
DOCUMENTO N°3: ALTERNATIVA ELEXIDA

3.1 – DESCRICIÓN

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1. INTRODUCCIÓN

Finalmente, despois dun análise pormenorizada e comparativo das alternativas expostas, dá como resultado que a alternativa máis axeitada para cubrir as necesidades de tráfico desde os puntos de vista ambiental, económico e funcional para o desenvolvemento do correspondente proxecto de construción é a **ALTERNATIVA B**.

2 CRITERIOS DE DESEÑO

No Prego de prescrición técnicas específica que será obxecto do propio estudo propónse o tipo de vía máis axeitado e neste sentido, tras realizalo correspondente análise, onde se teñen en conta entre outros a IMD esperada, o nivel de servizo, Plan Move, velocidade de deseño e custe económico, conclúese que o tipo de estrada máis axeitado é unha *Estrada Convencional con accesos controlados con conexións a nivel*.

Baseado nesta consideración procedeuse a definila xeometría do trazado baixo as especificacións da Instrución de estradas 3.1-IC.

2.1 PUNTOS INICIAL E FINAL DA ALTERNATIVA B

2.1.1 Punto inicial

Ten como punto de partida o final da variante de Noia, ó oeste do núcleo de Taramancos.

Neste punto se desenrola unha glorieta a nivel de conexión entre a Variante de Noia coa N-550.

2.1.2 Punto final

Como punto final defínese a estrada AC-550 en Cans, por ser unha variante da antiga estrada e ademais, estar dita zona libre de edificacións e polo tanto permitir unha boa conexión.

Análogo ó punto inicial, prvese una intersección cunha glorieta a nivel coa estrada AC-550.

2.2 VELOCIDADE DE DESEÑO

A velocidade de proxecto determina a práctica totalidade dos parámetros xeométricos de trazado: radio mínimo; peralte; distancia de adiantamento, etc.

Neste sentido, defínese cuns parámetros correspondentes a unha velocidade de proxecto de 80 km/h, cúa razón ven determinada por los condicionantes externos (conexión coa variante de Noia, orografía accidentada, elementos patrimoniais, núcleos de poboación) e ademais, conxugando os custos de transporte e coa intensidade de tráfico.

A alternativa plantexase con limitación total de accesos as propiedades colindantes e sen cruces a nivel, para velocidade de proxecto de 80 km/h, e concretamente, será necesario respetar as seguintes limitacións que se reflexan:

Radio mínimo (m)	265
Peralte (%)	7
LONXITUDE (m):	
Máxima aliñación recta	1.336
Mínima entre curvas de distinto sentido	111
Mínima entre curvas del mismo sentido	222
Inclinación (%):	
Máxima	5
Excepcional	7
Parámetros de acordos verticais (m):	
Convexo (mínimo)	3.050
Cóncavo (mínimo)	2.636
Convexo (desexable)	7.125
Cóncavo (desexable)	4.348

2.3 SECCIÓN TIPO

Tras defini-lo tipo de vía máis axeitado, corresponde adopta-la sección tipo tendo en conta as intensidades e capacidades do tráfico no ano horizonte tal e como esixe a normativa de trazado, as afeccións e o custe económico.

Analizando os factores citados, proponse unha vía cunha plataforma de dous carrís de 3,50 m. por sentido e beiravías de 1,50 m, configurada da seguinte forma:

- Bermas: 0,75 m
- Beiravía: 1.5 m
- Un carril por sentido de 3.5 m.
- Carrís adicionais de 3.5 m nos puntos quilométricos sinalados.

A berma indicada é a que se sitúa a continuación da beiravía en treitos en terraplén. Naquelos treitos que percorre en desmonte non se disporá ésta e a cuneta de seguridade colindará coa plataforma.

No referente ó ramal de conexión a Portosin e a mellora da estrada CP-5708, adóptase unha sección simétrica dun carril por sentido de circulación, como sigue:

- Sen bermas.
- Beiravías: 1.0 m
- Un carril por sentido de 3.5 m.

3 ALTERNATIVA ELEXIDA

3.1 TABLA RESUMEN DE ALTERNATIVAS

As características principais da alternativa, resúmense na seguinte táboa:

ALTERNATIVA	Longitud (m)	Radio mínimo ordinario (m)	Pendiente máx. (%)	Pendiente Mín. (%)	Kv convexo mínimo (m)	Kv cóncavo mínimo (m)
Alternativa B	7.270,5	265	7,28	0,62	3.000	4.000

3.2 ALTERNATIVA B

Analogamente á alternativa A, o trazado ten a súa orixe na conexión de Taramancos, que tras a sua definición xeométrica resulta unha lonxitude total de deseño de 7,27 Km discorrendo de cara ó suroeste hasta a variante de Cans na AC-550.

Continua o seu avance bordeando varias localidades, entre elas: Vilar, Boa, Meruso, Fontenla cun trazado bastante rectilíneo e en Miñorto prodúcese un punto de inflexión, comezando unha curva en S de amplo desenvolvemento.

En Miñorto, o trazado atravesa o val do Rego Hornado, unha zoa de prados e cultivos, salvada mediante un viaducto. Continúa a variante no seu avance cara Portosín e tras 400 metros expónse a primeira das conexións coa estrada DP-5708.

Prosegue ou seu avance hasta Valcunqueiro, mediante unha sucesión de curvas de parámetros homoxéneos, cruzando o cemiterio e o polideportivo de Portosin, o primeiro polo este e o segundo polo oeste.

Plantéxase unha conexión co novo acceso ó centro poboacional de Portosin e a partir de aquí, prosegue o trazado cara o sur bordeando A Silva e Mantoño polo leste nunha zoa de prados e cultivos alternada con bosque de repoboación. Logo, comeza unha sucesión de curvas de xeito progresivo ata o final, bordea Bemeso polo sur, cruza, lindante ó punto limpo e conectase coa variante de Cans da AC-550.

Resulta unha xeometría en planta definida por dezasete aliñamentos, das cales dous son rectas que supoñen unha lonxitude total de 1.201 m. e 16 circulares coas súas curvas de transición.

O alzado, presenta un perfil condicionado pola topografía do terreo e debido a isto, os aliñamentos resultantes superan lixeiramente o 7% máximo excepcional esixible na aproximación coa AC-550, sendo xustificado o deseño polos condicionantes externos.

As características máis relevantes de dita alternativa quedan recollidas no seguinte cadro:

ALTERNATIVA B			
TRAZADO EN PLANTA		TRAZADO EN ALZADO	
Lonxitude (m)	7.270	Nº aliñacións	9
Nº aliñacións	17	Kv cóncavo mínimo ordinario	4.000
Nº rectas	2	Kv convexo mínimo	3.000
Lonxitude recta (m)	1.201	Inclinación máxima (%)	7,28
Radio mínimo ordinario	265	Inclinación mínima (%)	0,62
Radio máximo	4.500		

Tamén, cómpre sinalar a inclusión de carrís adicionais para á circulación de vehículos lentos e as conexións que permitan facer as comunicacións coas estradas principais.

Alternativa	Lonxitude (m)	Marxes	PK's Carrís Adicionais		
			Transición	Carril	Transición
b	3.490	Dereita	-	0+000 – 0+880	0+880 - 0+980
		Dereita	-	4+140 – 5+247	5+247 - 5+347
		Esquerda	5+667 - 5+767	5+767 - 7+270	

As conexións que conforman o itinerario son:

- Conexión coa AC-550, cunha solución tipo glorieta a nivel na acceden a nova variante de Noia e as dúas patas da estrada AC-550.
- Conexión coa DP-5708, cunha solución tipo glorieta a nivel.
- Conexión de Portosin, coa estrada de acceso de nova execución, cun conexión tamén de glorieta a nivel.
- Conexión coa AC-550, localizada nun treito de variante da antiga estrada cunha solución tipo glorieta a nivel.

Nesta alternativa plantéxase un viaduto de San Martiño de 80 metros de lonxitude, para salvar a bagoada existente do rego Hornando, definido por unha curva circular de 350 metros de radio, cunha altura de 10 a 15 metros.

Tamén dispóñese de tres treitos de muros, a saber:

Esta. INI.	Esta. FIN	MARGEN
1+240	1+370	Dereita
5+420	5+600	Dereita
5+870	5+930	Dereita

3.3 ENLACES E INTERSECCIÓNS

3.3.1 Tipoloxía

A alternativa divídese en subtreitos uníndose mediante conexións e a súa vez, coas estradas principais e locais.

A configuración distes conexións serán do tipo glorieta a nivel, baseado por criterios de intensidade do tráfico,dispoñibilidade de terreos, permeabilidade da vía e custe de execución, sen que sexa condición obrigada de execución no futuro. E dicir, de cara ó futuro poderanse adoptar outras tipoloxías segundo as necesidades da funcionalidade da vía, sempre e cando, non disminuía o nivel de servizo da Variante no ano horizonte.

Preséntanse seguidamente a relación de interseccións:

ALTERNATIVA	DENOMINACIÓN	Pq
B	Conexión de Taramancos	0+000
	Conexión DP-5708	3+170
	Conexión de Portosín	4+105
	Conexión coa AC-550 Cans	7+270

3.3.2 Ramáis de Conexión

Ante as dificultades técnicas que representa mellorar a rede viaria existente motivada pola configuración das mesmas cun entramado de rúas moi angostas, serpenteantes de ancho variable e pendentes que nalgúns casos son de gran magnitude, propóñense como solucións una conexión con Portosin a través dun novo ramal de acceso.

Dito ramal ten seu orixe na travesía de Portosin nas proximidades da Igrexa de Goiáns, resolvendo os distintos xiros dos vehículos mediante unha glorieta.

Do resultado do deseño, a lonxitude e aliñamentos, reflíctense:

ALTERNATIVA	Longitud (m)	Nº aliñacións	Radio mínimo (m)	Pendiente máx. (%)
B	700	5	180	10,55

Dentro do alcance do estudo, plantéxase a mellora da intersección da estrada DP-5708 coa AC-550,isto ven motivado pola escasa visibilidade de cruce e neste sentido, se prevé a súa ampliación e mellora cun novo trazado.

A modo de clarificar a viabilidade técnica do ramal de conexión, adxuntanse as seguintes fotografías, onde se poden ver a estreitez e sinuosidade dos trazados que teñen as estradas municipais; e que non permiten, por presentar problemas de funcionalidade e de seguridade vial, o uso das mesmas como vías de conexións entre a estrada AC 550 e o novo vía:



RUA VALCUNQUEIRO – A SILVA



RUA NA SILVA



VALCUNQUEIRO DE ARRIBA



OLIVEIRA

3.4 VIADUTOS

Na táboa seguinte amosase o viaduto proxectado nesta alternativa elexida, o mesmo manterán o ancho de carrís e beiravías en toda a súa lonxitude

ALTERNATIVA B				
	Altura	Pq inicial	Pq final	Lonxitude
Viaducto San Martiño	10-15	2+710	2+790	80

3.5 PASOS SUPERIORES E INFERIORES

Análogo ó viaducto, os pasos superiores e inferiores necesarios para garantir a permeabilidade da vía, son:

ALTERNATIVA	Nº DE PASOS	
	SUPERIORES	INFERIORES
B	5	3

4 DEFINICIÓN ANALÍTICA DO TRAZADO

A continuación preséntanse os listados de trazado que definen analiticamente a alternativa elexida. Preséntanse listados dos aliñamentos dos eixes en planta e a descrición do perfil lonxitudinal.

