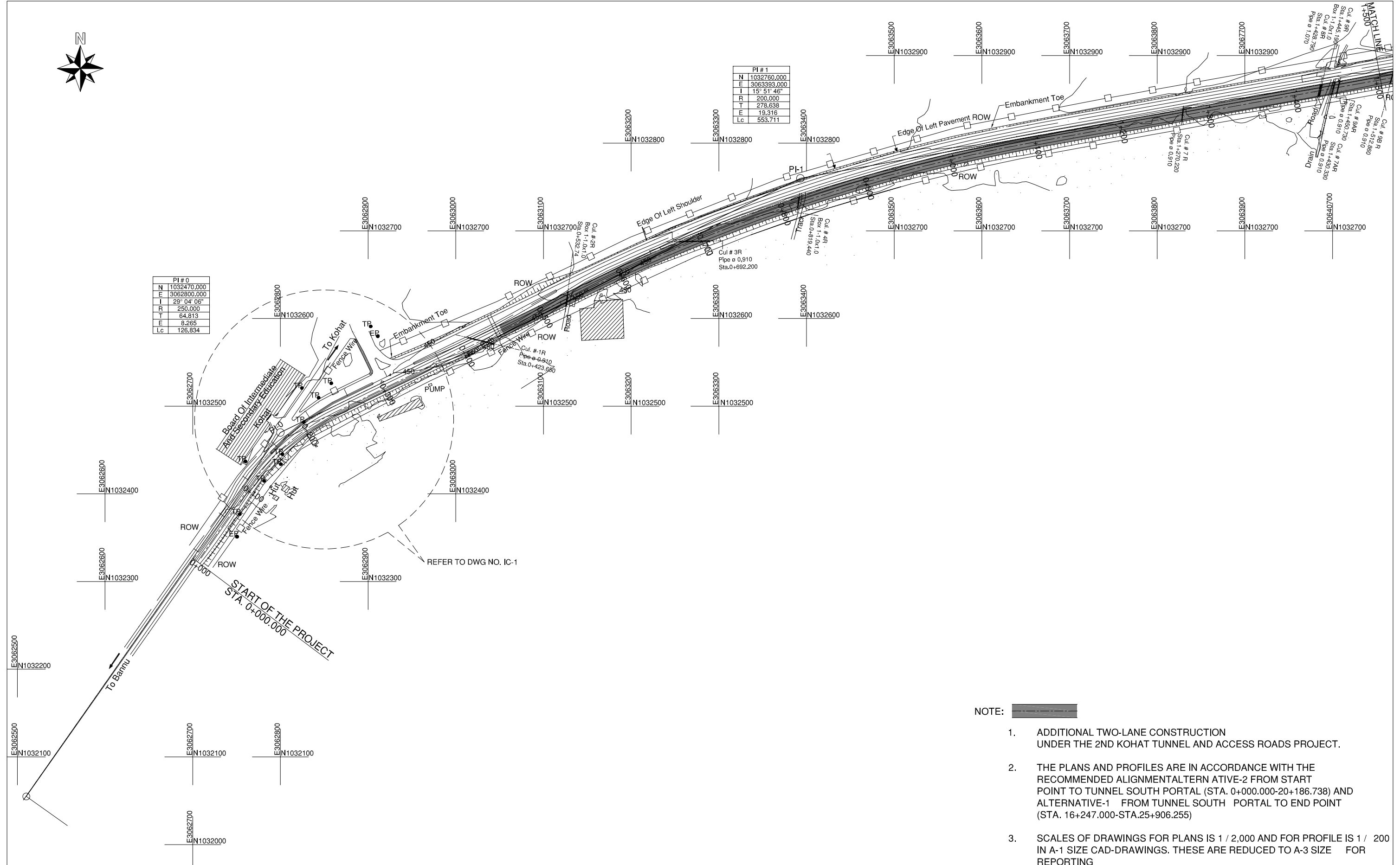


PLANS AND PROFILES OF ROADWAY



PI # 0	
N	1032470.000
E	3062800.000
I	23° 04' 06"
R	250.000
T	64.813
E	8.265
Lc	126.834

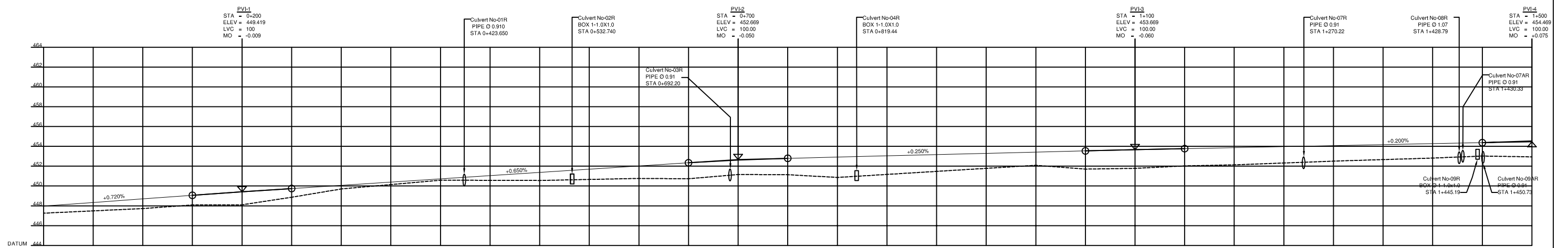
PI # 1	
N	1032760.000
E	3063393.000
I	15° 51' 46"
R	200.000
T	278.638
E	19.316
Lc	553.711




NOTE:

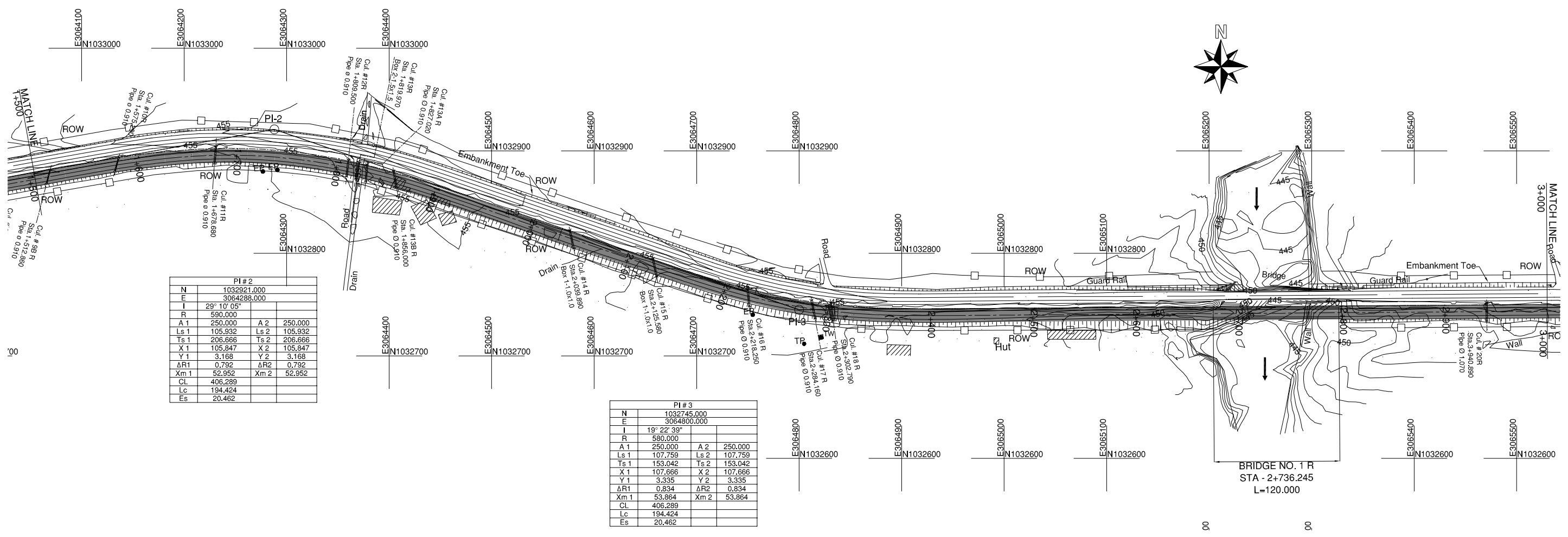
1. ADDITIONAL TWO-LANE CONSTRUCTION UNDER THE 2ND KOHAT TUNNEL AND ACCESS ROADS PROJECT.
2. THE PLANS AND PROFILES ARE IN ACCORDANCE WITH THE RECOMMENDED ALIGNMENT ALTERNATIVE-2 FROM START POINT TO TUNNEL SOUTH PORTAL (STA. 0+000.000-20+186.738) AND ALTERNATIVE-1 FROM TUNNEL SOUTH PORTAL TO END POINT (STA. 16+247.000-STA.25+906.255)
3. SCALES OF DRAWINGS FOR PLANS IS 1 / 2,000 AND FOR PROFILE IS 1 / 200 IN A-1 SIZE CAD-DRAWINGS. THESE ARE REDUCED TO A-3 SIZE FOR REPORTING

