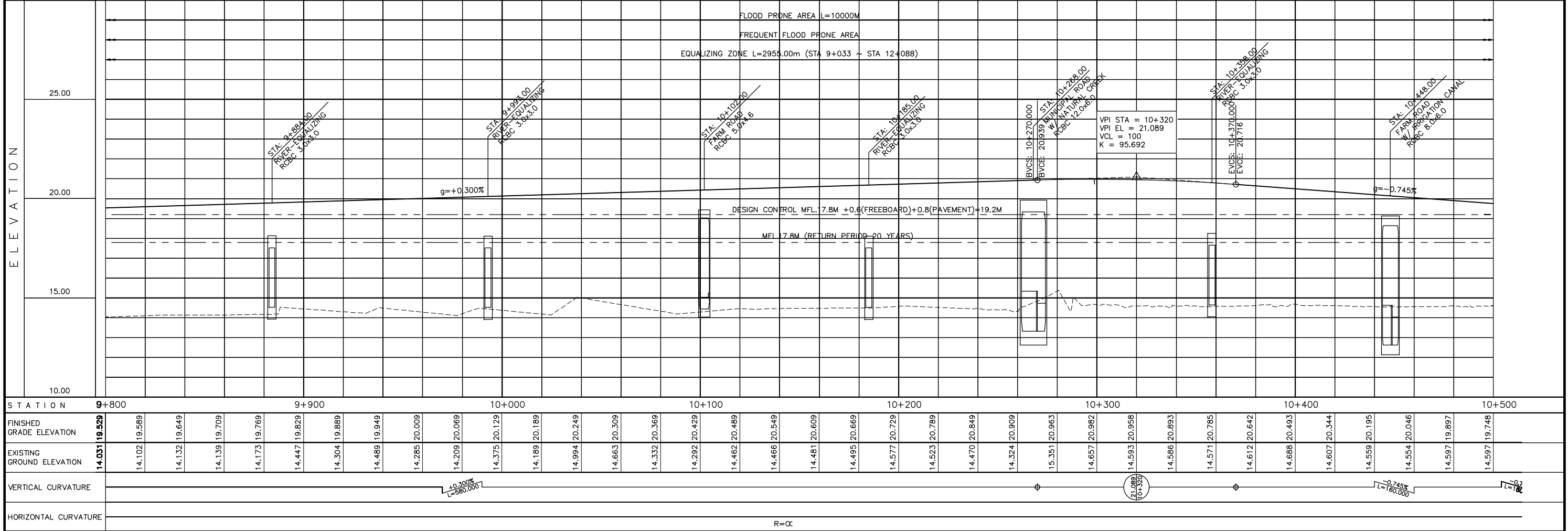
STATION	8+400	8+500	8+600	8+700	8+800	8+900	9+000	9+100
FINISHED GRADE ELEVATION	24.415	24.355	24.295	24.235	24.175	24.115	24.055	23.995
EXISTING GROUND ELEVATION	16.894	16.753	13.341	12.487	17.424	16.509	16.535	16.797
VERTICAL CURVATURE	-0.300% L=600.000							
HORIZONTAL CURVATURE	R=∞							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 8+400.000-STA 9+100.000	E-57 SHEET NO. 13 OF 44