3.2 – DEFINICIÓN ANALÍTICA DO TRAZADO

4.1 ALIÑACIÓNS EN PLANTA

ALTERNATIVA B

4.1.1 Puntos c/50 metros

	Estación	Coor. X	Coor. Y	Distancia	Acimut	Radio	Parám.
PS	0+000,000	506.528,594	4.737.051,787	0,000	205,1634	60,000	
PS	0+011,108	506.526,677	4.737.040,862	0,000	216,9489	60,000	
	0+050	506.508,235	4.737.006,879	0,000	240,4088		
PS	0+056,174	506.504,551	4.737.001,925	0,000	240,8576	Infinito	52,000
	0+100	506.479,536	4.736.965,964	0,000	234,3598		
PS	0+108,446	506.475,349	4.736.958,629	0,000	231,6138	-180,000	97,000
	0+150	506.459,925	4.736.920,144	0,000	216,9172		
	0+200	506.453,620	4.736.870,705	0,000	199,2334		
	0+250	506.461,114	4.736.821,432	0,000	181,5495		
PS	0+253,933	506.462,279	4.736.817,675	0,000	180,1583	-180,000	
PS	0+288,153	506.474,809	4.736.785,847	0,000	174,1070	Infinito	78,482
	0+300	506.479,474	4.736.774,957	0,000	174,4987		
PS	0+330,714	506.490,602	4.736.746,337	0,000	179,1621	268,000	106,801
	0+350	506.496,140	4.736.727,868	0,000	183,7434		
	0+400	506.504,197	4.736.678,595	0,000	195,6206		
	0+450	506.502,974	4.736.628,682	0,000	207,4978		
PS	0+478,628	506.498,100	4.736.600,486	0,000	214,2982	268,000	
	0+500	506.492,604	4.736.579,837	0,000	218,5406		
PS	0+543,643	506.478,560	4.736.538,522	0,000	222,0202	Infinito	132,000
	0+550	506.476,406	4.736.532,540	0,000	221,9652		
	0+600	506.460,660	4.736.485,095	0,000	217,7013		
PS	0+612,493	506.457,426	4.736.473,029	0,000	215,5744	-340,000	153,000
PS	0+634,058	506.452,869	4.736.451,953	0,000	211,5364	-340,000	
	0+650	506.450,336	4.736.436,215	0,000	208,8970		
	0+700	506.445,293	4.736.386,478	0,000	205,1016		
PS	0+702,914	506.445,061	4.736.383,574	0,000	205,0901	Infinito	153,006
	0+750	506.440,306	4.736.336,737	0,000	209,1401		
PS	0+768,670	506.437,109	4.736.318,345	0,000	212,9885	265,000	132,005
	0+800	506.428,964	4.736.288,111	0,000	220,5150		
	0+850	506.408,762	4.736.242,455	0,000	232,5267		
PS	0+894,621	506.383,777	4.736.205,549	0,000	243,2462	265,000	
	0+900	506.380,356	4.736.201,398	0,000	244,4856		
	0+950	506.345,872	4.736.165,224	0,000	250,9475		
PS	0+960,372	506.338,415	4.736.158,015	0,000	251,1440	Infinito	132,000
	1+000	506.310,193	4.736.130,198	0,000	249,0900		
PS	1+029,903	506.290,019	4.736.108,132	0,000	244,8204	-350,000	156,000
	1+050	506.277,458	4.736.092,449	0,000	241,1650		
	1+100	506.250,281	4.736.050,530	0,000	232,0705		
	1+150	506.229,349	4.736.005,169	0,000	222,9759		
	1+200	506.215,089	4.735.957,290	0,000	213,8813		
PS	1+236,078	506.209,112	4.735.921,726	0,000	207,3190	-350,000	
	1+250	506.207,772	4.735.907,870	0,000	205,0403		
	1+300	506.205,815	4.735.857,917	0,000	201,0366		
PS	1+305,610	506.205,726	4.735.852,308	0,000	200,9954	Infinito	156,000
	1+350	506.205,032	4.735.807,923	0,000	200,9954		
	1+400	506.204,250	4.735.757,929	0,000	200,9954		
	1+450	506.203,468	4.735.707,935	0,000	200,9954		
	1+500	506.202,686	4.735.657,941	0,000	200,9954		
	1+550	506.201,905	4.735.607,948	0,000	200,9954		
	1+600	506.201,123	4.735.557,954	0,000	200,9954		
	1+650	506.200,341	4.735.507,960	0,000	200,9954		
	1+700	506.199,559	4.735.457,966	0,000	200,9954		
	1+750	506.198,778	4.735.407,972	0,000	200,9954		
	1+800	506.197,996	4.735.357,978	0,000	200,9954		
	1+850	506.197,214	4.735.307,984	0,000	200,9954		
	1+900	506.196,432	4.735.257,990	0,000	200,9954		
	1+950	506.195,651	4.735.207,996	0,000	200,9954		
	2+000	506.194,869	4.735.158,003	0,000	200,9954		
	2+050	506.194,087	4.735.108,009	0,000	200,9954		
	2+100	506.193,305	4.735.058,015	0,000	200,9954		

	Estación	Coord. X	Coord. Y	Distancia	Acimut	Radio	Parám.
	2+150	506.192,524	4.735.008,021	0,000	200,9954		
	2+200	506.191,742	4.734.958,027	0,000	200,9954		
PS	2+201,725	506.191,715	4.734.956,302	0,000	200,9954	Infinito	
	2+250	506.190,190	4.734.908,056	0,000	204,0436		
PS	2+271,257	506.188,329	4.734.886,883	0,000	207,3190	350,000	156,000
	2+300	506.183,863	4.734.858,497	0,000	212,5471		
	2+350	506.170,610	4.734.810,330	0,000	221,6417		
	2+400	506.150,633	4.734.764,541	0,000	230,7362		
	2+450	506.124,341	4.734.722,061	0,000	239,8308		
	2+500	506.092,269	4.734.683,758	0,000	248,9254		
	2+550	506.055,070	4.734.650,412	0,000	258,0199		
	2+600	506.013,503	4.734.622,701	0,000	267,1145		
	2+650	505.968,413	4.734.601,190	0,000	276,2091		
	2+700	505.920,721	4.734.586,318	0,000	285,3036		
	2+750	505.871,397	4.734.578,387	0,000	294,3982		
	2+800	505.821,446	4.734.577,560	0,000	303,4928		
PS	2+812,075	505.809,403	4.734.578,430	0,000	305,6892	350,000	
	2+850	505.771,826	4.734.583,484	0,000	310,7061		
PS	2+881,607	505.740,741	4.734.589,200	0,000	312,0128	Infinito	156,000
	2+900	505.722,670	4.734.592,627	0,000	311,7663		
	2+950	505.673,353	4.734.600,826	0,000	308,6041		
PS	2+962,498	505.660,952	4.734.602,382	0,000	307,2446	-540,000	209,000
	3+000	505.623,575	4.734.605,343	0,000	302,8233		
	3+050	505.573,593	4.734.605,246	0,000	296,9287		
	3+100	505.523,834	4.734.600,528	0,000	291,0341		
	3+150	505.474,724	4.734.591,229	0,000	285,1394		
	3+200	505.426,685	4.734.577,429	0,000	279,2448		
	3+250	505.380,127	4.734.559,247	0,000	273,3502		
	3+300	505.335,450	4.734.536,838	0,000	267,4556		
	3+350	505.293,036	4.734.510,394	0,000	261,5609		
	3+400	505.253,249	4.734.480,142	0,000	255,6663		
	3+450	505.216,430	4.734.446,340	0,000	249,7717		
	3+500	505.182,893	4.734.409,279	0,000	243,8771		
	3+550	505.152,927	4.734.369,276	0,000	237,9824		
	3+600	505.126,788	4.734.326,674	0,000	232,0878		
	3+650	505.104,700	4.734.281,837	0,000	226,1932		
	3+700	505.086,852	4.734.235,150	0,000	220,2985		
	3+750	505.073,397	4.734.187,013	0,000	214,4039		
	3+800	505.064,451	4.734.137,838	0,000	208,5093		
PS	3+812,011	505.062,983	4.734.125,917	0,000	207,0933	-540,000	
	3+850	505.059,881	4.734.088,060	0,000	203,6663		
PS	3+892,902	505.058,013	4.734.045,200	0,000	202,3251	Infinito	209,000
	3+900	505.057,752	4.734.038,106	0,000	202,3735		
	3+950	505.054,993	4.733.988,187	0,000	205,4580		
PS	3+966,511	505.053,323	4.733.971,762	0,000	207,5318	450,000	182,000
	4+000	505.048,137	4.733.938,685	0,000	212,2696		
PS	4+024,051	505.042,901	4.733.915,213	0,000	215,6722	450,000	
	4+050	505.035,940	4.733.890,218	0,000	218,6961		
PS	4+097,660	505.021,105	4.733.844,928	0,000	220,8790	Infinito	182,000
	4+100	505.020,352	4.733.842,713	0,000	220,8729		
	4+150	505.005,032	4.733.795,123	0,000	217,8617		
PS	4+169,910	504.999,909	4.733.775,884	0,000	215,1295	-400,000	170,000
	4+200	504.993,932	4.733.746,402	0,000	210,3406		
	4+250	504.988,947	4.733.696,683	0,000	202,3828		
	4+300	504.990,199	4.733.646,732	0,000	194,4251		
	4+350	504.997,670	4.733.597,326	0,000	186,4673		
PS	4+382,249	505.005,736	4.733.566,111	0,000	181,3348	-400,000	
	4+400	505.011,211	4.733.549,227	0,000	178,8566		
	4+450	505.029,049	4.733.502,523	0,000	175,6076		
PS	4+454,499	505.030,732	4.733.498,351	0,000	175,5853	Infinito	170,000
	4+500	505.047,565	4.733.456,078	0,000	176,4568		
	4+550	505.064,673	4.733.409,101	0,000	179,4242		
PS	4+551,454	505.065,134	4.733.407,722	0,000	179,5420	780,000	275,000
	4+600	505.079,024	4.733.361,214	0,000	183,5042		
	4+650	505.090,278	4.733.312,505	0,000	187,5851		