PROJECT NAME	CLIENTS		CONSULTANTS	DRAWING TITLE	SCALE	DWG NO
FEASIBILITY STUDY ON THE 2ND KOHAT TUNNEL AND ACCESS ROADS PROJECT	 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 JAPAN INTERNATIONAL COOPERATION AGENCY	NIPPON KOEI CO., LTD AND ALMEC CORPORATION	PLAN 0+000-1+500	H=1:2000	R-1



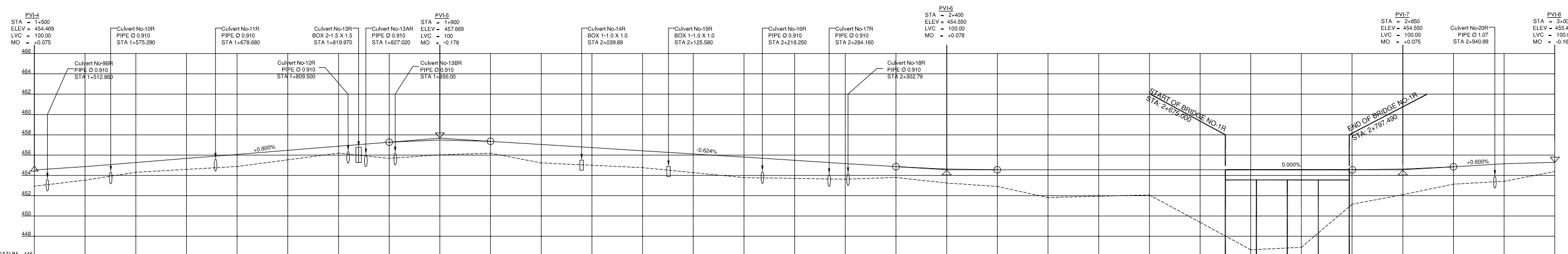
FINISHED ROAD ELEVATIONS	0+000	0+050	0+100	0+110	0+150	0+200	0+236	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500
EXISTING ROAD / GROUND ELEVATIONS	447.258	447.491	447.723	448.083	448.088	448.102	448.327	448.865	449.701	450.144	450.586	451.044	451.569	451.661	452.019	452.344	452.619	451.143	452.919	453.044	453.169	453.294	453.419	451.707	451.781	452.025	453.869	452.324	452.511	452.664	452.817	453.025	454.544
CUMULATIVE DISTANCE (CD)	0+000	0+050	0+100	0+110	0+150	0+200	0+236	0+250	0+300	0+350	0+400	0+450	0+500	0+550	0+600	0+650	0+700	0+750	0+800	0+850	0+900	0+950	1+000	1+050	1+100	1+150	1+200	1+250	1+300	1+350	1+400	1+450	1+500
HORIZONTAL ALIGNMENT	R=∞		R=250						R=∞		R=2000																R=∞						
SUPPER GRADE ELEVATION % AGE	N.C.		q=5.3%						N.C.		q=2.2%																N.C.						