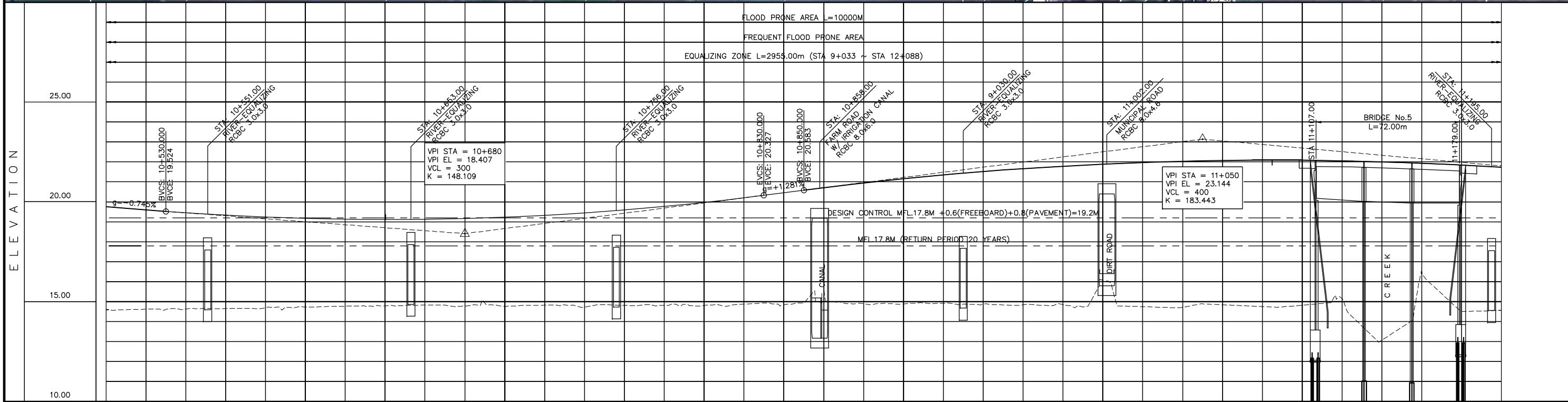
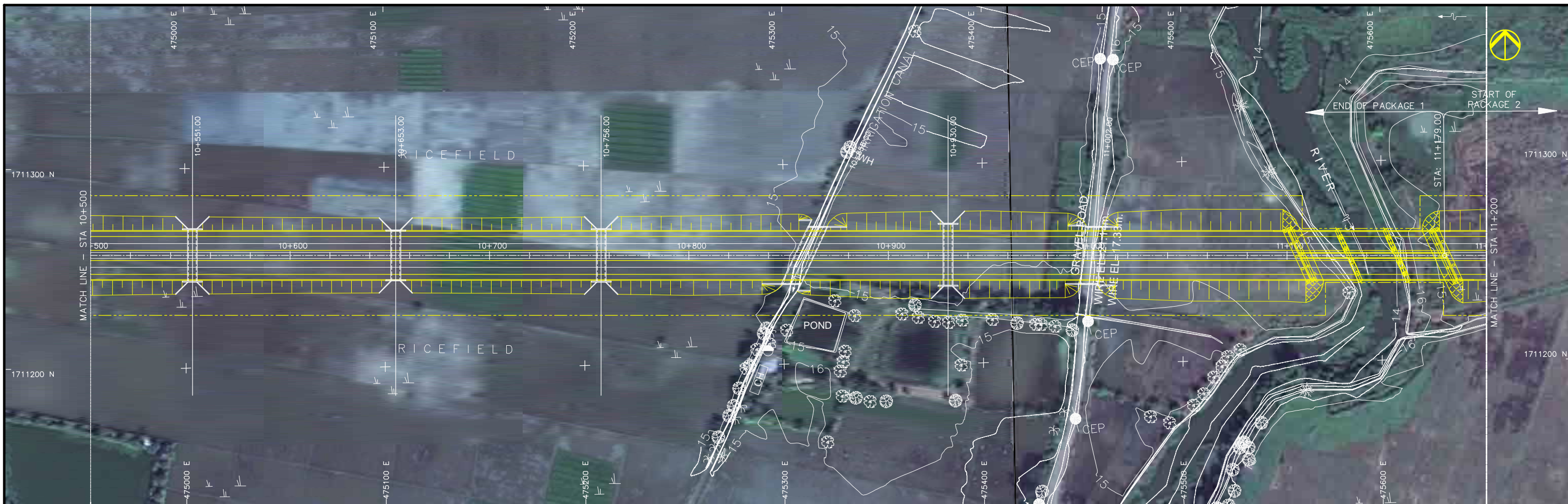


STATION	9+100	9+200	9+300	9+400	9+500	9+600	9+700	9+800
FINISHED GRADE ELEVATION	22.150	22.035	21.921	21.806	21.691	21.576	21.461	21.346
EXISTING GROUND ELEVATION	14.276	14.251	14.263	14.200	14.175	14.149	14.125	14.092
VERTICAL CURVATURE	$g = -0.574\%$ $L = 560.000$							
HORIZONTAL CURVATURE	R=∞							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 9+100.000-STA 9+800.000	E-58 SHEET NO. 14 OF 44

