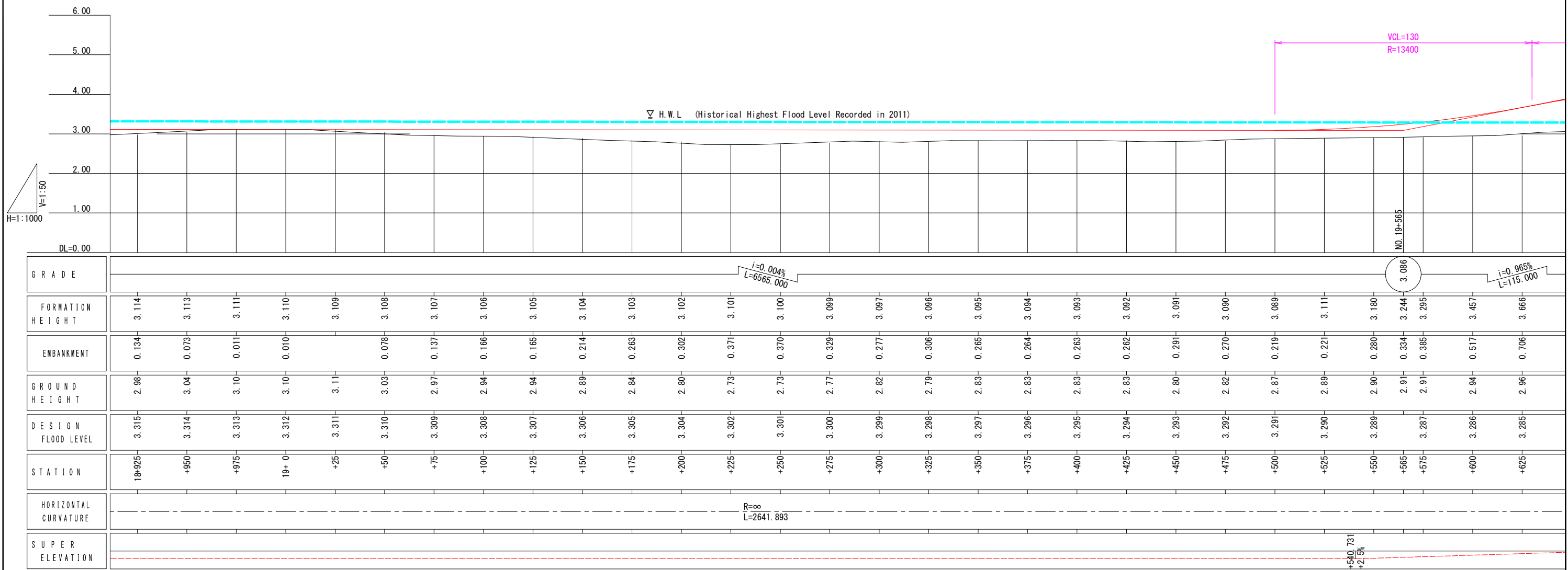
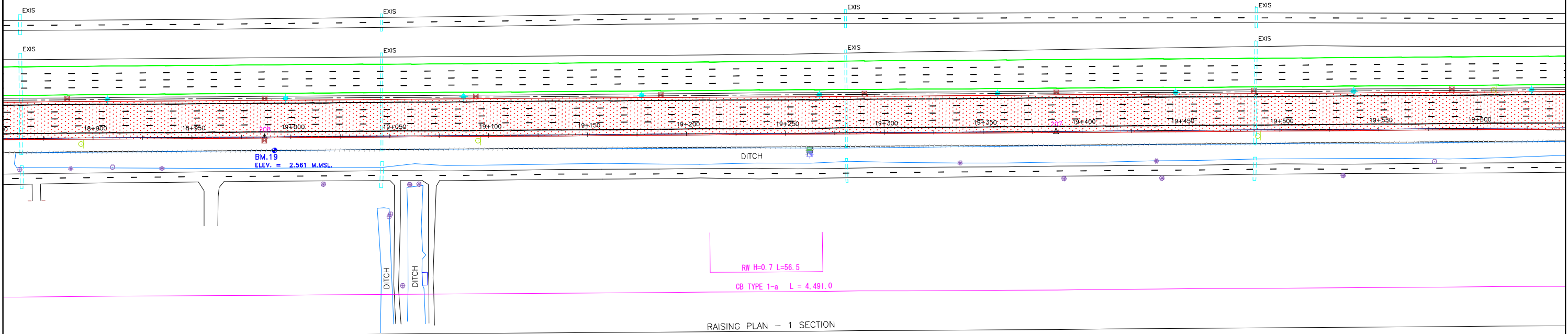
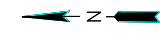


CONTROL POINTS :

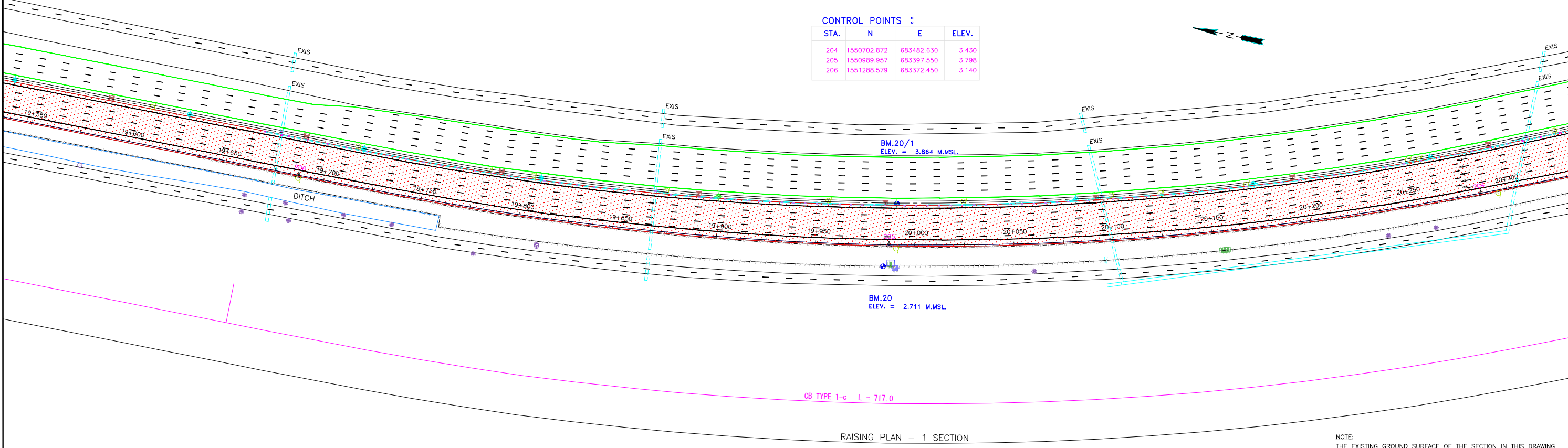
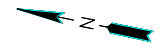
STA.	N	E	ELEV.
207	1551588.683	683370.411	2.830
208	1551988.842	683367.690	3.100



REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								KM. 18+900 TO KM. 19+600	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
								KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS		CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.		MW-34		SHEET NO. 39