PROJECT NAME	CLIENTS		CONSULTANTS	DRAWING TITLE	SCALE	DWG NO
FEASIBILITY STUDY ON THE 2ND KOHAT TUNNEL AND ACCESS ROADS PROJECT	 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 JAPAN INTERNATIONAL COOPERATION AGENCY	NIPPON KOEI CO., LTD AND ALMEC CORPORATION	PROFILE 0+000-1+500	H=1:2000 V=1:200	R-1a



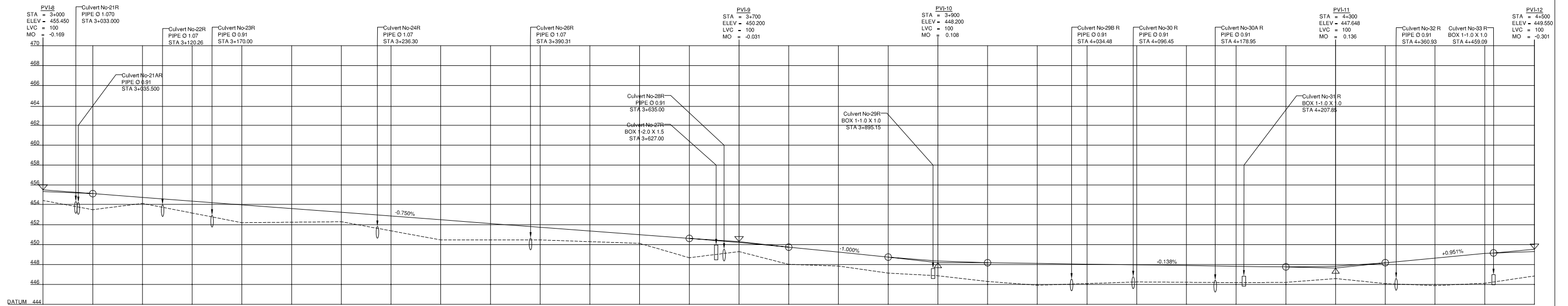
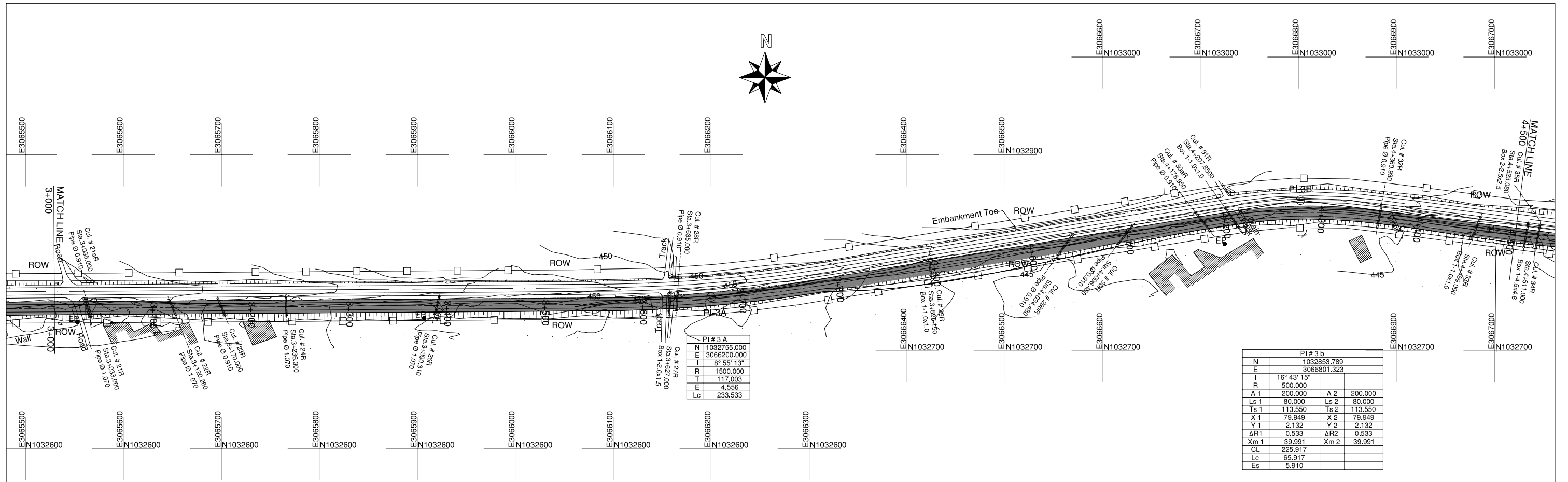
PI # 2			
N	1032921.000		
E	3064283.000		
I	29° 10' 05"		
R	590.000		
A 1	250.000	A 2	250.000
Ls 1	105.932	Ls 2	105.932
Ts 1	206.666	Ts 2	206.666
X 1	105.847	X 2	105.847
Y 1	3.168	Y 2	3.168
ΔR1	0.792	ΔR2	0.792
Xm 1	52.952	Xm 2	52.952
CL	406.289		
Lc	194.424		
Es	20.462		