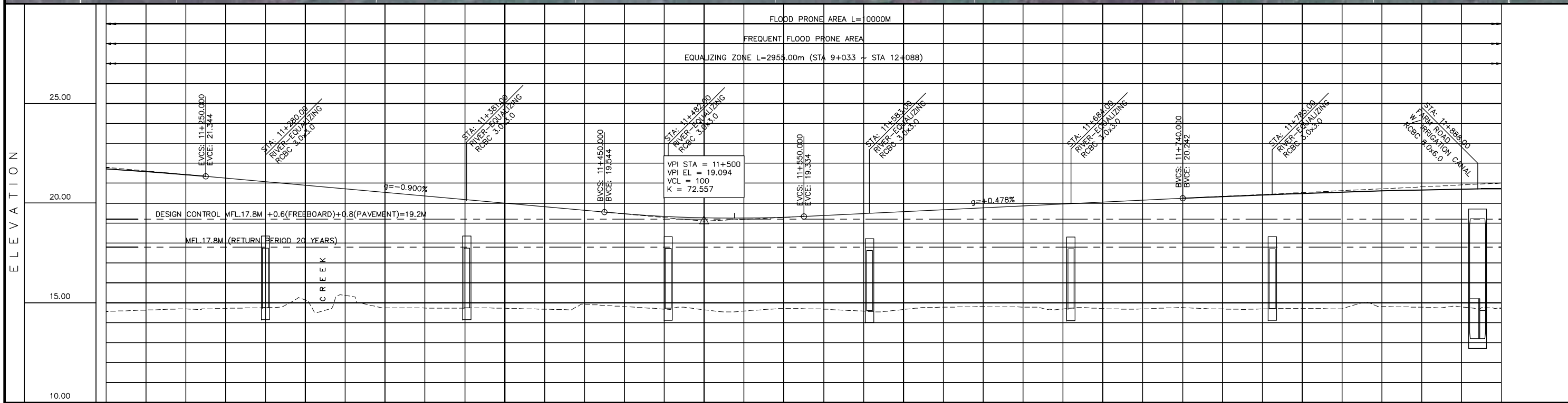
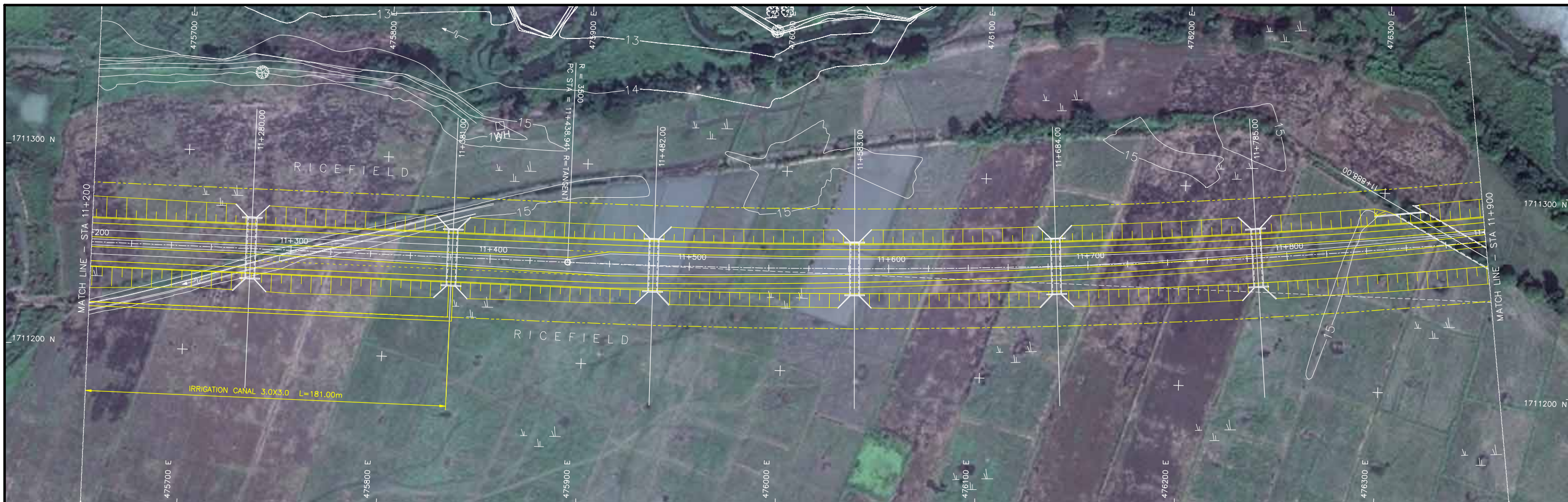