	Estación	Coord. X	Coord. Y	Distancia	Acimut	Radio	Parám.
	4+700	505.098,389	4.733.263,176	0,000	191,6660		
	4+750	505.103,323	4.733.213,429	0,000	195,7469		
	4+800	505.105,060	4.733.163,468	0,000	199,8278		
	4+850	505.103,593	4.733.113,498	0,000	203,9087		
	4+900	505.098,929	4.733.063,725	0,000	207,9896		
	4+950	505.091,085	4.733.014,352	0,000	212,0705		
	5+000	505.080,095	4.732.965,584	0,000	216,1514		
	5+050	505.066,003	4.732.917,620	0,000	220,2323		
	5+100	505.048,868	4.732.870,657	0,000	224,3132		
	5+150	505.028,759	4.732.824,888	0,000	228,3941		
	5+200	505.005,760	4.732.780,501	0,000	232,4750		
	5+250	504.979,965	4.732.737,679	0,000	236,5559		
	5+300	504.951,479	4.732.696,597	0,000	240,6368		
	5+350	504.920,421	4.732.657,424	0,000	244,7177		
PS	5+380,142	504.900,507	4.732.634,799	0,000	247,1778	780,000	
	5+400	504.886,929	4.732.620,309	0,000	248,6326		
	5+450	504.851,629	4.732.584,903	0,000	250,8254		
PS	5+477,097	504.832,160	4.732.566,055	0,000	251,1344	Infinito	275,000
	5+500	504.815,720	4.732.550,109	0,000	250,8104		
	5+550	504.780,112	4.732.515,009	0,000	250,1030		
	5+600	504.744,896	4.732.479,515	0,000	249,3957		
	5+650	504.710,077	4.732.443,632	0,000	248,6883		
	5+700	504.675,659	4.732.407,364	0,000	247,9810		
	5+750	504.641,646	4.732.370,716	0,000	247,2736		
	5+800	504.608,042	4.732.333,692	0,000	246,5663		
	5+850	504.574,851	4.732.296,297	0,000	245,8589		
	5+900	504.542,078	4.732.258,536	0,000	245,1516		
	5+950	504.509,727	4.732.220,413	0,000	244,4442		
PS	5+982,890	504.488,678	4.732.195,141	0,000	243,9789	-4.500,000	
	6+000	504.477,742	4.732.181,982	0,000	244,4754		
PS	6+049,922	504.443,969	4.732.145,254	0,000	251,5993	280,000	137,000
	6+050	504.443,913	4.732.145,200	0,000	251,6170		
	6+100	504.404,796	4.732.114,164	0,000	262,9852		
	6+150	504.360,788	4.732.090,570	0,000	274,3534		
	6+200	504.313,290	4.732.075,168	0,000	285,7216		
	6+250	504.263,810	4.732.068,447	0,000	297,0898		
	6+300	504.213,924	4.732.070,622	0,000	308,4580		
PS	6+345,518	504.169,495	4.732.080,284	0,000	318,8071	280,000	
	6+350	504.165,217	4.732.081,623	0,000	319,7922		
	6+400	504.118,657	4.732.099,790	0,000	326,1603		
PS	6+412,550	504.107,166	4.732.104,835	0,000	326,4274	Infinito	137,000
	6+450	504.072,708	4.732.119,497	0,000	323,9779		
PS	6+480,050	504.044,363	4.732.129,444	0,000	318,4697	-270,000	135,000
	6+500	504.025,053	4.732.134,440	0,000	313,7657		
	6+550	503.975,505	4.732.140,598	0,000	301,9765		
	6+600	503.925,671	4.732.137,527	0,000	290,1872		
PS	6+632,503	503.893,931	4.732.130,618	0,000	282,5234	-270,000	
	6+650	503.877,239	4.732.125,379	0,000	278,9326		
	6+700	503.830,754	4.732.106,992	0,000	274,5657		
PS	6+700,003	503.830,751	4.732.106,991	0,000	274,5657	Infinito	135,000
	6+750	503.784,371	4.732.088,337	0,000	277,8352		
PS	6+769,535	503.765,864	4.732.082,091	0,000	280,8893	350,000	156,000
	6+800	503.736,406	4.732.074,359	0,000	286,4307		
	6+850	503.686,949	4.732.067,303	0,000	295,5252		
PS	6+896,523	503.640,461	4.732.067,125	0,000	303,9874	350,000	
	6+900	503.636,992	4.732.067,360	0,000	304,6040		
	6+950	503.587,385	4.732.073,495	0,000	309,9738		
PS	6+966,055	503.571,536	4.732.076,056	0,000	310,3110	Infinito	156,000
	7+000	503.538,035	4.732.081,530	0,000	310,3110		
	7+050	503.488,689	4.732.089,593	0,000	310,3110		
	7+100	503.439,343	4.732.097,656	0,000	310,3110		
	7+150	503.389,998	4.732.105,719	0,000	310,3110		
	7+200	503.340,652	4.732.113,781	0,000	310,3110		
	7+250	503.291,307	4.732.121,844	0,000	310,3110		
PS	7+270,574	503.271,002	4.732.125,162	0,000	310,3110	Infinito	

	Estación	Coord. X	Coord. Y	Distancia	Acimut	Radio	Parám.
	7+270,574	503.271,002	4.732.125,162	0,000	310,3110		

MELLORA DP-5708

4.1.2 Novo vial de acceso a Portosin

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	Parám.	X Centro	Y Centro
0+000,000	0,000	504.574,816	4.734.108,239	134,0108	Infinito			
0+016,927	16,927	504.589,384	4.734.099,620	134,0108	Infinito			
0+170,595	153,669	504.684,911	4.733.983,241	178,4784	220,000		504.477,363	4.733.910,276
0+368,762	198,167	504.831,065	4.733.864,501	108,3912	-180,000		504.854,722	4.734.042,939
0+609,255	240,493	505.069,472	4.733.832,893	108,3912	Infinito			
0+700,081	90,826	505.153,783	4.733.801,267	137,3019	200,000		505.043,187	4.733.634,628

Estación	Longitud	Coord. X	Coord. Y	Acimut	Radio	Parám.	X Centro	Y Centro
0+000,000	0,000	504.947,917	4.734.720,944	149,7253	-600,000		505.370,347	4.735.147,034
0+176,261	176,261	505.089,393	4.734.616,879	131,0235	-600,000		505.370,347	4.735.147,034
0+256,873	80,612	505.138,746	4.734.555,901	182,3429	100,000		505.042,568	4.734.528,519
0+392,972	136,099	505.248,480	4.734.519,377	58,5665	-70,000		505.206,071	4.734.575,068
0+465,035	72,063	505.309,688	4.734.557,196	70,9657	370,000		505.472,645	4.734.225,014
0+547,363	82,328	505.370,243	4.734.611,442	36,0245	-150,000		505.243,625	4.734.691,864
0+647,363	100,000	505.450,446	4.734.602,893	177,4956	45,000		505.408,228	4.734.587,315

Estación	Coord. X	Coord. Y	Acimut
0+000	504.574,816	4.734.108,239	134,0108
0+020	504.592,018	4.734.098,037	134,9002
0+040	504.608,590	4.734.086,853	140,6876
0+060	504.624,079	4.734.074,210	146,4751
0+080	504.638,355	4.734.060,214	152,2626
0+100	504.651,303	4.734.044,979	158,0500
0+120	504.662,813	4.734.028,632	163,8375
0+140	504.672,792	4.734.011,307	169,6249
0+160	504.681,157	4.733.993,148	175,4124
0+180	504.688,260	4.733.974,454	175,1522
0+200	504.696,880	4.733.956,419	168,0786
0+220	504.707,447	4.733.939,450	161,0051
0+240	504.719,831	4.733.923,758	153,9315
0+260	504.733,878	4.733.909,536	146,8580
0+280	504.749,415	4.733.896,959	139,7844
0+300	504.766,251	4.733.886,182	132,7108
0+320	504.784,178	4.733.877,339	125,6373
0+340	504.802,975	4.733.870,538	118,5637
0+360	504.822,411	4.733.865,863	111,4902
0+380	504.842,206	4.733.863,024	108,3912
0+400	504.862,032	4.733.860,395	108,3912
0+420	504.881,859	4.733.857,767	108,3912
0+440	504.901,685	4.733.855,138	108,3912
0+460	504.921,512	4.733.852,510	108,3912
0+480	504.941,338	4.733.849,881	108,3912
0+500	504.961,165	4.733.847,252	108,3912
0+520	504.980,991	4.733.844,624	108,3912
0+540	505.000,818	4.733.841,995	108,3912
0+560	505.020,644	4.733.839,367	108,3912
0+580	505.040,471	4.733.836,738	108,3912
0+600	505.060,298	4.733.834,110	108,3912
0+620	505.080,081	4.733.831,196	111,8114
0+640	505.099,521	4.733.826,530	118,1776
0+660	505.118,398	4.733.819,948	124,5438
0+680	505.136,523	4.733.811,513	130,9100
0+700	505.153,716	4.733.801,312	137,2762
0+700,081	505.153,783	4.733.801,267	137,3019

Estación	Coord. X	Coord. Y	Acimut
0+000	504.947,917	4.734.720,944	149,7253
0+020	504.962,352	4.734.707,102	147,6033
0+040	504.977,240	4.734.693,749	145,4812
0+060	504.992,565	4.734.680,900	143,3592
0+080	505.008,310	4.734.668,569	141,2371
0+100	505.024,457	4.734.656,769	139,1150
0+120	505.040,989	4.734.645,514	136,9930
0+140	505.057,886	4.734.634,816	134,8709
0+160	505.075,130	4.734.624,687	132,7488
0+180	505.092,664	4.734.615,067	133,4040
0+200	505.108,859	4.734.603,389	146,1364
0+220	505.122,412	4.734.588,726	158,8688
0+240	505.132,782	4.734.571,663	171,6012
0+260	505.139,669	4.734.552,914	179,4991
0+280	505.148,605	4.734.535,097	161,3100
0+300	505.162,200	4.734.520,521	143,1209
0+320	505.179,352	4.734.510,368	124,9317
0+340	505.198,671	4.734.505,460	106,7426
0+360	505.218,589	4.734.506,196	88,5535
0+380	505.237,492	4.734.512,517	70,3643
0+400	505.254,111	4.734.523,582	59,7757
0+420	505.270,561	4.734.534,953	63,2169
0+440	505.287,602	4.734.545,418	66,6581
0+460	505.305,183	4.734.554,948	70,0993
0+480	505.322,773	4.734.564,445	64,6144
0+500	505.339,009	4.734.576,098	56,1262
0+520	505.353,552	4.734.589,806	47,6379
0+540	505.366,144	4.734.605,325	39,1496
0+560	505.378,417	4.734.621,024	53,9017
0+580	505.395,807	4.734.630,566	82,1959
0+600	505.415,610	4.734.631,705	110,4901
0+620	505.433,979	4.734.624,219	138,7843
0+640	505.447,344	4.734.609,562	167,0785
0+647,363	505.450,446	4.734.602,893	177,4950

4.2 ALIÑACIÓNS EN ALZADO

ALTERNATIVA B

4.2.1 Puntos c/50 metros

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	0+000,000	43,607	0,0096					
TE	0+001,127	43,608	0,0096					
V	0+015,730	43,822	2,9302	43,609	29,206	500,000	0,213	5,8413
TS	0+030,333	44,463	5,8509					
	0+050,000	45,614	5,8509					
	0+100,000	48,540	5,8509					
	0+150,000	51,465	5,8509					
	0+200,000	54,390	5,8509					
	0+250,000	57,316	5,8509					
	0+300,000	60,241	5,8509					
	0+350,000	63,167	5,8509					
TE	0+353,659	63,381	5,8509					
V	0+381,333	65,038	6,1276	65,000	55,348	10.000,000	0,038	0,5535
	0+400,000	66,200	6,3143					
TS	0+409,007	66,772	6,4044					
	0+450,000	69,398	6,4044					
	0+500,000	72,600	6,4044					
	0+550,000	75,802	6,4044					
	0+600,000	79,004	6,4044					
	0+650,000	82,206	6,4044					
TE	0+686,583	84,549	6,4044					
	0+700,000	85,389	6,1062					
	0+750,000	88,164	4,9951					
	0+800,000	90,384	3,8840					
V	0+816,646	90,999	3,5141	92,879	260,127	-4.500,000	-1,880	-5,7806
	0+850,000	92,048	2,7729					
	0+900,000	93,157	1,6617					
TS	0+946,709	93,690	0,6238					
	0+950,000	93,711	0,6238					
	1+000,000	94,023	0,6238					
	1+050,000	94,335	0,6238					
	1+100,000	94,646	0,6238					
	1+150,000	94,958	0,6238					
	1+200,000	95,270	0,6238					
	1+250,000	95,582	0,6238					
	1+300,000	95,894	0,6238					
	1+350,000	96,206	0,6238					
	1+400,000	96,518	0,6238					
	1+450,000	96,830	0,6238					
	1+500,000	97,141	0,6238					
TE	1+536,655	97,370	0,6238					
	1+550,000	97,442	0,4569					
PA	1+586,556	97,526	0,0000					
	1+600,000	97,514	-0,1681					
	1+650,000	97,274	-0,7931					
	1+700,000	96,721	-1,4181					
	1+750,000	95,856	-2,0431					
	1+800,000	94,678	-2,6681					
V	1+814,329	94,283	-2,8472	99,102	555,348	-8.000,000	-4,819	-6,9418
	1+850,000	93,188	-3,2931					
	1+900,000	91,385	-3,9181					
	1+950,000	89,270	-4,5431					
	2+000,000	86,842	-5,1681					
	2+050,000	84,102	-5,7931					
TS	2+092,003	81,558	-6,3181					
	2+100,000	81,053	-6,3181					
	2+150,000	77,894	-6,3181					
	2+200,000	74,735	-6,3181					
	2+250,000	71,576	-6,3181					
	2+300,000	68,417	-6,3181					