PI # 3			
N	1032745.000		
E	3064800.000		
I	19° 22' 39"		
R	580.000		
A 1	250.000	A 2	250.000
Ls 1	107.759	Ls 2	107.759
Ts 1	153.042	Ts 2	153.042
X 1	107.666	X 2	107.666
Y 1	3.335	Y 2	3.335
ΔR1	0.834	ΔR2	0.834
Xm 1	53.864	Xm 2	53.864
CL	406.289		
Lc	194.424		
Es	20.462		



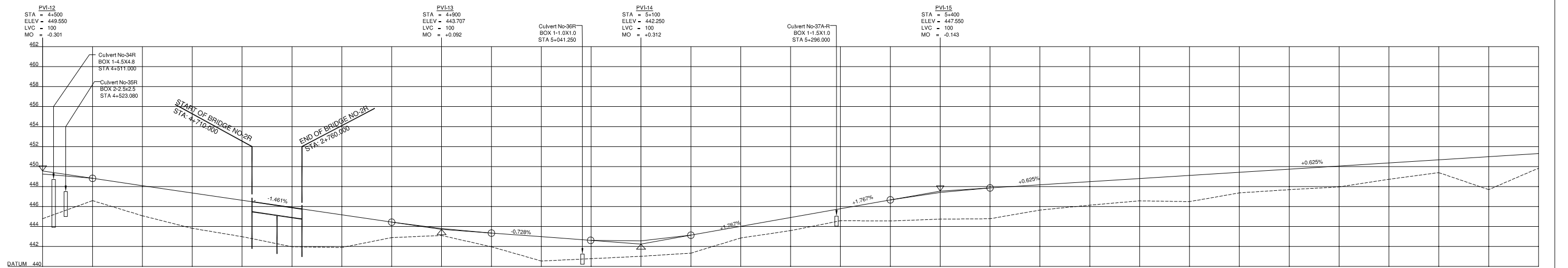
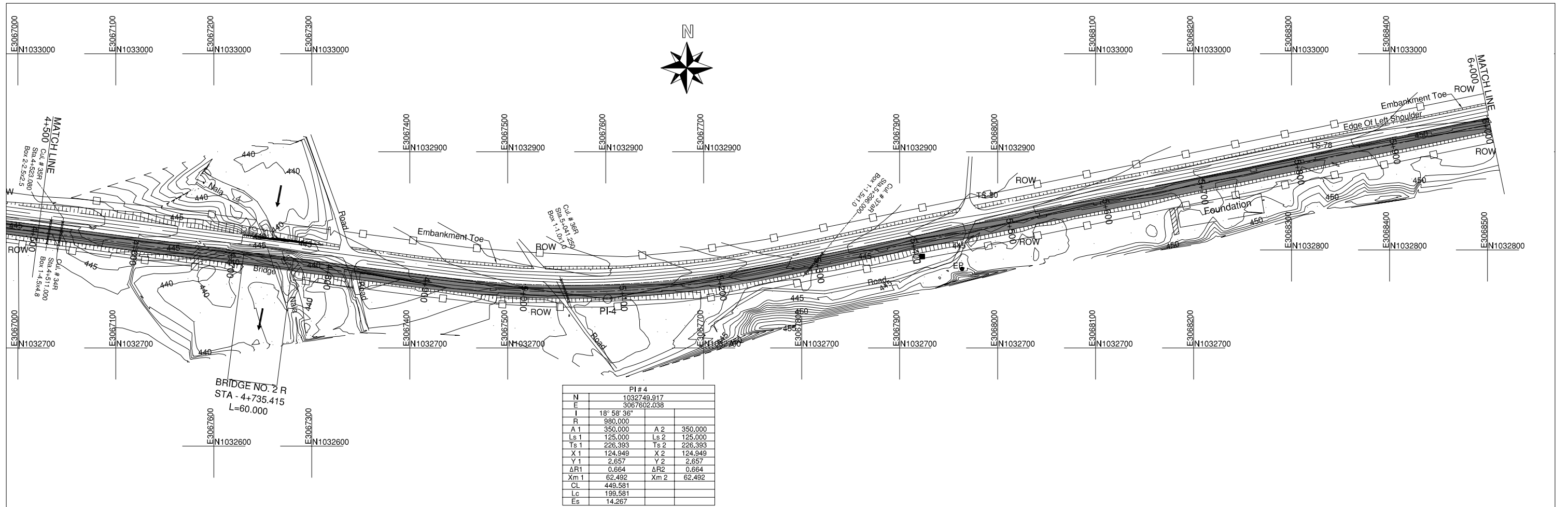
FINISHED ROAD ELEVATIONS	1+500 452.937	1+531.362	1+550 453.530	1+575.268	1+600 454.307	1+637.294	1+650 454.591	1+700 454.874	1+750 455.535	1+800 456.195	1+831.718	1+850 455.677	1+900 456.032	1+937.650	1+950 456.189	2+000 455.225	2+050 454.996	2+100 454.766	2+119.348	2+150 454.276	2+200 453.785	2+227.107	2+250 453.706	2+300 453.627	2+315.527	2+350 453.799	2+400 453.247	2+423.286	2+450 452.912	2+500 451.819	2+550 451.948	2+600 452.076	2+650 449.376	2+700 446.675	2+750 446.919	2+800 451.162	2+850 452.106	2+900 453.138	2+950 453.424	3+000 454.382			