PROJECT TITLE			SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)			V = 200 H = 2000	PACKAGE 1 - INTERIM 2 LANES PLAN AND PROFILE STA 9+800.000-STA 10+500.000	E-59



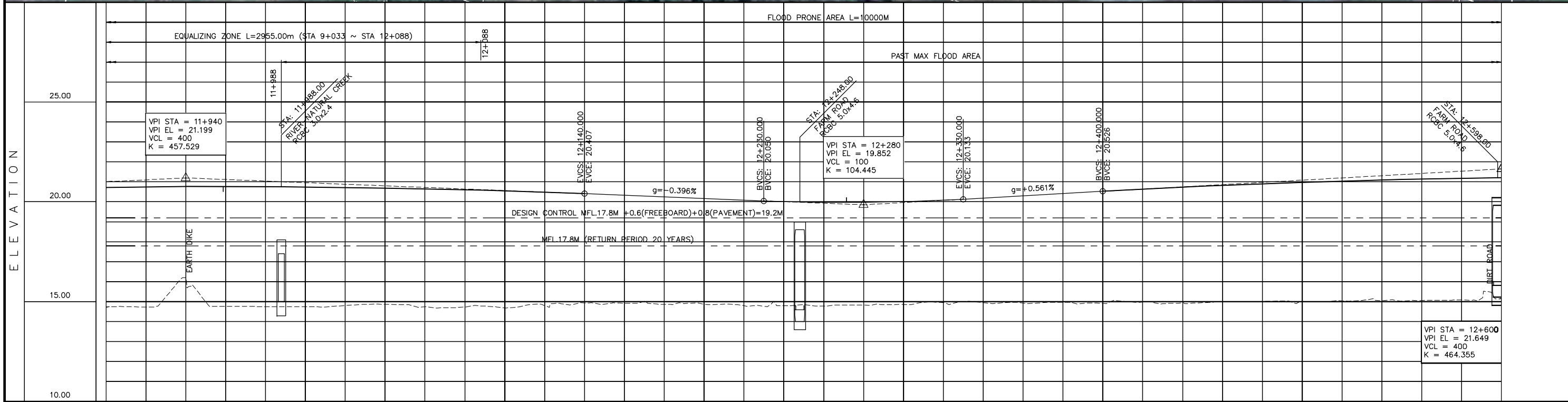
STATION	10+500	10+600	10+700	10+800	10+900	11+000	11+100	11+200
FINISHED GRADE ELEVATION	19.748	19.599	19.453	19.331	19.236	19.168	19.127	19.113
EXISTING GROUND ELEVATION	14.597	14.620	14.633	14.653	14.697	14.737	14.773	14.786
VERTICAL CURVATURE	-0.745% L=160.000		+1.407% L=160.000		+1.281% L=20.000		+2.144% L=160.000	
HORIZONTAL CURVATURE	R=∞							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	INTERIM 2 LANES PLAN AND PROFILE STA 10+500.000-STA 11+200.000	E-60 SHEET NO. 16 OF 44



STATION	11+200	11+300	11+400	11+500	11+600	11+700	11+800	11+900
FINISHED GRADE ELEVATION	21.726	21.590	21.432	21.254	21.074	20.894	20.714	20.534
EXISTING GROUND ELEVATION	14.565	14.634	14.689	14.716	14.761	15.134	15.368	14.748
VERTICAL CURVATURE	-0.900% L=200.000		19.094 11+500		+0.478% L=190.000			
HORIZONTAL CURVATURE	R=∞				R=3500.000 L=3126.287			