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
TE	2+302,207	68,278	-6,3181					
	2+350,000	65,486	-5,3622					
	2+400,000	63,055	-4,3622					
	2+450,000	61,124	-3,3622					
	2+500,000	59,693	-2,3622					
V	2+528,000	59,110	-1,8022	54,012	451,586	5.000,000	5,098	9,0317
	2+550,000	58,762	-1,3622					
	2+600,000	58,331	-0,3622					
PB	2+618,111	58,298	0,0000					
	2+650,000	58,400	0,6378					
	2+700,000	58,969	1,6378					
	2+750,000	60,037	2,6378					
TS	2+753,793	60,139	2,7136					
	2+800,000	61,393	2,7136					
	2+850,000	62,750	2,7136					
	2+900,000	64,106	2,7136					
	2+950,000	65,463	2,7136					
	3+000,000	66,820	2,7136					
TE	3+047,240	68,102	2,7136					
	3+050,000	68,176	2,6791					
	3+100,000	69,360	2,0541					
	3+150,000	70,231	1,4291					
	3+200,000	70,789	0,8041					
	3+250,000	71,035	0,1791					
PA	3+264,331	71,048	0,0000					
	3+300,000	70,968	-0,4459					
	3+350,000	70,589	-1,0709					
V	3+397,953	69,932	-1,6703	77,619	701,426	-8.000,000	-7,687	-8,7678
	3+400,000	69,897	-1,6959					
	3+450,000	68,893	-2,3209					
	3+500,000	67,576	-2,9459					
	3+550,000	65,947	-3,5709					
	3+600,000	64,005	-4,1959					
	3+650,000	61,751	-4,8209					
	3+700,000	59,185	-5,4459					
TS	3+748,667	56,386	-6,0542					
	3+750,000	56,305	-6,0542					
TE	3+783,237	54,293	-6,0542					
	3+800,000	53,314	-5,6351					
	3+850,000	50,808	-4,3851					
	3+900,000	48,928	-3,1351					
	3+950,000	47,673	-1,8851					
	4+000,000	47,043	-0,6351					
PB	4+025,405	46,963	0,0000					
V	4+046,238	47,017	0,5208	38,371	526,001	4.000,000	8,646	13,1500
	4+050,000	47,038	0,6149					
	4+100,000	47,658	1,8649					
	4+150,000	48,903	3,1149					
	4+200,000	50,773	4,3649					
	4+250,000	53,268	5,6149					
	4+300,000	56,388	6,8649					
TS	4+309,238	57,033	7,0958					
	4+350,000	59,925	7,0958					
	4+400,000	63,473	7,0958					
	4+450,000	67,021	7,0958					
	4+500,000	70,569	7,0958					
	4+550,000	74,117	7,0958					
	4+600,000	77,665	7,0958					
	4+650,000	81,213	7,0958					
	4+700,000	84,761	7,0958					
	4+750,000	88,308	7,0958					
	4+800,000	91,856	7,0958					
	4+850,000	95,404	7,0958					
	4+900,000	98,952	7,0958					
	4+950,000	102,500	7,0958					

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	5+000,000	106,048	7,0958					
	5+050,000	109,596	7,0958					
	5+100,000	113,144	7,0958					
TE	5+131,385	115,371	7,0958					
	5+150,000	116,648	6,6305					
	5+200,000	119,651	5,3805					
V	5+236,150	121,433	4,4767	122,805	209,530	-4.000,000	-1,372	-5,2382
	5+250,000	122,029	4,1305					
	5+300,000	123,782	2,8805					
TS	5+340,915	124,751	1,8576					
	5+350,000	124,920	1,8576					
	5+400,000	125,848	1,8576					
	5+450,000	126,777	1,8576					
	5+500,000	127,706	1,8576					
	5+550,000	128,635	1,8576					
TE	5+583,075	129,249	1,8576					
	5+600,000	129,516	1,2934					
PA	5+638,803	129,767	0,0000					
	5+650,000	129,746	-0,3732					
	5+700,000	129,143	-2,0399					
V	5+720,186	128,663	-2,7128	131,796	274,222	-3.000,000	-3,133	-9,1407
	5+750,000	127,706	-3,7066					
	5+800,000	125,436	-5,3732					
	5+850,000	122,333	-7,0399					
TS	5+857,297	121,810	-7,2831					
	5+900,000	118,700	-7,2831					
	5+950,000	115,059	-7,2831					
	6+000,000	111,417	-7,2831					
	6+050,000	107,775	-7,2831					
	6+100,000	104,134	-7,2831					
	6+150,000	100,492	-7,2831					
	6+200,000	96,851	-7,2831					
	6+250,000	93,209	-7,2831					
	6+300,000	89,568	-7,2831					
	6+350,000	85,926	-7,2831					
	6+400,000	82,284	-7,2831					
	6+450,000	78,643	-7,2831					
	6+500,000	75,001	-7,2831					
	6+550,000	71,360	-7,2831					
	6+600,000	67,718	-7,2831					
	6+650,000	64,077	-7,2831					
	6+700,000	60,435	-7,2831					
	6+750,000	56,793	-7,2831					
	6+800,000	53,152	-7,2831					
	6+850,000	49,510	-7,2831					
	6+900,000	45,869	-7,2831					
	6+950,000	42,227	-7,2831					
	7+000,000	38,586	-7,2831					
	7+050,000	34,944	-7,2831					
	7+100,000	31,302	-7,2831					
	7+150,000	27,661	-7,2831					
	7+200,000	24,019	-7,2831					
TE	7+227,832	21,992	-7,2831					
	7+250,000	20,685	-4,5122					
V	7+251,803	20,606	-4,2868	20,246	47,941	800,000	0,359	5,9926
TS	7+275,773	19,937	-1,2905					
	7+290,240	19,750	-1,2905					

4.2.2 Novo vial de acceso a Portosin

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	0+000,000	10,610	2,0052					
TE	0+000,000	10,610	2,0052					
V	0+040,000	12,011	5,0016	11,412	80,000	1.334,937	0,599	5,9928
	0+050,000	12,549	5,7507					
TS	0+080,000	14,611	7,9980					
	0+100,000	16,211	7,9980					
	0+150,000	20,210	7,9980					
	0+200,000	24,209	7,9980					
	0+250,000	28,208	7,9980					
	0+300,000	32,207	7,9980					
	0+350,000	36,206	7,9980					
	0+400,000	40,205	7,9980					
	0+450,000	44,204	7,9980					
TE	0+454,167	44,537	7,9980					
V	0+494,167	46,937	4,0037	47,736	80,000	-1.001,435	-0,799	-7,9885
	0+500,000	47,154	3,4212					
TS	0+534,167	47,740	0,0095					
	0+550,000	47,741	0,0095					
TE	0+572,000	47,744	0,0095					
	0+600,000	48,337	4,2277					
V	0+607,000	48,670	5,2823	47,747	70,000	663,783	0,923	10,5456
TS	0+642,000	51,441	10,5551					

MELLORA DP-5708

	Estación	Cota	Pente.(%)	Cota Ver.	Long.(L)	Radio(kv)	Flecha	Theta(%)
	0-000,344	25,015	-0,0445					
	0+000,000	25,015	-0,0445					
TE	0+004,055	25,013	-0,0445					
PB	0+004,323	25,013	0,0000					
V	0+032,396	25,670	4,6789	25,000	56,681	600,000	0,669	9,4468
	0+050,000	26,752	7,6129					
TS	0+060,736	27,665	9,4023					
	0+100,000	31,357	9,4023					
	0+150,000	36,058	9,4023					
	0+200,000	40,759	9,4023					
TE	0+207,650	41,478	9,4023					
V	0+228,229	43,498	10,2255	43,413	41,159	2.500,000	0,085	1,6464
TS	0+248,809	45,687	11,0486					
	0+250,000	45,819	11,0486					
	0+300,000	51,343	11,0486					
	0+350,000	56,867	11,0486					
	0+400,000	62,391	11,0486					
TE	0+448,180	67,715	11,0486					
	0+450,000	67,914	10,8211					
	0+500,000	71,762	4,5711					
V	0+529,688	72,568	0,8601	76,720	163,016	-800,000	-4,152	-20,3770
PA	0+536,569	72,598	0,0000					
	0+550,000	72,485	-1,6789					
	0+600,000	70,083	-7,9289					
TS	0+611,195	69,117	-9,3284					
TE	0+627,396	67,606	-9,3284					
PB	0+627,396	67,606	-9,3284					
V	0+627,396	67,606	-9,3284	67,606	0,000	0,000	0,000	0,0000
TS	0+627,396	67,606	-9,3284					
	0+650,000	67,842	1,0467					
	0+700,000	68,366	1,0467					