EXISTING ROAD / GROUND ELEVATIONS	454.544	454.869	455.268	455.669	456.068	456.469	456.869	457.269	457.669	458.069	458.469	458.869	459.269	459.669	459.869	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969	459.969
CUMULATIVE DISTANCE (CD)	1+500	1+531.362	1+550	1+575.268	1+600	1+637.294	1+650	1+700	1+750	1+800	1+831.718	1+850	1+900	1+937.650	1+950	2+000	2+050	2+100	2+119.348	2+150	2+200	2+227.107	2+250	2+300	2+315.527	2+350	2+400	2+423.286	2+450	2+500	2+550	2+600	2+650	2+700	2+750	2+800	2+850	2+900	2+950	3+000			
HORIZONTAL ALIGNMENT	R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞		R = 500		R = ∞						
SUPPER GRADE ELEVATION % AGE	N.C.		0.80%		N.C.		-0.62%		N.C.		0.00%		0.80%		N.C.		0.80%		N.C.		0.00%		0.80%		N.C.		0.80%		N.C.		0.80%		N.C.		0.80%		N.C.						

PROJECT NAME	CLIENTS	CONSULTANTS	DRAWING TITLE	SCALE	DWG NO
FEASIBILITY STUDY ON THE 2ND KOHAT TUNNEL AND ACCESS ROADS PROJECT	 GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	 JAPAN INTERNATIONAL COOPERATION AGENCY	NIPPON KOEI CO., LTD AND ALMEC CORPORATION	PLAN & PROFILE 1+500-3+000 H=1:2000 V=1:200	R-2