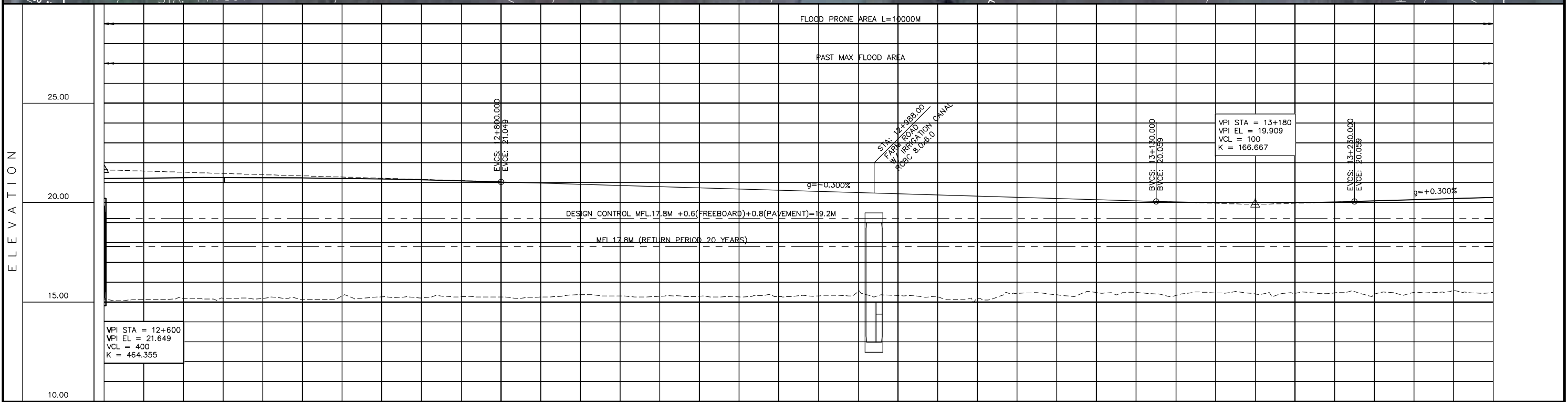
PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 2 - INTERIM 2 LANES PLAN AND PROFILE STA 11+200.000-STA 11+900.000	E-61
			SHEET NO.
			17 OF 44



STATION	11+900	12+000	12+100	12+200	12+300	12+400	12+500	12+600																												
FINISHED GRADE ELEVATION	20.728	20.749	20.762	20.765	20.761	20.747	20.725	20.693	20.654	20.605	20.548	20.481	20.407	20.327	20.248	20.169	20.090	20.015	19.974	19.972	20.008	20.082	20.189	20.301	20.414	20.526	20.634	20.733	20.824	20.906	20.980	21.045	21.101	21.148	21.188	21.218
EXISTING GROUND ELEVATION	14.736	14.735	16.200	14.759	14.752	14.743	14.805	14.865	14.741	14.728	14.691	14.801	14.935	14.917	14.862	14.875	14.794	14.797	14.779	14.827	14.856	14.950	14.949	14.927	14.964	14.912	14.975	14.949	14.984	15.012	15.013	15.046	15.054	15.059	15.066	15.147
VERTICAL CURVATURE	21.199 11+940												19.852 12+280																				21.649 12+600			
HORIZONTAL CURVATURE													R=3500.000 L=3126.287																							

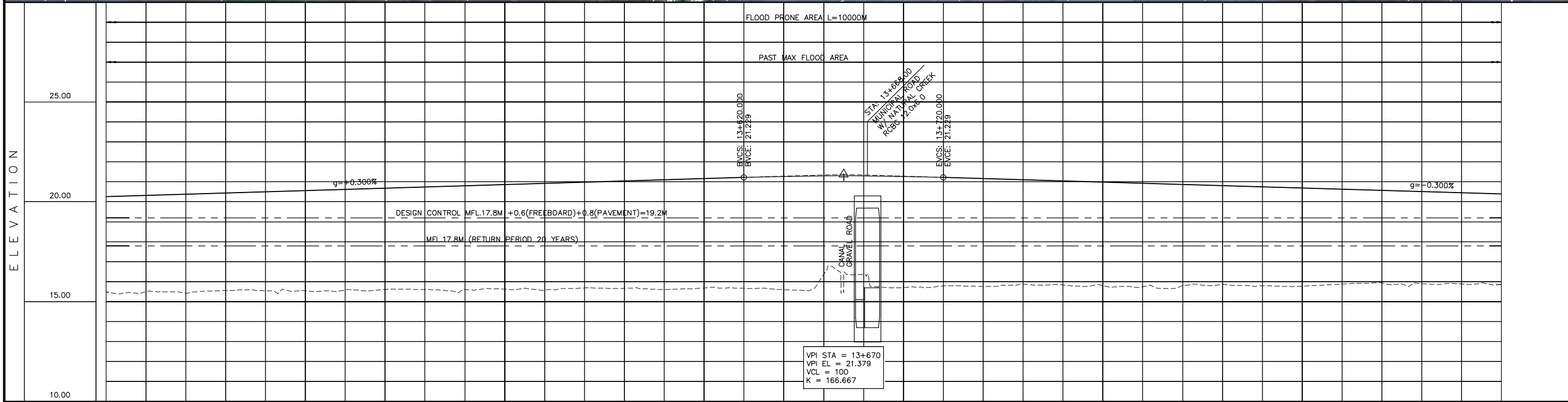
PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 2 - INTERIM 2 LANES PLAN AND PROFILE STA 11+900.000-STA 12+600.000	E-62 SHEET NO. 18 OF 44