3.3 – PLANOS

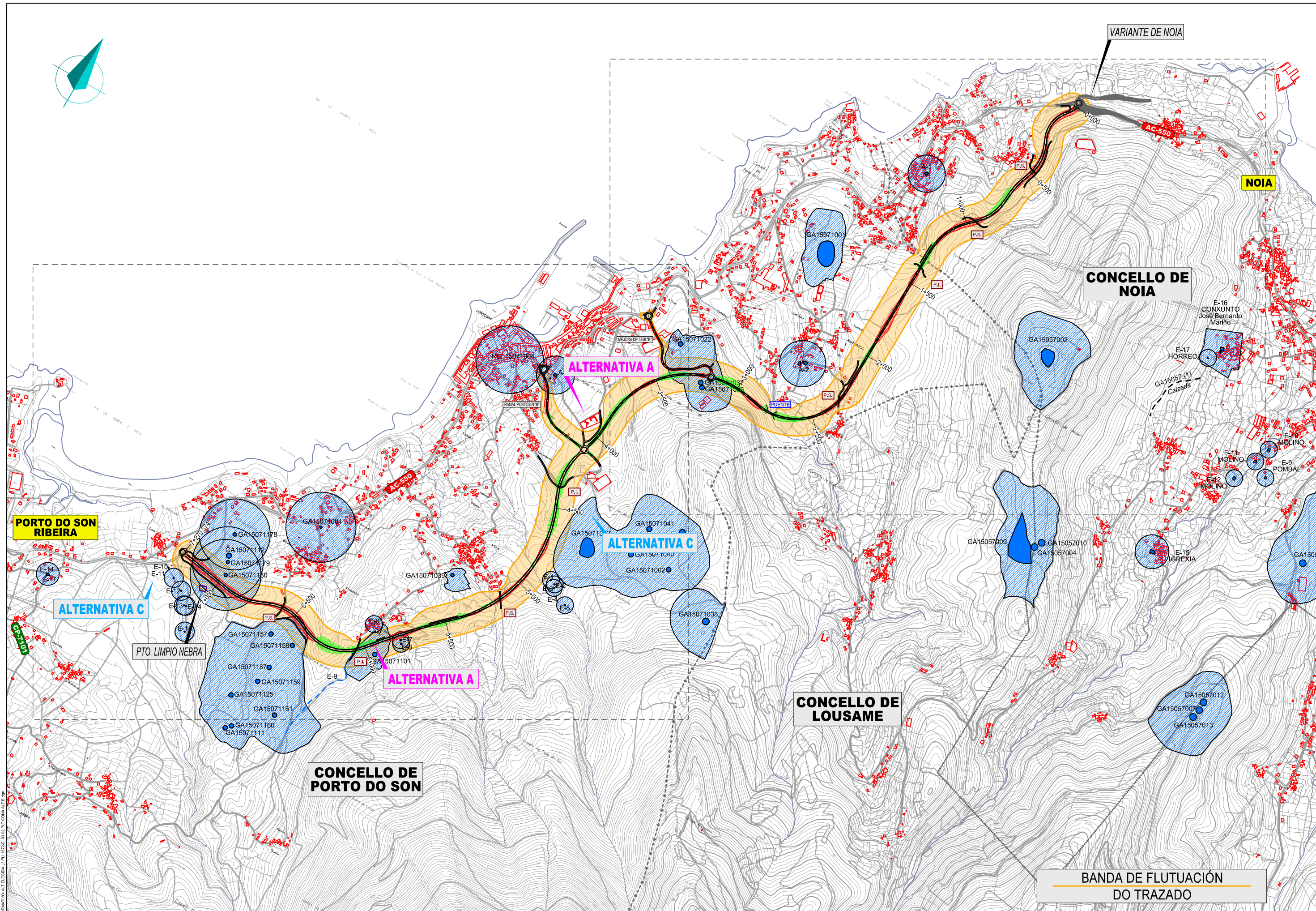
5 PLANOS

A continuación, preséntanse os planos nos que se reflexa o trazado elexido:

ANEXO : ALTERNATIVA ELEXIDA				
Nº DE PLANO		DESIGNACIÓN DO PLANO	ESCALA A3	Nº DE FOLLAS
03	01	ALTERNATIVA B - ORTOFOTO	1/20.000	1
	02	ALTERNATIVA B – PLANTA DE CONXUNTO	1/20.000	1
	03	ALTERNATIVA B – PLANTA DETALLE	1/10.000	2
	04	ALTERNATIVA B – PERFIL LONXITUDINAL	H: 1/5.000 Y V: 1/1.000	7
	05	ALTERNATIVA B – PERFIL TRANSVERSAL	1/1.000	8
	06	SECCIÓNS TIPO	1/100	3
22 PLANOS				