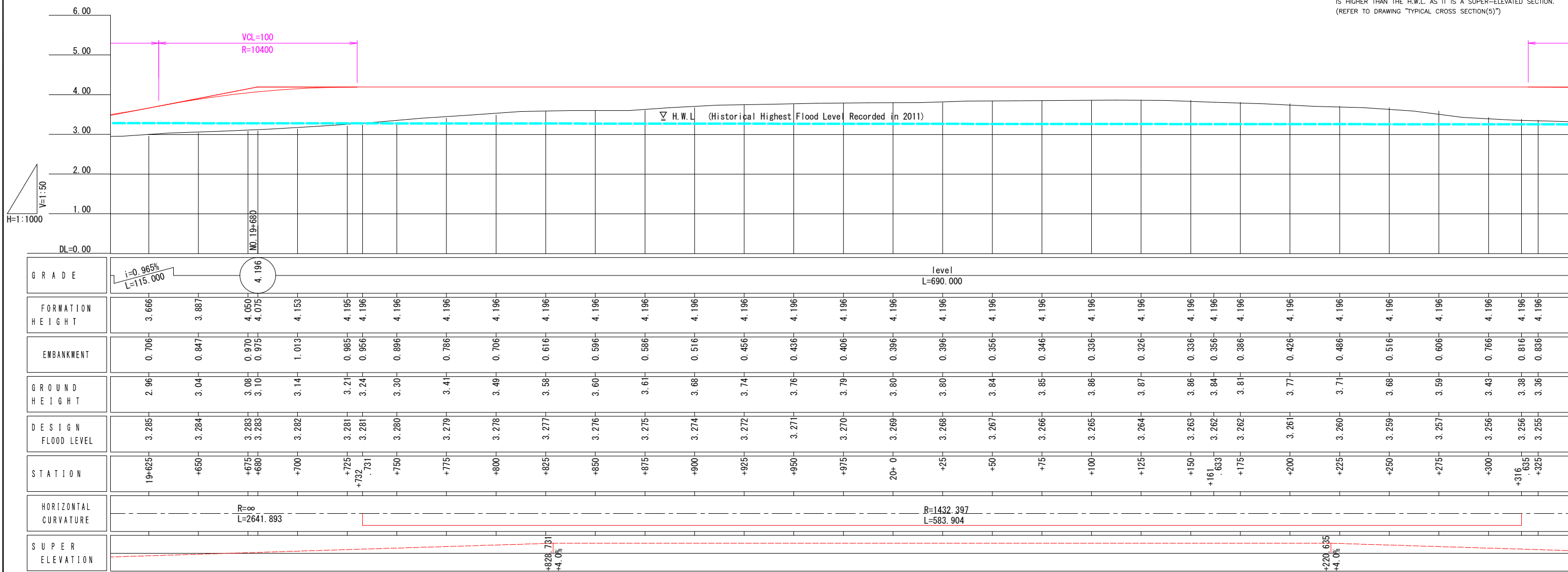
**CONTROL POINTS :**

STA.	N	E	ELEV.
204	1550702.872	683482.630	3.430
205	1550989.957	683397.550	3.798
206	1551288.579	683372.450	3.140



RAISING PLAN - 1 SECTION

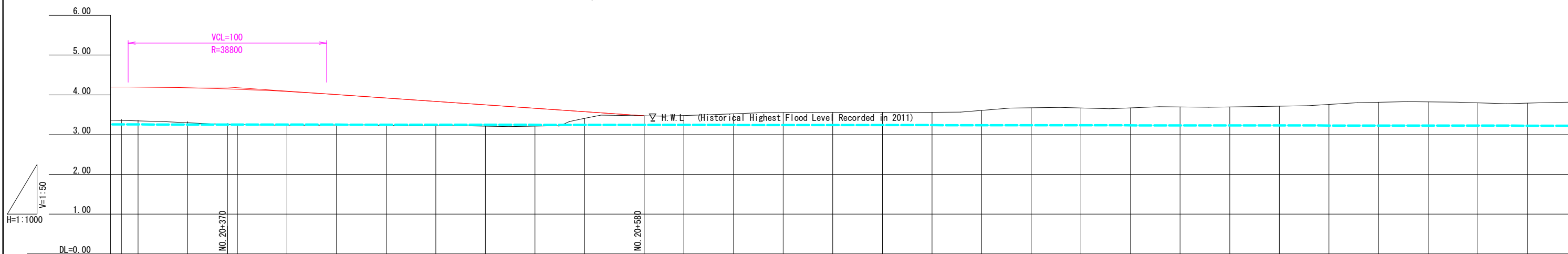
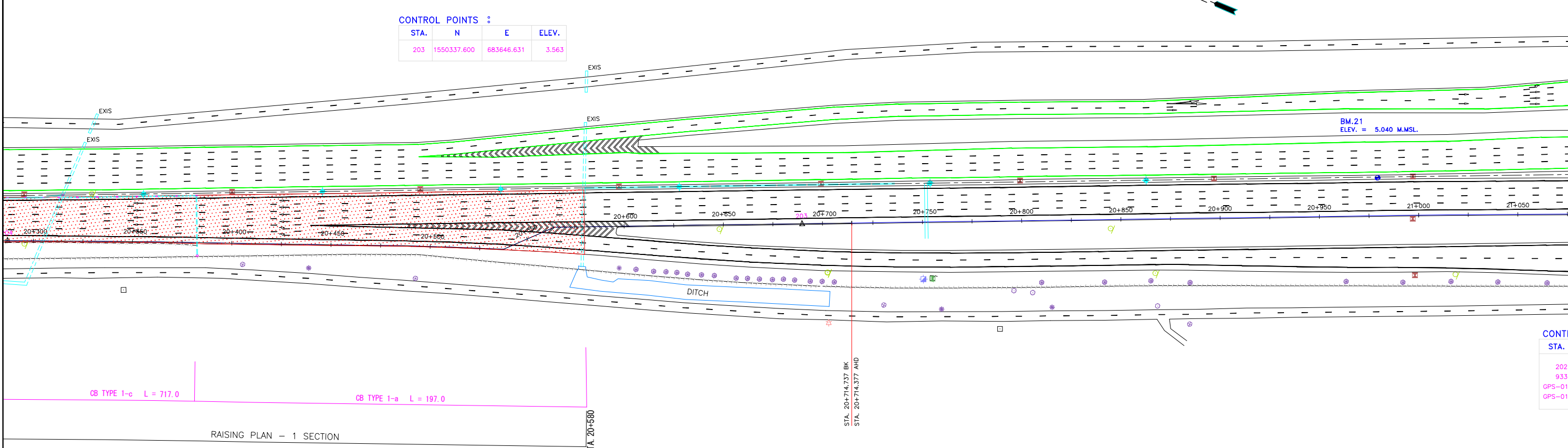
NOTE:  
THE EXISTING GROUND SURFACE OF THE SECTION IN THIS DRAWING IS HIGHER THAN THE H.W.L. AS IT IS A SUPER-ELEVATED SECTION. (REFER TO DRAWING "TYPICAL CROSS SECTION(5)")