FINISHED ROAD ELEVATIONS	454.382	455.281	453.463	455.075	454.094	454.700	453.124	454.325	452.154	453.950	452.204	453.575	451.337	452.825	450.421	452.460	450.422	452.075	450.423	451.700	450.251	451.325	450.563	451.217	450.079	450.950	448.635	450.575	449.251	450.169	447.966	449.700	446.817	448.308	446.245	448.131	445.873	448.062	446.038	447.993	446.202	447.924	446.168	447.955	446.165	447.64	446.133	447.786	446.156	447.717	446.544	447.784	446.557	447.311	446.035	448.124	445.834	448.599	446.089	449.075	446.800	449.249
EXISTING ROAD / GROUND ELEVATIONS	454.382	455.281	453.463	455.075	454.094	454.700	453.124	454.325	452.154	453.950	452.204	453.575	451.337	452.825	450.421	452.460	450.422	452.075	450.423	451.700	450.251	451.325	450.563	451.217	450.079	450.950	448.635	450.575	449.251	450.169	447.966	449.700	446.817	448.308	446.245	448.131	445.873	448.062	446.038	447.993	446.202	447.924	446.168	447.955	446.165	447.64	446.133	447.786	446.156	447.717	446.544	447.784	446.557	447.311	446.035	448.124	445.834	448.599	446.089	449.075	446.800	449.249
CUMULATIVE DISTANCE (CD)	3+000	3+050	3+100	3+150	3+200	3+250	3+300	3+350	3+400	3+450	3+500	3+550	3+600	3+650	3+700	3+750	3+800	3+850	3+900	3+950	4+000	4+050	4+100	4+150	4+200	4+250	4+300	4+350	4+400	4+450	4+500																															
HORIZONTAL ALIGNMENT	R = ∞										R = 1500										R = 500																																									
SUPPER GRADE ELEVATION % AGE	N.C.										e = 2.9%										N.C.																																									

PROJECT NAME	CLIENTS	CONSULTANTS	DRAWING TITLE	SCALE	DWG NO
FEASIBILITY STUDY ON THE 2ND KOHAT TUNNEL AND ACCESS ROADS PROJECT	GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	NIPPON KOEI CO., LTD AND ALMEC CORPORATION	PLAN & PROFILE 3+000-4+500	H=1:2000 V=1:200	R-3



FINISHED ROAD ELEVATIONS	4+500 444.780	4+550 448.820	4+600 445.075	4+650 443.819	4+700 442.987	4+750 441.978	4+800 441.902	4+850 442.891	4+900 443.105	4+950 441.972	5+000 440.549	5+050 440.762	5+100 441.020	5+150 441.335	5+200 442.854	5+250 443.569	5+300 444.580	5+350 444.557	5+400 444.741	5+450 444.779	5+500 445.647	5+550 446.139	5+600 446.571	5+650 446.490	5+700 447.365	5+750 447.690	5+800 447.959	5+850 448.726	5+900 449.395	5+950 447.690	6+000 449.835
EXISTING ROAD GROUND ELEVATIONS	449.249	448.820	448.089	447.359	446.628	445.898	445.168	444.437	443.799	443.343	442.979	442.614	442.562	443.133	444.017	444.900	445.783	446.667	447.407	447.863	448.175	448.488	448.800	449.113	449.425	449.738	450.050	450.363	450.675	450.988	451.300
CUMULATIVE DISTANCE (CD)	4+500	4+550	4+600	4+650	4+700	4+750	4+800	4+850	4+900	4+950	5+000	5+050	5+100	5+150	5+200	5+250	5+300	5+350	5+400	5+450	5+500	5+550	5+600	5+650	5+700	5+750	5+800	5+850	5+900	5+950	6+000
HORIZONTAL ALIGNMENT	R = ∞																R = 980										R = ∞				
SUPPER GRADE ELEVATION % AGE	N.C.																+4.30%										N.C.				

PROJECT NAME	CLIENTS	CONSULTANTS	DRAWING TITLE	SCALE	DWG NO	
FEASIBILITY STUDY ON THE 2ND KOHAT TUNNEL AND ACCESS ROADS PROJECT	GOVERNMENT OF PAKISTAN MINISTRY OF COMMUNICATIONS NATIONAL HIGHWAY AUTHORITY	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	NIPPON KOEI CO., LTD AND ALMEC CORPORATION	PLAN & PROFILE 4+500-6+000	H=1:2000 V=1:200	R-4