1672662 ESTUDIO INFORMATIVO ANT. ELEGIDA .3 PL. 1672481.03 01 ORTO ALT B.99

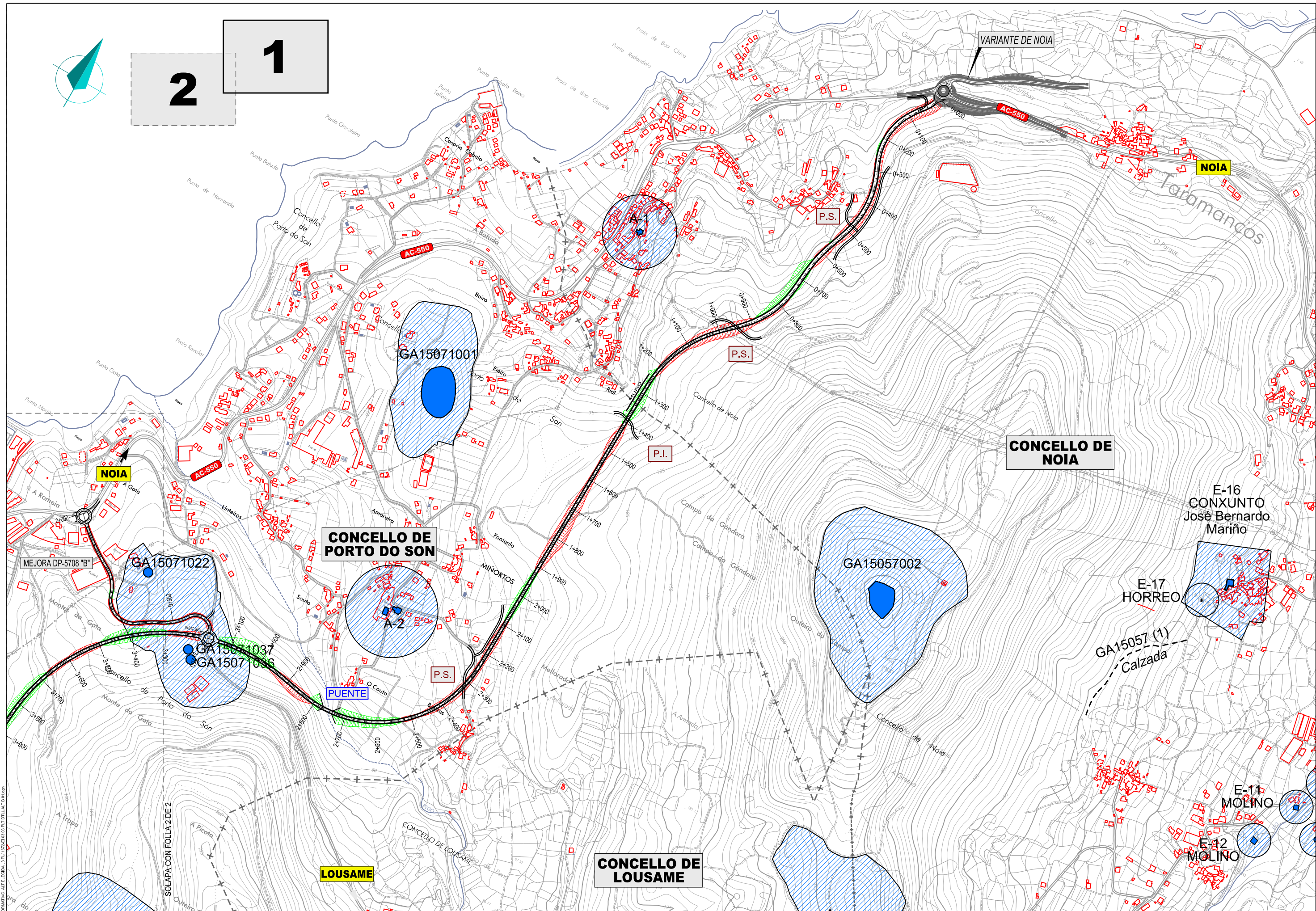


BANDA DE FLUTUACIÓN
DO TRAZADO

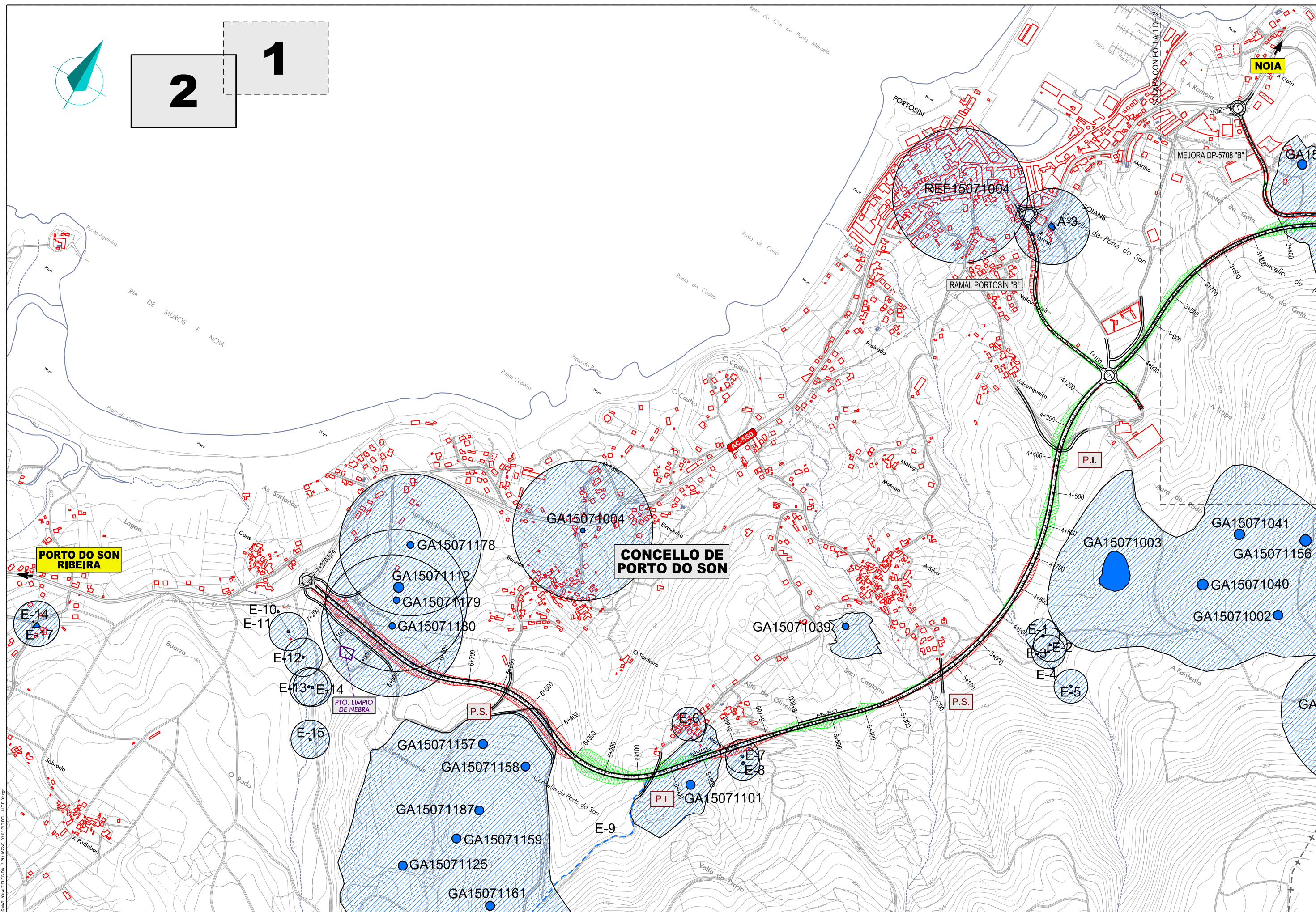


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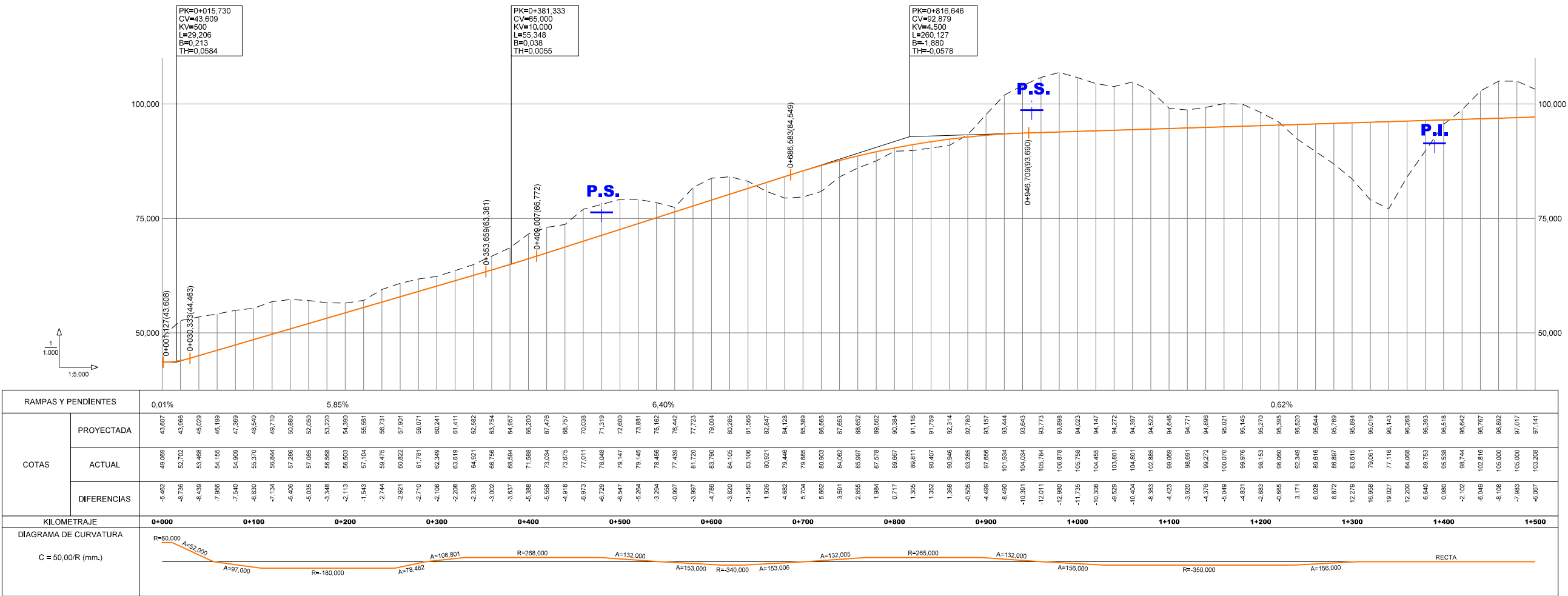
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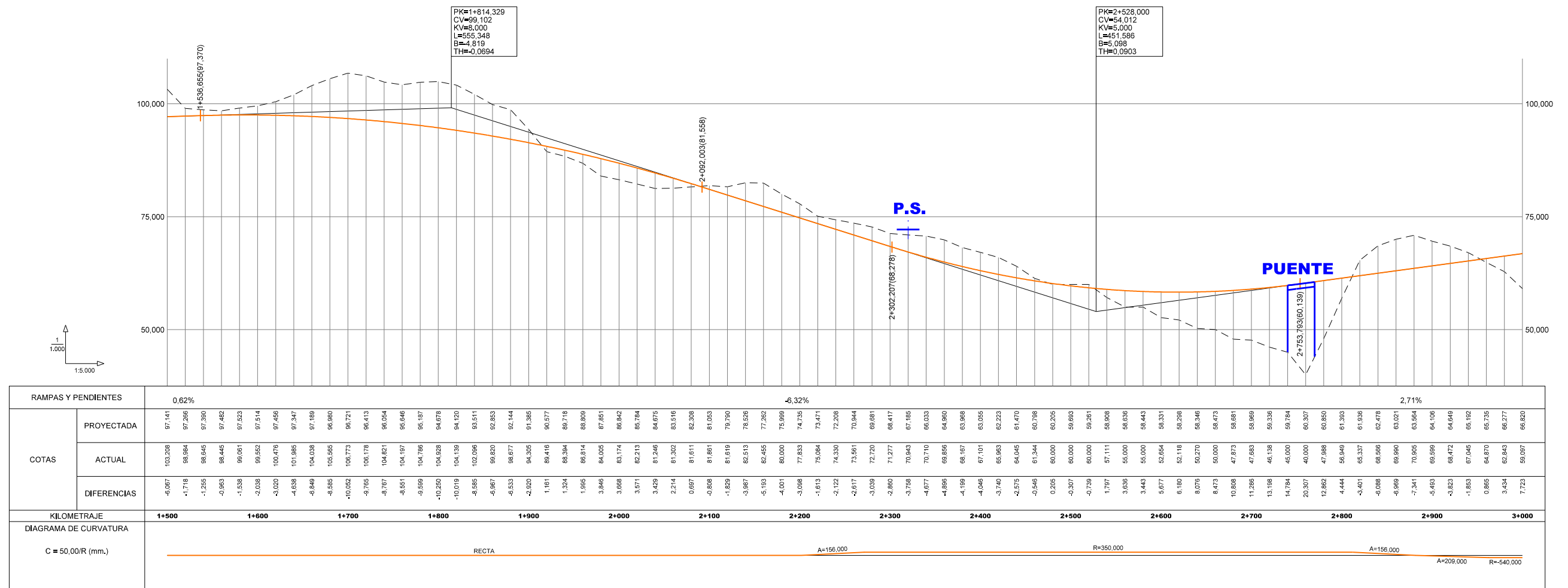
167267 / 2 ESTUDIO INFORMATIVO AL ELEGIDA. 3 PU 167267-03.00 P.L.T. DAT. B. 01.20p