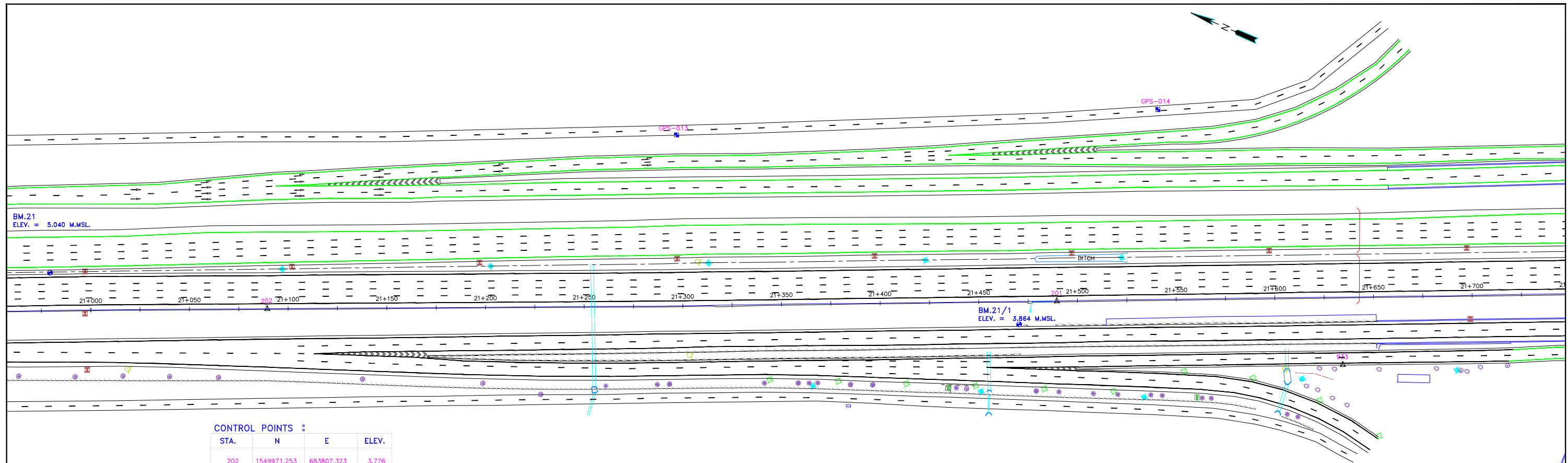
REV. NO.	DESCRIPTION	ENGINEER		DOH		REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9		OWNER The Inter-City Motorways Division Department of Highways Ministry of Transport	PROJECT TITLE The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	DESIGNED BY SAGARA Hidetaka ROAD ENGINEER	CHECKED BY WATANABE Ryohei CHIEF ENGINEER	DATE AUGUST 2012	SCALE V=1/50 H=1/1000
		CHECKED	DATE	CHECKED	DATE				KM.	TO KM.						
									19+600	20+300						

CONTROL POINTS :

STA.	N	E	ELEV.
203	1550337.600	683646.631	3.563

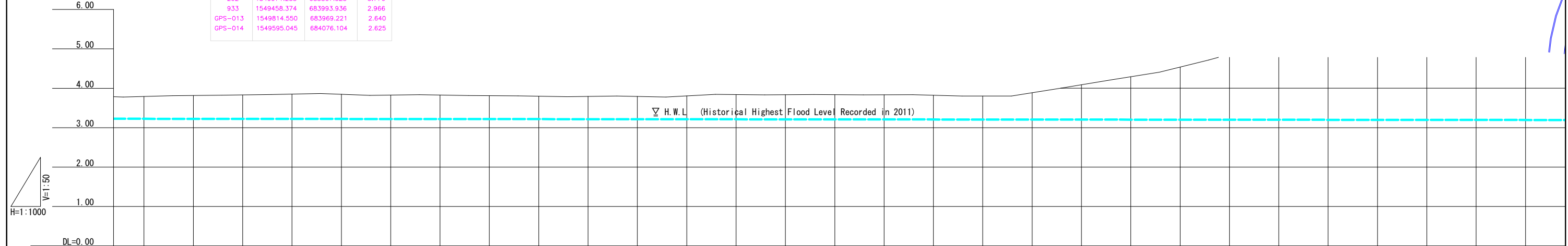


GRADE	level L=690.000	4.196	i=-0.340% L=210.000																		EXISTING																																	
FORMATION HEIGHT	4.196	4.196	4.181	4.153	4.145	4.087	4.026	4.009	3.924	3.753	3.668	3.583	3.498	3.481	EXISTING																																							
EMBANKMENT	0.816	0.836	0.851	0.873	0.875	0.847	0.786	0.769	0.704	0.523	0.488	0.363	0.008	0.001	NONE																																							
GROUND HEIGHT	3.38	3.36	3.33	3.28	3.27	3.24	3.24	3.24	3.22	3.23	3.20	3.22	3.49	3.48	3.48	3.52	3.56	3.56	3.56	3.56	3.61	3.67	3.67	3.67	3.70	3.70	3.72	3.76	3.82	3.82	3.80	3.79																						
DESIGN FLOOD LEVEL	3.256	3.255	3.254	3.253	3.253	3.252	3.251	3.250	3.249	3.248	3.247	3.246	3.245	3.245	3.244	3.243	3.241	3.240	3.239	3.238	3.237	3.236	3.235	3.234	3.233	3.232	3.231	3.230	3.229	3.228	3.226	3.225																						
STATION	+316	20+325	+350	+370	+375	+400	+425	+450	+475	+500	+525	+550	+575	+580	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	21+0	+25																						
HORIZONTAL CURVATURE	R=∞ L=263.367																		EXISTING																																			
SUPER ELEVATION	+508.635 -2.5%																		+580.000 -2.5%																		EXISTING																	