ELEMENTS OF CURVE													
PI No.	PI STATION	NORTHING	EASTING	AZIMUTH	I (Delta)	R	Lc	E	L1	L2	A Value	V(kph)	CURVE TYPE
PI-3	13+115.034	1711239.035	477567.559	270°23'18"	51°10'41"	3500	3126.29	380.630	1676.093	1676.093		100	CIRCULAR



STATION	12+600	12+700	12+800	12+900	13+000	13+100	13+200	13+300																																																																
FINISHED GRADE ELEVATION	15.147	21.218	15.142	21.240	15.174	21.253	15.194	21.258	15.172	21.254	15.134	21.241	15.308	21.220	15.261	21.190	15.212	21.151	15.266	21.104	15.259	21.049	15.246	20.989	15.366	20.929	15.300	20.869	15.288	20.809	15.293	20.749	15.254	20.689	15.270	20.629	15.310	20.569	15.518	20.509	15.323	20.449	15.261	20.389	15.166	20.329	15.439	20.269	15.363	20.209	15.473	20.149	15.486	20.089	15.333	20.032	15.458	19.996	15.406	19.984	15.435	19.996	15.462	20.032	15.410	20.089	15.496	20.149	15.571	20.209	15.480	20.269
EXISTING GROUND ELEVATION	15.147	21.218	15.142	21.240	15.174	21.253	15.194	21.258	15.172	21.254	15.134	21.241	15.308	21.220	15.261	21.190	15.212	21.151	15.266	21.104	15.259	21.049	15.246	20.989	15.366	20.929	15.300	20.869	15.288	20.809	15.293	20.749	15.254	20.689	15.270	20.629	15.310	20.569	15.518	20.509	15.323	20.449	15.261	20.389	15.166	20.329	15.439	20.269	15.363	20.209	15.473	20.149	15.486	20.089	15.333	20.032	15.458	19.996	15.406	19.984	15.435	19.996	15.462	20.032	15.410	20.089	15.496	20.149	15.571	20.209	15.480	20.269
VERTICAL CURVATURE	-0.300%		0																		-0.300%		0																		-0.300%																															
HORIZONTAL CURVATURE	R=3500.000 L=3126.287																																																																							

PROJECT TITLE Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	SCALE V = 200 H = 2000	SHEET CONTENT PACKAGE 2 - INTERIM 2 LANES PLAN AND PROFILE STA 12+600.000-STA 13+300.000	DRAWING NO. E-63
			SHEET NO. 19 OF 44



STATION	13+300	13+400	13+500	13+600	13+700	13+800	13+900	14+000
FINISHED GRADE ELEVATION	20.269	20.329	20.369	20.449	20.509	20.569	20.629	20.689
EXISTING GROUND ELEVATION	15.480	15.491	15.432	15.555	15.546	15.544	15.588	15.612
VERTICAL CURVATURE	+0.300% L=390.000		-0.300% L=390.000				-0.300% L=390.000	
HORIZONTAL CURVATURE	R=3500.000 L=3126.287							

PROJECT TITLE	SCALE	SHEET CONTENT	DRAWING NO.
Preparatory survey for expressway project in Mega Manila Region CLLEX (TARLAC - CABANATUAN)	V = 200 H = 2000	PACKAGE 2 - INTERIM 2 LANES PLAN AND PROFILE STA 13+300.000-STA 14+000.000	E-64 SHEET NO. 20 OF 44