ALTERNATIVA B - TRONCO

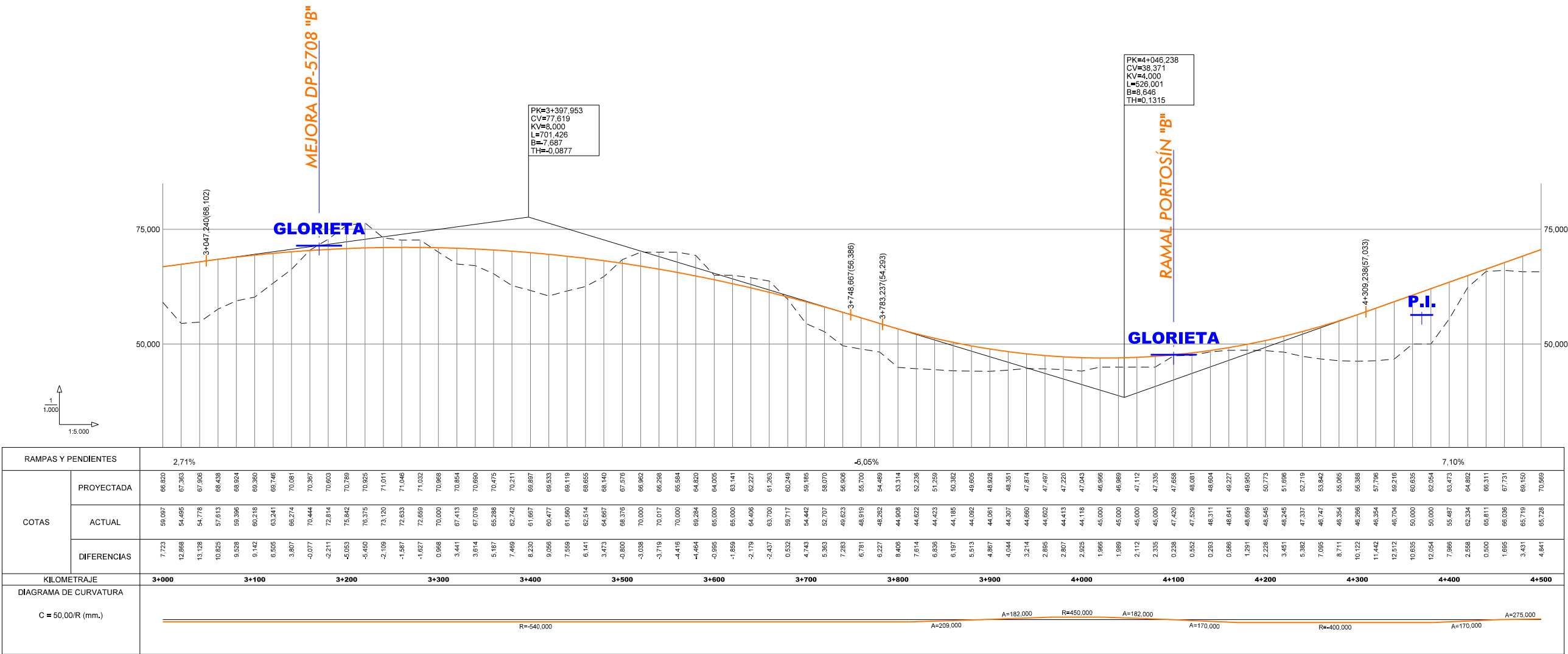


ALTERNATIVA B - TRONCO



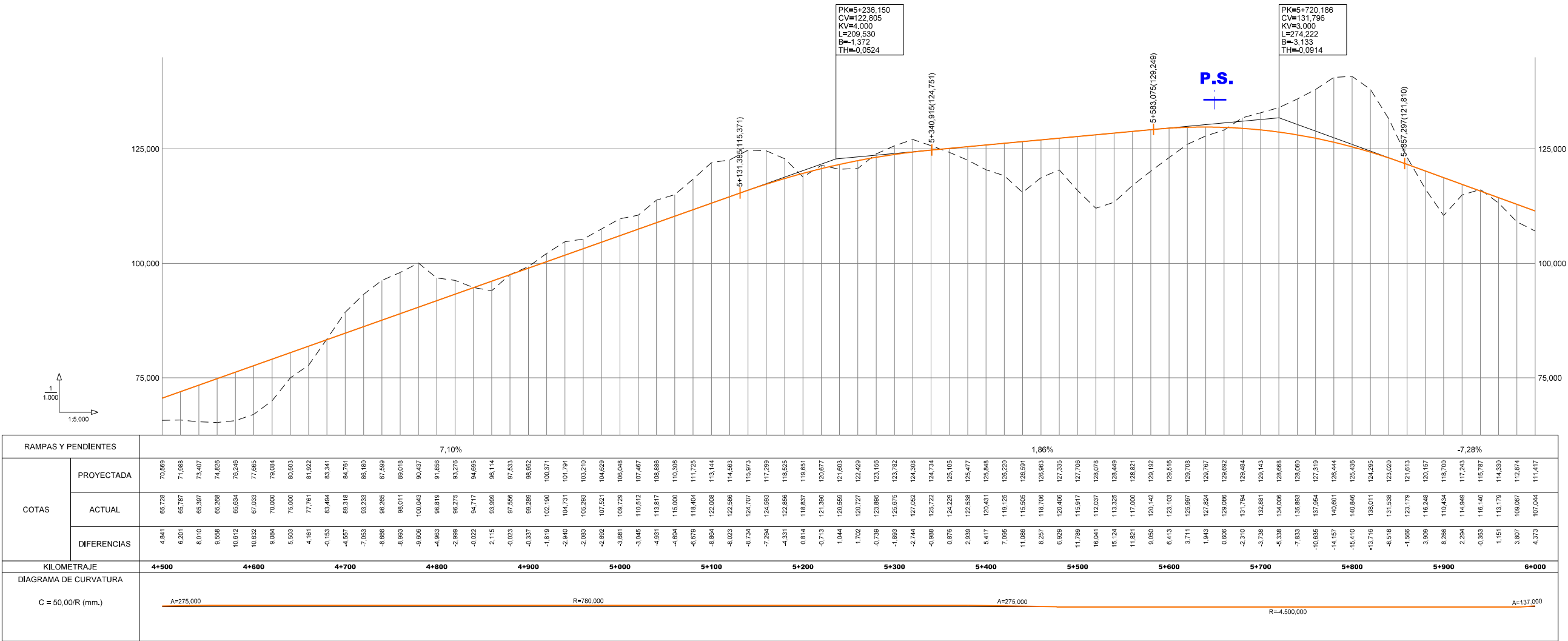
RAMPAS Y PENDIENTES		0.62%										-6.32%										2.71%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
COTAS	PROYECTADA	97.141	97.266	97.390	97.482	97.523	97.514	97.459	97.347	97.189	96.980	96.721	96.413	96.054	95.646	95.187	94.678	94.120	93.511	92.853	92.144	91.385	90.577	89.718	88.809	87.851	86.842	85.784	84.675	83.516	82.308	81.053	79.790	78.526	77.262	80.000	75.999	74.735	73.471	72.208	70.944	69.681	68.417	67.153	65.889	64.625	63.361	62.097	60.833	59.569	58.305	57.041	55.777	54.513	53.249	51.985	50.721	49.457	48.193	46.929	45.665	44.401	43.137	41.873	40.609	39.345	38.081	36.817	35.553	34.289	33.025	31.761	30.497	29.233	27.969	26.705	25.441	24.177	22.913	21.649	20.385	19.121	17.857	16.593	15.329	14.065	12.801	11.537	10.273	9.009	7.745	6.481	5.217	3.953	2.689	1.425	0.161	-1.103	-2.367	-3.631	-4.895	-6.159	-7.423	-8.687	-9.951	-11.215	-12.479	-13.743	-15.007	-16.271	-17.535	-18.799	-20.063	-21.327	-22.591	-23.855	-25.119	-26.383	-27.647	-28.911	-30.175	-31.439	-32.703	-33.967	-35.231	-36.495	-37.759	-39.023	-40.287	-41.551	-42.815	-44.079	-45.343	-46.607	-47.871	-49.135	-50.399	-51.663	-52.927	-54.191	-55.455	-56.719	-57.983	-59.247	-60.511	-61.775	-63.039	-64.303	-65.567	-66.831	-68.095	-69.359	-70.623	-71.887	-73.151	-74.415	-75.679	-76.943	-78.207	-79.471	-80.735	-81.999	-83.263	-84.527	-85.791	-87.055	-88.319	-89.583	-90.847	-92.111	-93.375	-94.639	-95.903	-97.167	-98.431	-99.695	-100.959	-102.223	-103.487	-104.751	-106.015	-107.279	-108.543	-109.807	-111.071	-112.335	-113.599	-114.863	-116.127	-117.391	-118.655	-119.919	-121.183	-122.447	-123.711	-124.975	-126.239	-127.503	-128.767	-130.031	-131.295	-132.559	-133.823	-135.087	-136.351	-137.615	-138.879	-140.143	-141.407	-142.671	-143.935	-145.199	-146.463	-147.727	-148.991	-150.255	-151.519	-152.783	-154.047	-155.311	-156.575	-157.839	-159.103	-160.367	-161.631	-162.895	-164.159	-165.423	-166.687	-167.951	-169.215	-170.479	-171.743	-173.007	-174.271	-175.535	-176.799	-178.063	-179.327	-180.591	-181.855	-183.119	-184.383	-185.647	-186.911	-188.175	-189.439	-190.703	-191.967	-193.231	-194.495	-195.759	-197.023	-198.287	-199.551	-200.815	-202.079	-203.343	-204.607	-205.871	-207.135	-208.399	-209.663	-210.927	-212.191	-213.455	-214.719	-215.983	-217.247	-218.511	-219.775	-221.039	-222.303	-223.567	-224.831	-226.095	-227.359	-228.623	-229.887	-231.151	-232.415	-233.679	-234.943	-236.207	-237.471	-238.735	-240.000	-241.264	-242.528	-243.792	-245.056	-246.320	-247.584	-248.848	-250.112	-251.376	-252.640	-253.904	-255.168	-256.432	-257.696	-258.960	-260.224	-261.488	-262.752	-264.016	-265.280	-266.544	-267.808	-269.072	-270.336	-271.600	-272.864	-274.128	-275.392	-276.656	-277.920	-279.184	-280.448	-281.712	-282.976	-284.240	-285.504	-286.768	-288.032	-289.296	-290.560	-291.824	-293.088	-294.352	-295.616	-296.880	-298.144	-299.408	-300.672	-301.936	-303.200	-304.464	-305.728	-306.992	-308.256	-309.520	-310.784	-312.048	-313.312	-314.576	-315.840	-317.104	-318.368	-319.632	-320.896	-322.160	-323.424	-324.688	-325.952	-327.216	-328.480	-329.744	-331.008	-332.272	-333.536	-334.800	-336.064	-337.328	-338.592	-339.856	-341.120	-342.384	-343.648	-344.912	-346.176	-347.440	-348.704	-349.968	-351.232	-352.496	-353.760	-355.024	-356.288	-357.552	-358.816	-360.080	-361.344	-362.608	-363.872	-365.136	-366.400	-367.664	-368.928	-370.192	-371.456	-372.720	-373.984	-375.248	-376.512	-377.776	-379.040	-380.304	-381.568	-382.832	-384.096	-385.360	-386.624	-387.888	-389.152	-390.416	-391.680	-392.944	-394.208	-395.472	-396.736	-397.999	-399.263	-400.527	-401.791	-403.055	-404.319	-405.583	-406.847	-408.111	-409.375	-410.639	-411.903	-413.167	-414.431	-415.695	-416.959	-418.223	-419.487	-420.751	-422.015	-423.279	-424.543	-425.807	-427.071	-428.335	-429.599	-430.863	-432.127	-433.391	-434.655	-435.919	-437.183	-438.447	-439.711	-440.975	-442.239	-443.503	-444.767	-446.031	-447.295	-448.559	-449.823	-451.087	-452.351	-453.615	-454.879	-456.143	-457.407	-458.671	-459.935	-461.199	-462.463	-463.727	-464.991	-466.255	-467.519	-468.783	-469.951	-471.215	-472.479	-473.743	-475.007	-476.271	-477.535	-478.799	-480.063	-481.327	-482.591	-483.855	-485.119	-486.383	-487.647	-488.911	-490.175	-491.439	-492.703	-493.967	-495.231	-496.495	-497.759	-499.023	-500.287	-501.551	-502.815	-504.079	-505.343	-506.607	-507.871	-509.135	-510.399	-511.663	-512.927	-514.191	-515.455	-516.719	-517.983	-519.247	-520.511	-521.775	-523.039	-524.303	-525.567	-526.831	-528.095	-529.359	-530.623	-531.887	-533.151	-534.415	-535.679	-536.943	-538.207	-539.471	-540.735	-541.999	-543.263	-544.527	-545.791	-547.055	-548.319	-549.583	-550.847	-552.111	-553.375	-554.639	-555.903	-557.167	-558.431	-559.695	-560.959	-562.223	-563.487	-564.751	-566.015	-567.279	-568.543	-569.807	-571.071	-572.335	-573.599	-574.863	-576.127	-577.391	-578.655	-579.919	-581.183	-582.447	-583.711	-584.975	-586.239	-587.503	-588.767	-590.031	-591.295	-592.559	-593.823	-595.087	-596.351	-597.615	-598.879	-600.143	-601.407	-602.671	-603.935	-605.199	-606.463	-607.727	-608.991	-610.255	-611.519	-612.783	-614.047	-615.311	-616.575	-617.839	-619.103	-620.367	-621.631	-622.895	-624.159	-625.423	-626.687	-627.951	-629.215	-630.479	-631.743	-633.007	-634.271	-635.535	-636.799	-638.063	-639.327	-640.591	-641.855	-643.119	-644.383	-645.647	-646.911	-648.175	-649.439	-650.703	-651.967	-653.231	-654.495	-655.759	-657.023	-658.287	-659.551	-660.815	-662.079	-663.343	-664.607	-665.871	-667.135	-668.399	-669.663	-670.927	-672.191	-673.455	-674.719	-675.983	-677.247	-678.511	-679.775	-681.039	-682.303	-683.567	-684.831	-686.095	-687.359	-688.623	-689.887	-691.151	-692.415	-693.679	-694.943	-696.207	-697.471	-698.735	-700.000	-701.264	-702.528	-703.792	-705.056	-706.320	-707.584	-708.848	-710.112	-711.376	-712.640	-713.904	-715.168	-716.432	-717.696	-718.960	-720.224	-721.488	-722.752	-724.016	-725.280	-726.544	-727.808	-729.072	-730.336	-731.600	-732.864	-734.128	-735.392	-736.656	-737.920	-739.184	-740.448	-741.712	-742.976	-744.240	-745.504	-746.768	-748.032	-749.296	-750.560	-751.824	-753.088	-754.352	-755.616	-756.880	-758.144	-759.408	-760.672	-761.936	-763.200	-764.464	-765.728	-766.992	-768.256	-769.520	-770.784	-772.048	-773.312	-774.576	-775.840	-777.104	-778.368	-779.632	-780.896	-782.160	-783.424	-784.688	-785.952	-787.216	-788.480	-789.744	-791.008	-792.272	-793.536	-794.800	-796.064	-797.328	-798.592	-799.856	-801.120	-802.384	-803.648	-804.912	-806.176	-807.440	-808.704	-810.000	-811.264	-812.528	-813.792	-815.056	-816.320	-817.584	-818.848	-820.112	-821.376	-822.640	-823.904	-825.168	-826.432	-827.696	-828.960	-830.224	-831.488	-832.752	-834.016	-835.280	-836.544	-837.808	-839.072	-840.336	-841.600	-842.864	-844.128	-845.392	-846.656	-847.920	-849.184	-850.448	-851.712	-852.976	-854.240	-855.504	-856.768	-858.032	-859.296	-860.560	-861.824	-863.088	-864.352	-865.616	-866.880	-868.144	-869.408	-870.672	-871.936	-873.200	-874.464	-875.728	-876.992	-878.256	-879.520	-880.784	-882.048	-883.312	-884.576	-885.840	-887.104	-888.368	-889.632	-890.896	-892.160	-893.424	-894.688	-895.952	-897.216	-898.480	-899.744	-901.008	-902.272	-903.536	-904.800	-906.064	-907.328	-908.592	-909.856	-911.120	-912.384	-913.648	-914.912	-916.176	-917.440	-918.704	-920.000	-921.264	-922.528	-923.792	-925.056	-926.320	-927.584	-928.848	-930.112	-931.376	-932.640	-933.904	-935.168	-936.432	-937.696	-938.960	-940.224	-941.488	-942.752	-944.016	-945.280	-946.544	-947.808	-949.072	-950.336	-951.600	-952.864	-954.128	-955.392	-956.656	-957.920	-959.184	-960.448	-961.712	-962.976	-964.240	-965.504	-966.768	-968.032	-969.296	-970.560	-971.824	-973.088	-974.352	-975.616	-976.880	-978.144	-979.408	-980.672	-981.936	-983.200	-984.464	-985.728	-986.992	-988.256	-989.520	-990.784	-992.048	-993.312	-994.576	-995.840	-997.104	-998.368	-999.632	-1000.900	-1002.164	-1003.428	-1004.692	-1005.956	-1007.220	-1008.484	-1009.748	-1011.012	-1012.276	-1013.540	-1014.804	-1016.068	-1017.332	-1018.596	-1019.860	-1021.124	-1022.388	-1023.652	-1024.916	-1026.180	-1027.444	-1028.708	-1029.972	-1031.236	-1032.500	-1033.764	-1035.028	-1036.292	-1037.556	-1038.820	-1040.084	-1041.348	-1042.612	-1043.876	-1045.140	-1046.404	-1047.668	-1048.932	-1050.196	-1051.460	-1052.724	-1053.988	-1055.252	-1056.516	-1057.780	-1059.044	-1060.308	-1061.572	-1062.836	-1064.100	-1065.364	-1066.628	-1067.892	-1069.156	-1070.420	-1071.684	-1072.948	-1074.212	-1075.476	-1076.740	-1078.004	-1079.268	-1080.532	-1081.796	-1083.060	-1084.324	-1085.588	-1086.852	-1088.116	-1089.380	-1090.644	-1091.908	-1093.172	-1094.436	-1095.700	-1096.964	-1098.228	-1099.492	-1100.756	-1102.020	-1103.284	-1104.548	-1105.812	-1107.076	-1108.340	-1109.604	-1110.868	-1112.132	-1113.396	-1114.660	-1115.924	-1117.188	-1118.452	-1119.716	-1120.980	-1122.244	-1123.508	-1124.772	-1126.036	-1127.300</