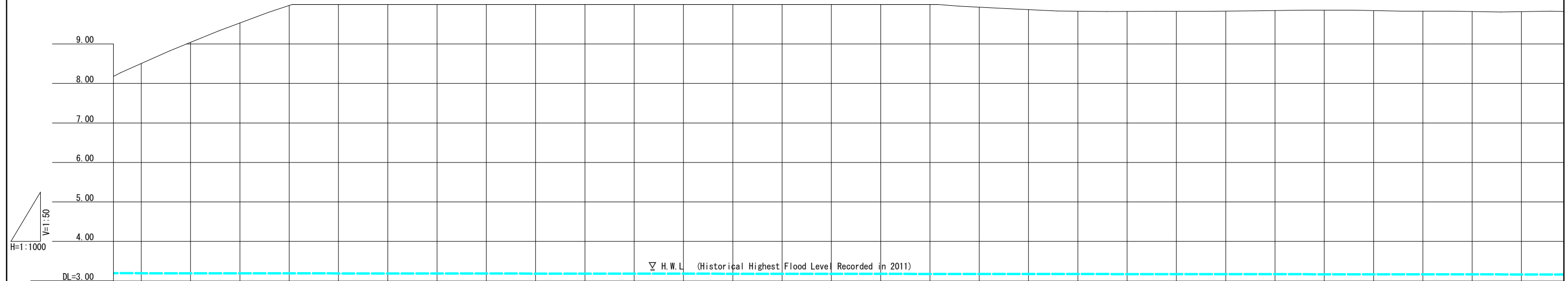
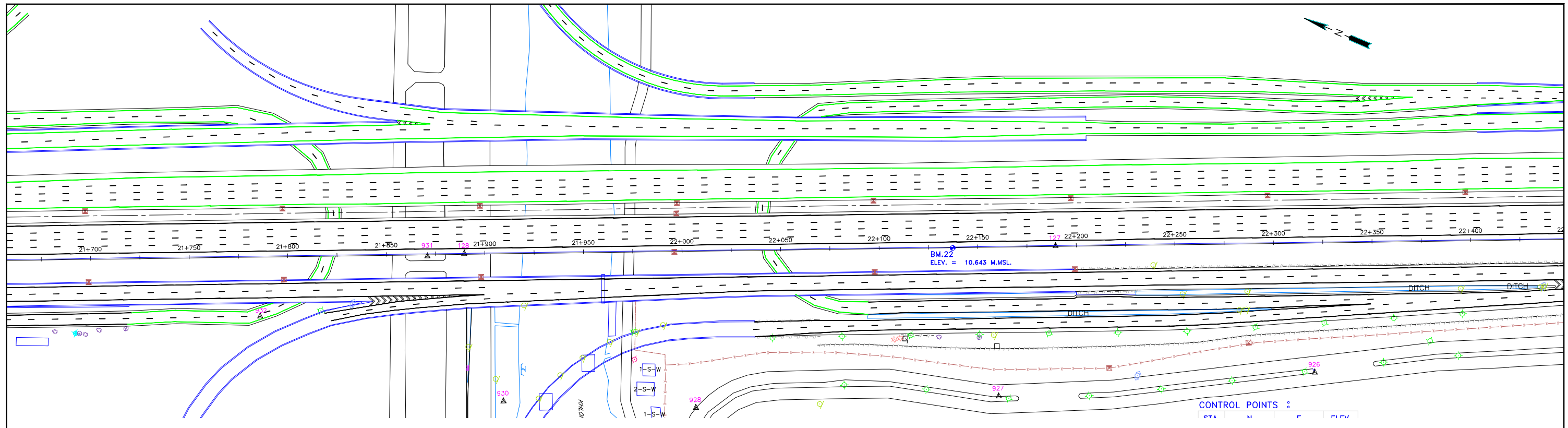
CONTROL POINTS :

STA.	N	E	ELEV.
202	1549971.253	683807.323	3.776
933	1549458.374	683993.936	2.966
GPS-013	1549814.550	683969.221	2.640
GPS-014	1549595.045	684076.104	2.625

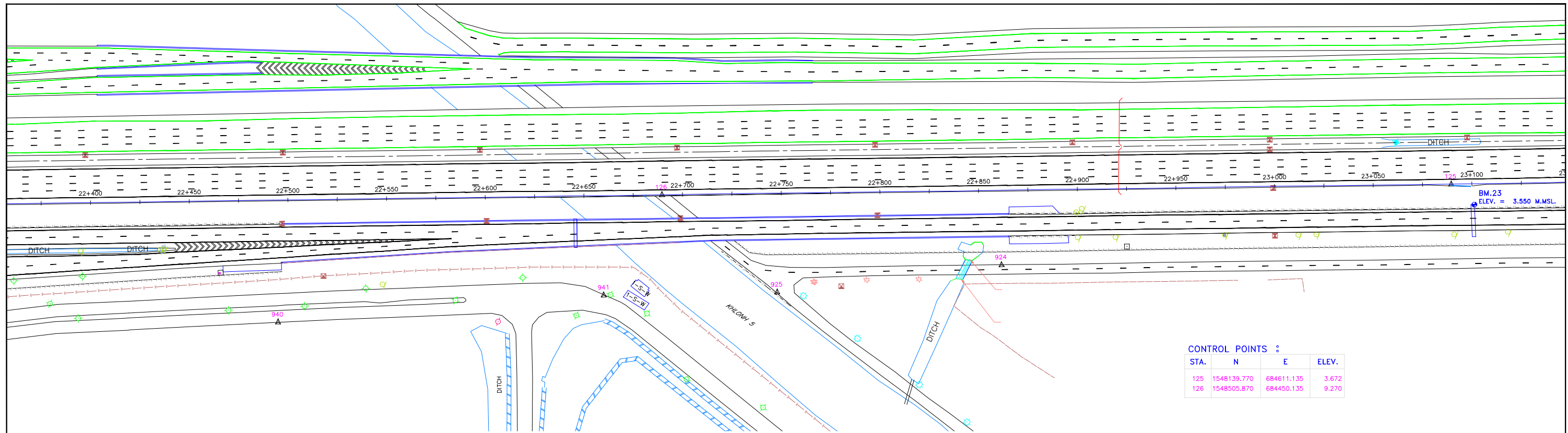


GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	3.79	3.82	3.83	3.85	3.85	3.83	3.83	3.81	3.80	3.79	3.79	3.81	3.84	3.84	3.84	3.83	3.82	3.80	3.89	4.09	4.29	4.54	4.87	5.29	5.83	6.47	7.20	7.89	8.51
DESIGN FLOOD LEVEL	3.225	3.224	3.223	3.222	3.221	3.220	3.219	3.218	3.217	3.216	3.215	3.214	3.213	3.211	3.210	3.209	3.208	3.207	3.206	3.205	3.204	3.203	3.202	3.201	3.200	3.199	3.198	3.196	3.195
STATION	21+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p>KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE		DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 31 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 21+000 TO KM. 21+700						DWG. NO. MW-37	SHEET NO. 42

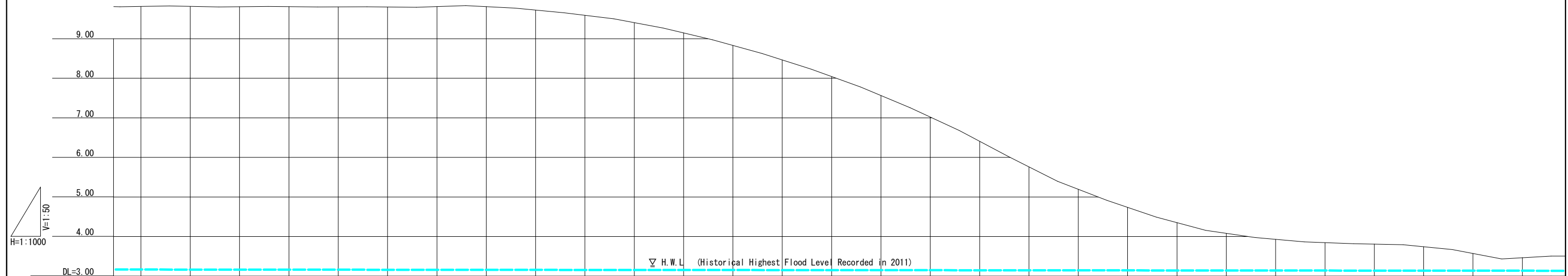


GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	8.51	9.04	9.53	9.97	10.35	10.64	10.84	10.97	11.04	11.08	11.07	10.97	10.83	10.66	10.41	10.18	10.02	9.93	9.87	9.83	9.82	9.82	9.83	9.84	9.85	9.84	9.83	9.82	9.82
DESIGN FLOOD LEVEL	3.195	3.194	3.193	3.192	3.191	3.190	3.189	3.188	3.187	3.186	3.185	3.184	3.183	3.181	3.180	3.179	3.178	3.177	3.176	3.175	3.174	3.173	3.172	3.171	3.170	3.169	3.168	3.167	3.165
STATION	21+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	22+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												



**CONTROL POINTS :**

STA.	N	E	ELEV.
125	1548139.770	684611.135	3.672
126	1548505.870	684450.135	9.270



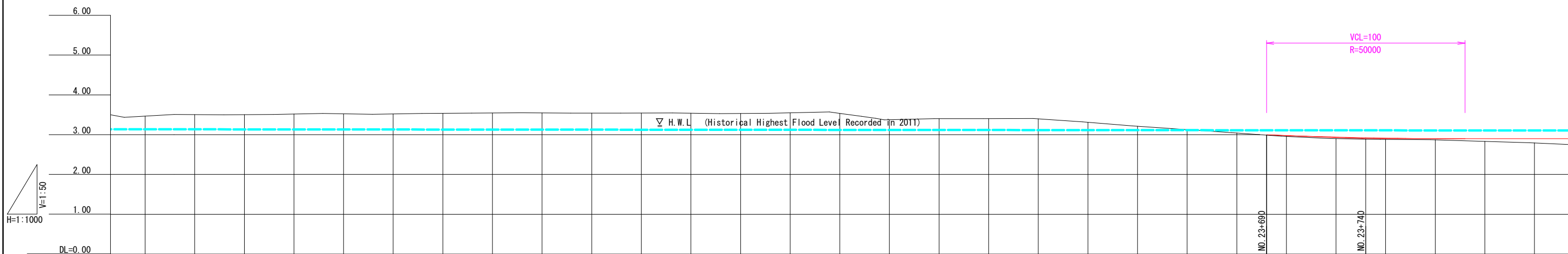
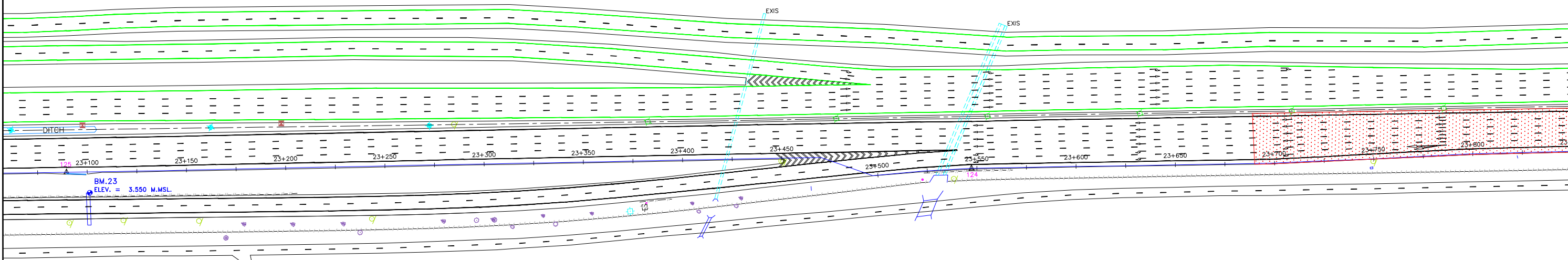
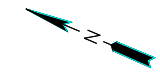
GRADE	EXISTING																												
FORMATION HEIGHT	EXISTING																												
EMBANKMENT	NONE																												
GROUND HEIGHT	9.82	9.82	9.81	9.81	9.80	9.80	9.81	9.81	9.72	9.59	9.41	9.15	8.83	8.46	8.04	7.56	7.02	6.41	5.76	5.19	4.74	4.35	4.08	3.93	3.84	3.81	3.74	3.57	3.47
DESIGN FLOOD LEVEL	3.165	3.164	3.163	3.162	3.161	3.160	3.159	3.158	3.157	3.156	3.155	3.154	3.153	3.152	3.150	3.149	3.148	3.147	3.146	3.145	3.144	3.143	3.142	3.141	3.140	3.139	3.138	3.137	3.135
STATION	22+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	23+0	+25	+50	+75	+100	+125
HORIZONTAL CURVATURE	EXISTING																												
SUPER ELEVATION	EXISTING																												

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p><b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 33 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 22+400 TO KM. 23+100						DWG. NO. MW-39	SHEET NO. 44



CONTROL POINTS :

STA.	N	E	ELEV.
124	1547720.701	684790.926	3.404



GRADE	EXISTING																				2.998	i=0.200% L=50.000		2.898	level L=1300.000						
FORMATION HEIGHT	EXISTING																				2.998	2.979	2.940	2.923	2.914	2.900	2.898	2.898			
EMBANKMENT	NONE																					0.019	0.040	0.033	0.034	0.020	0.058	0.098			
GROUND HEIGHT	3.47	3.50	3.50	3.52	3.52	3.52	3.54	3.54	3.55	3.54	3.54	3.53	3.55	3.54	3.38	3.40	3.40	3.40	3.31	3.21	3.13	3.04	3.00	2.96	2.90	2.88	2.88	2.84	2.80		
DESIGN FLOOD LEVEL	3.135	3.134	3.133	3.132	3.131	3.130	3.129	3.128	3.127	3.126	3.125	3.124	3.123	3.122	3.120	3.119	3.118	3.117	3.116	3.115	3.114	3.113	3.112	3.111	3.111	3.110	3.109	3.108	3.107	3.105	
STATION	23+125	+150	+175	+200	+225	+250	+275	+300	+325	+350	+375	+400	+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+690	+700	+725	+740	+750	+775	+800	+825
HORIZONTAL CURVATURE	EXISTING																						R=∞ L=210.603								
SUPER ELEVATION	EXISTING																				-2.5%		+7.89/603 -2.5%								

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY

**KINGDOM OF THAILAND**  
 MINISTRY OF TRANSPORT  
 DEPARTMENT OF HIGHWAYS

HIGHWAY ROUTE NO. 9  
 PLAN & PROFILE ( 34 / 43 )  
 KM. 23+100 TO KM. 23+800

OWNER  
 The Inter-City Motorways Division  
 Department of Highways  
 Ministry of Transport

PROJECT TITLE  
 The Preparatory Survey on  
 the Rehabilitation Project of  
 the Outer Bangkok Ring Road

CTI ENGINEERING INTERNATIONAL CO., LTD.  
 ORIENTAL CONSULTANTS CO., LTD.  
 NIPPON KOEI CO., LTD.  
 CTI ENGINEERING CO., LTD.

DESIGNED BY  
 SAGARA Hidetaka  
 ROAD ENGINEER

CHECKED BY  
 WATANABE Ryohei  
 CHIEF ENGINEER

DATE : AUGUST 2012  
 DWG. NO. MW-40  
 SCALE : V=1/50 H=1/1000  
 SHEET NO. 45





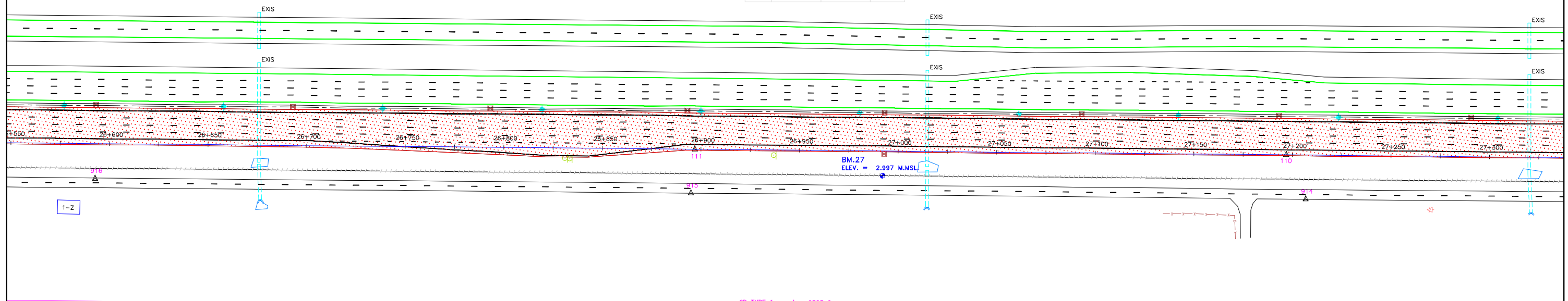






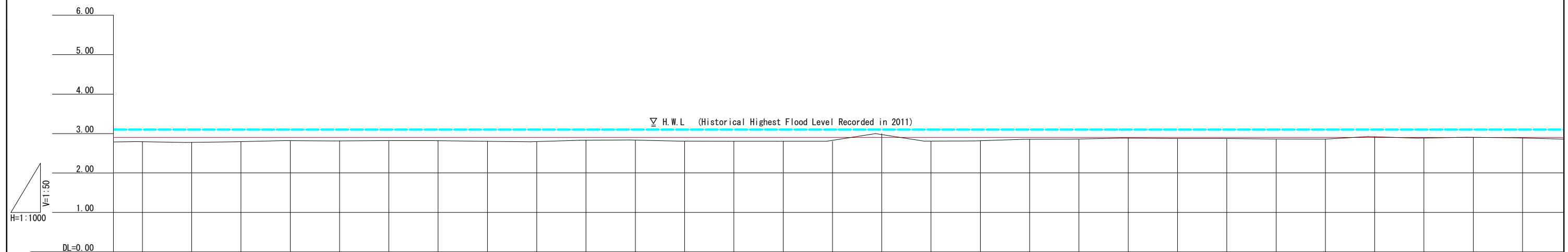
CONTROL POINTS :

STA.	N	E	ELEV.
110	1544119.074	685011.499	2.861
111	1544419.033	685014.351	2.807
914	1544109.212	684988.988	2.541
915	1544421.058	684992.034	2.521



CB TYPE 1-a L = 3525.0

RAISING PLAN - 1 SECTION



GRADE	level																														
	L=3600.000																														
FORMATION HEIGHT	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898	2.898
EMBANKMENT	0.098	0.128	0.108	0.078	0.088	0.078	0.078	0.098	0.108	0.068	0.068	0.088	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.098	0.048	0.038	0.018	0.018	0.028	0.038	0.038	0.018	0.018	0.008	
GROUND HEIGHT	2.80	2.77	2.79	2.82	2.81	2.82	2.82	2.80	2.79	2.83	2.83	2.81	2.80	2.80	2.80	3.00	2.81	2.81	2.85	2.86	2.88	2.88	2.88	2.87	2.86	2.86	2.92	2.88	2.90	2.89	
DESIGN FLOOD LEVEL	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	
STATION	26+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	27+0	+25	+50	+75	+100	+125	+150	+175	+200	+225	+250	+275	+300	+325		
HORIZONTAL CURVATURE	R=∞ L=3848.158																														
SUPER ELEVATION	-2.5%																														

REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	<p>KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS</p>	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	<p>CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.</p>	DESIGNED BY	CHECKED BY	DATE	SCALE
									PLAN & PROFILE ( 39 / 43 )	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road		SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
									KM. 26+600 TO KM. 27+300						DWG. NO.	SHEET NO.

MW-45 50

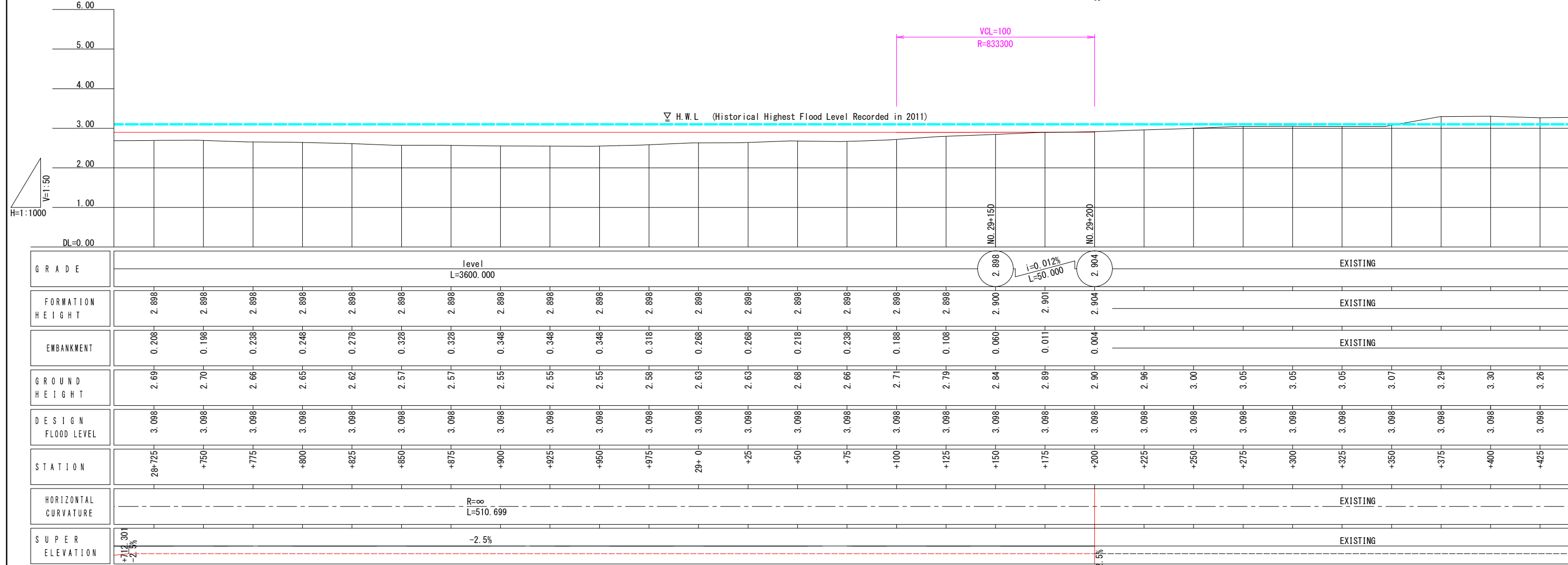
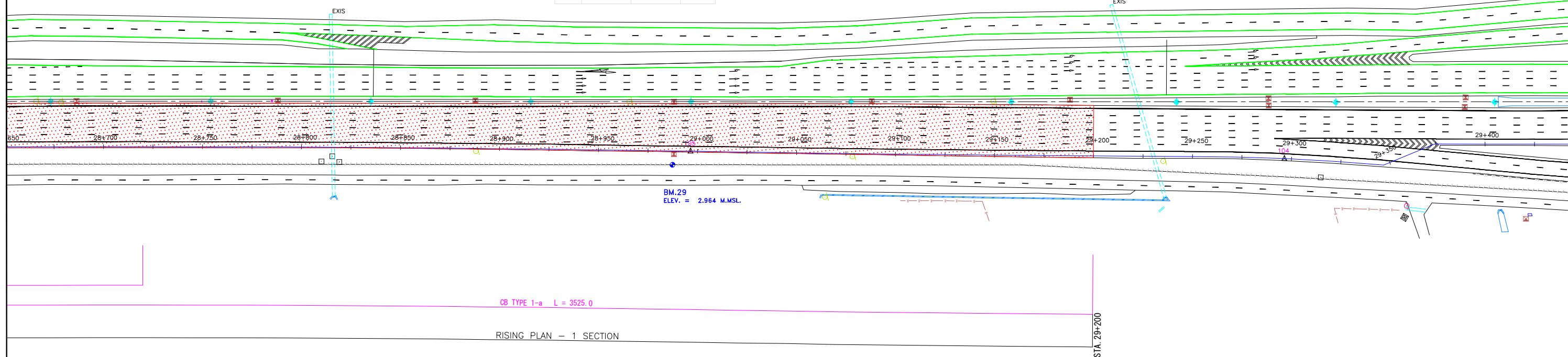






CONTROL POINTS :

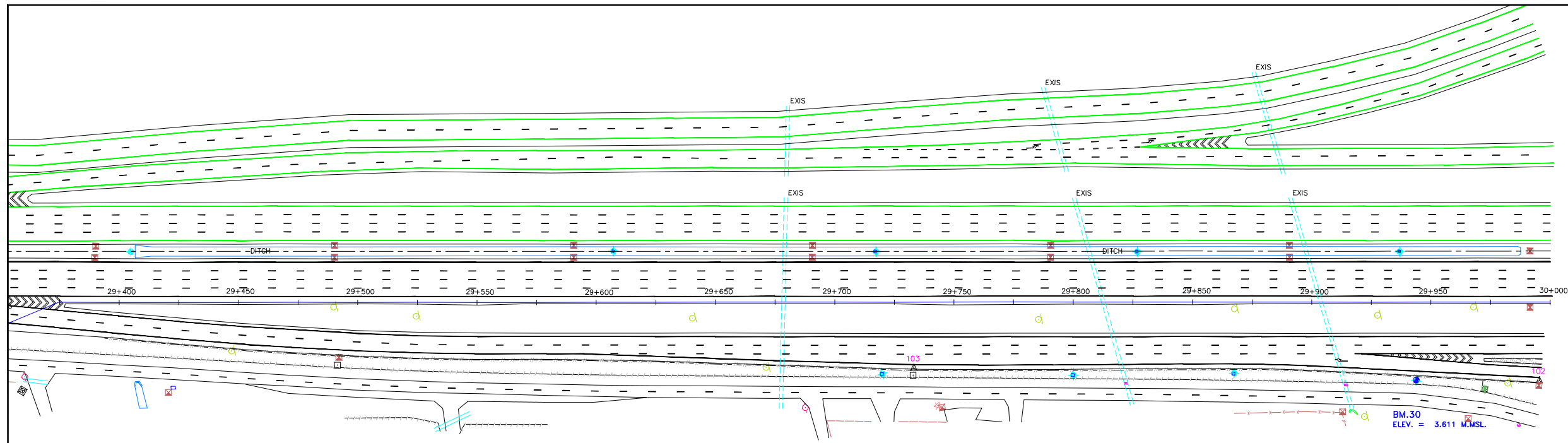
STA.	N	E	ELEV.
104	1542044.533	684786.384	3.051
105	1542334.592	684862.638	2.632



REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	DESIGNED BY	CHECKED BY	DATE	SCALE
								KM. 28+700 TO KM. 29+400	The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	SAGARA Hidetaka ROAD ENGINEER	WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000
													DWG. NO. MW-48	SHEET NO. 53

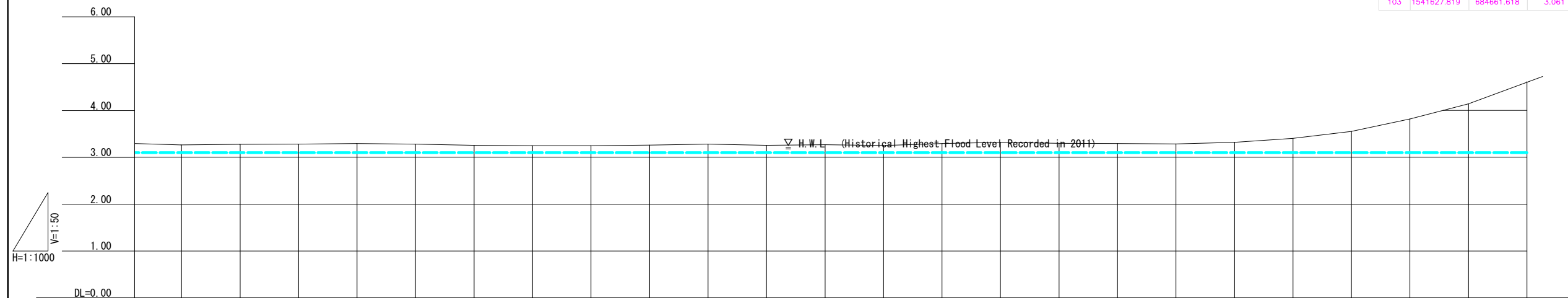


CTI ENGINEERING INTERNATIONAL CO., LTD.  
ORIENTAL CONSULTANTS CO., LTD.  
NIPPON KOEI CO., LTD.  
CTI ENGINEERING CO., LTD.



CONTROL POINTS :

STA.	N	E	ELEV.
102	1541374.597	684593.008	3.137
103	1541627.819	684661.618	3.061



GRADE	EXISTING																							
FORMATION HEIGHT	EXISTING																							
EMBANKMENT	EXISTING																							
GROUND HEIGHT	3.26	3.28	3.28	3.29	3.28	3.25	3.25	3.25	3.26	3.28	3.26	3.27	3.25	3.29	3.32	3.30	3.29	3.28	3.32	3.40	3.55	3.82	4.14	4.60
DESIGN FLOOD LEVEL	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098	3.098
STATION	29+425	+450	+475	+500	+525	+550	+575	+600	+625	+650	+675	+700	+725	+750	+775	+800	+825	+850	+875	+900	+925	+950	+975	30+0
HORIZONTAL CURVATURE	EXISTING																							
SUPER ELEVATION	EXISTING																							

REV. NO.	DESCRIPTION	ENGINEER		DOH		REV. NO.	APPROVED BY	KINGDOM OF THAILAND MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9		OWNER The Inter-City Motorways Division Department of Highways Ministry of Transport	PROJECT TITLE The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY SAGARA Hidetaka ROAD ENGINEER	CHECKED BY WATANABE Ryohei CHIEF ENGINEER	DATE :	SCALE :
		CHECKED	DATE	CHECKED	DATE				KM. 29+400	TO KM. 30+000						AUGUST 2012	V=1/50 H=1/1000
																DWG. NO.	SHEET NO.
																MW-49	54

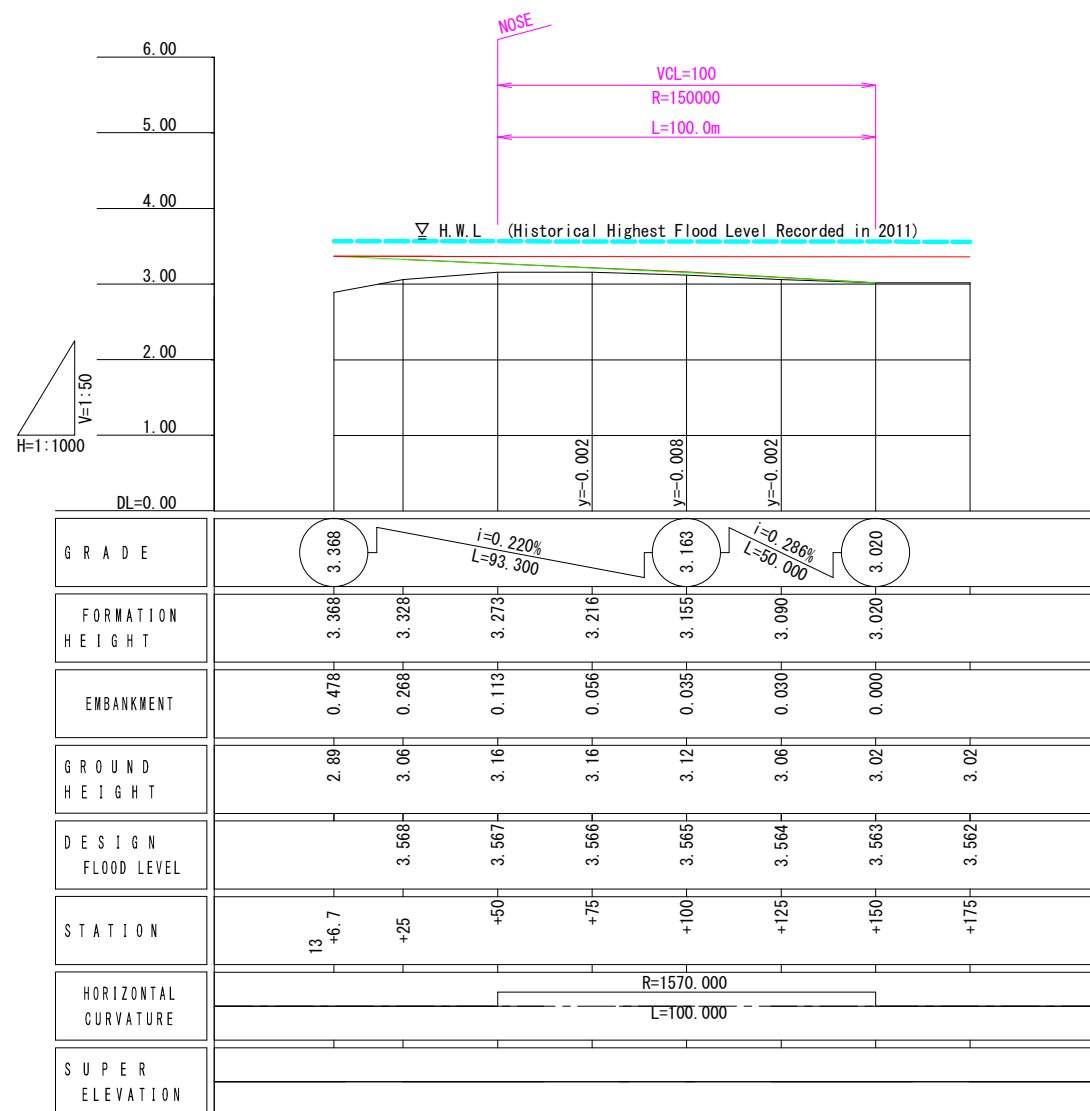
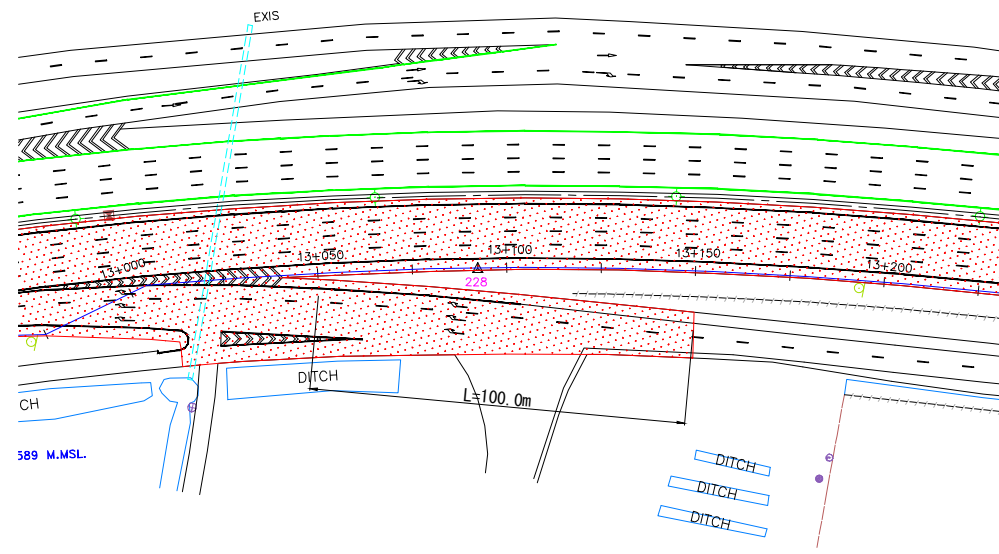


**2-3 PLAN / PROFILE OF RAMP AND  
FRONTAGE ROAD**









REV. NO.	DESCRIPTION	ENGINEER CHECKED	ENGINEER DATE	DOH CHECKED	DOH DATE	REV. NO.	APPROVED BY	 <b>KINGDOM OF THAILAND</b> MINISTRY OF TRANSPORT DEPARTMENT OF HIGHWAYS	HIGHWAY ROUTE NO. 9	OWNER	PROJECT TITLE	 CTI ENGINEERING INTERNATIONAL CO., LTD. ORIENTAL CONSULTANTS CO., LTD. NIPPON KOEI CO., LTD. CTI ENGINEERING CO., LTD.	DESIGNED BY	CHECKED BY	DATE	SCALE
									The Inter-City Motorways Division Department of Highways Ministry of Transport	The Preparatory Survey on the Rehabilitation Project of the Outer Bangkok Ring Road	SAGARA Hidetaka ROAD ENGINEER		WATANABE Ryohei CHIEF ENGINEER	AUGUST 2012	V=1/50 H=1/1000	
									KM. 13+050						DWG. NO.	SHEET NO.
														<b>MW-51</b>	<b>56</b>	