ALTERNATIVA B - TRONCO



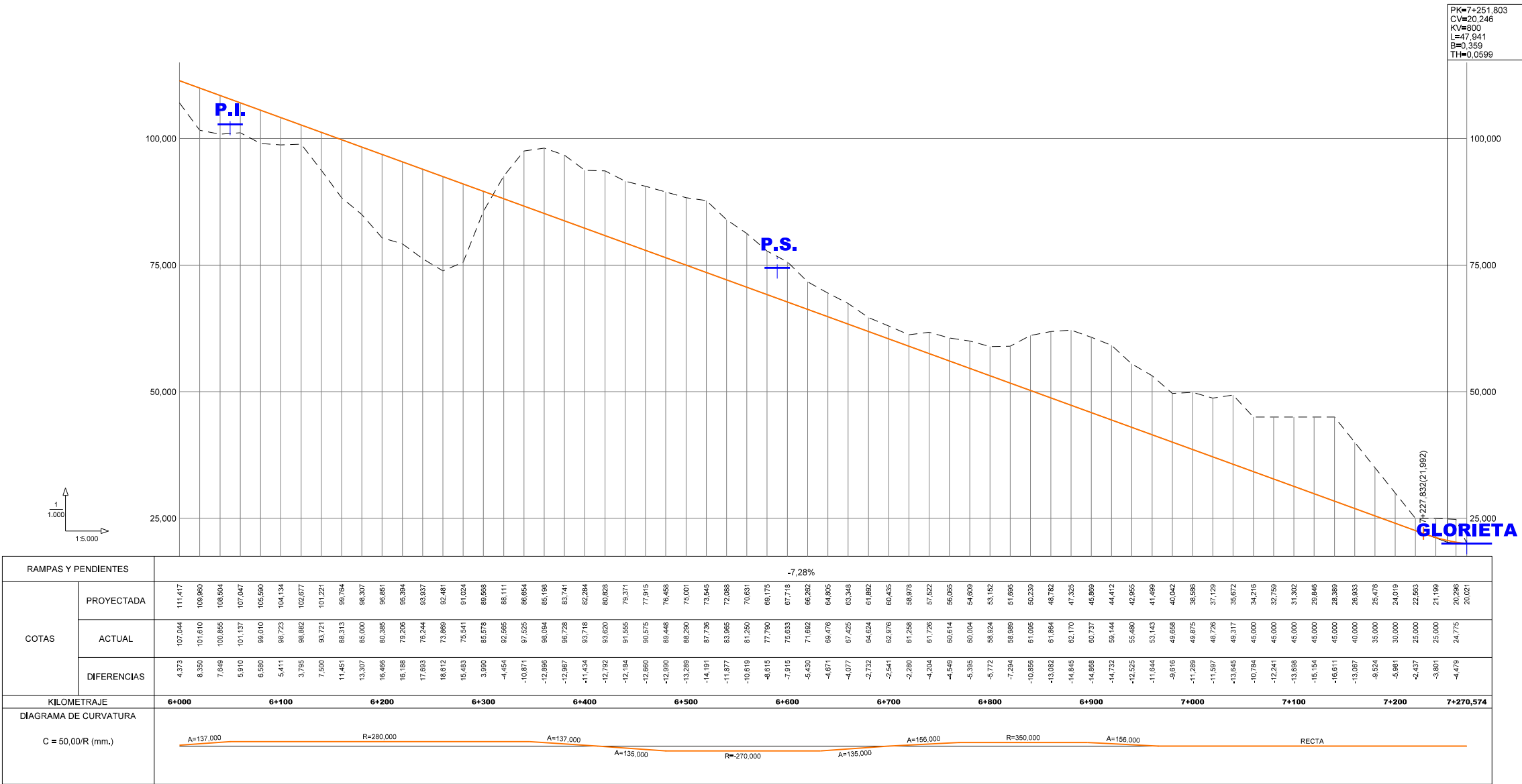
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ALTERNATIVA B - TRONCO

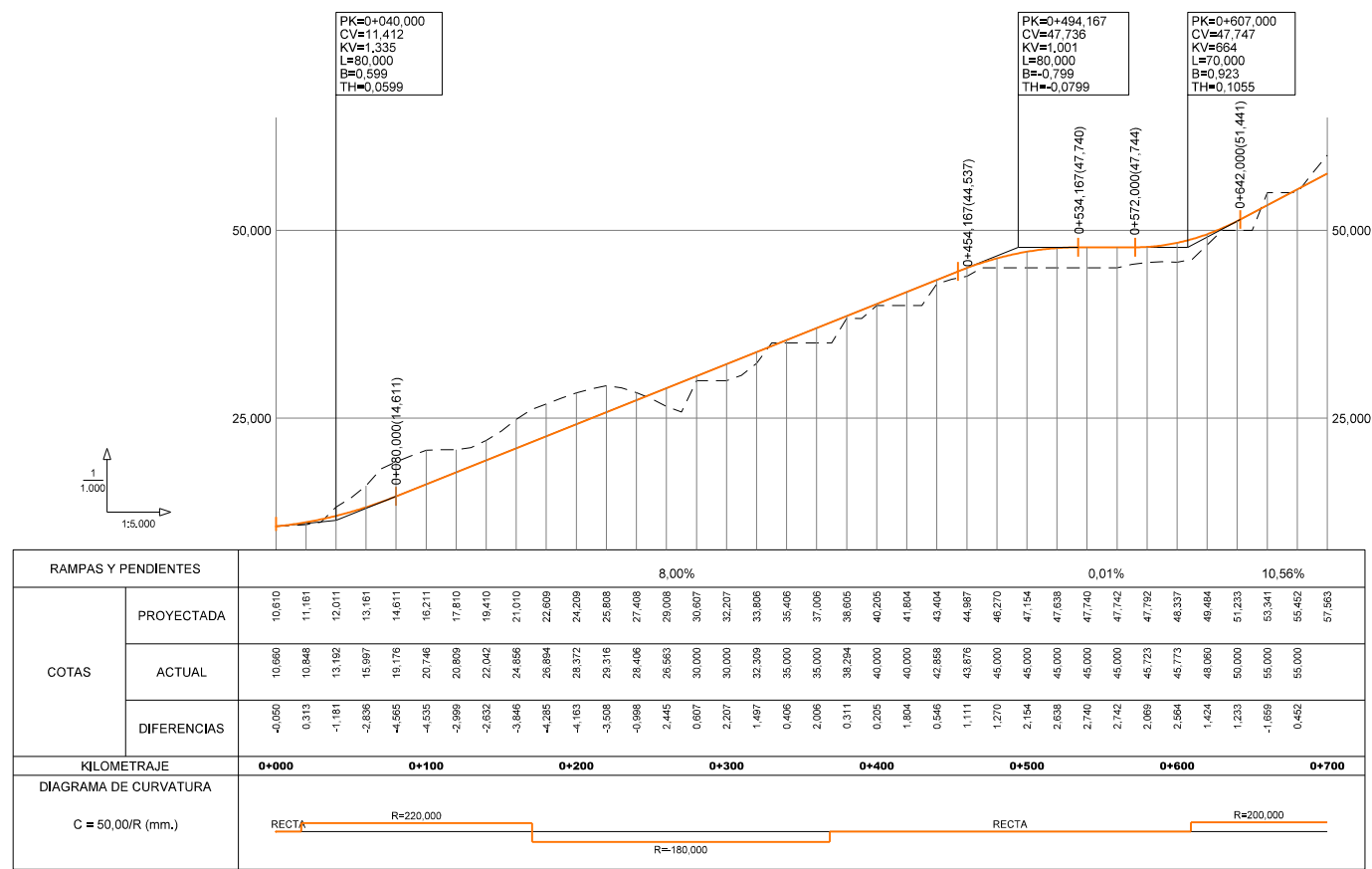


RAMPAS Y PENDIENTES		7,10%										1,86%										-7,28%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
COTAS	PROYECTADA	70.569	71.988	73.407	74.826	76.246	77.665	79.084	80.503	81.922	83.341	84.761	86.180	87.599	89.018	90.437	91.856	93.276	94.695	96.114	97.533	98.952	100.371	101.791	103.210	104.629	106.048	107.467	108.886	110.306	111.725	113.144	114.563	115.983	117.402	118.821	120.240	121.659	123.078	124.497	125.916	127.335	128.754	130.173	131.592	133.011	134.430	135.849	137.268	138.687	140.106	141.525	142.944	144.363	145.782	147.201	148.620	150.039	151.458	152.877	154.296	155.715	157.134	158.553	159.972	161.391	162.810	164.229	165.648	167.067	168.486	169.905	171.324	172.743	174.162	175.581	176.999	178.418	179.837	181.256	182.675	184.094	185.513	186.932	188.351	189.770	191.189	192.608	194.027	195.446	196.865	198.284	199.703	201.122	202.541	203.960	205.379	206.798	208.217	209.636	211.055	212.474	213.893	215.312	216.731	218.150	219.569	220.988	222.407	223.826	225.245	226.664	228.083	229.502	230.921	232.340	233.759	235.178	236.597	238.016	239.435	240.854	242.273	243.692	245.111	246.530	247.949	249.368	250.787	252.206	253.625	255.044	256.463	257.882	259.301	260.720	262.139	263.558	264.977	266.396	267.815	269.234	270.653	272.072	273.491	274.910	276.329	277.748	279.167	280.586	282.005	283.424	284.843	286.262	287.681	289.100	290.519	291.938	293.357	294.776	296.195	297.614	299.033	300.452	301.871	303.290	304.709	306.128	307.547	308.966	310.385	311.804	313.223	314.642	316.061	317.480	318.899	320.318	321.737	323.156	324.575	325.994	327.413	328.832	330.251	331.670	333.089	334.508	335.927	337.346	338.765	340.184	341.603	343.022	344.441	345.860	347.279	348.698	350.117	351.536	352.955	354.374	355.793	357.212	358.631	360.050	361.469	362.888	364.307	365.726	367.145	368.564	369.983	371.402	372.821	374.240	375.659	377.078	378.497	379.916	381.335	382.754	384.173	385.592	387.011	388.430	389.849	391.268	392.687	394.106	395.525	396.944	398.363	399.782	401.201	402.620	404.039	405.458	406.877	408.296	409.715	411.134	412.553	413.972	415.391	416.810	418.229	419.648	421.067	422.486	423.905	425.324	426.743	428.162	429.581	430.999	432.418	433.837	435.256	436.675	438.094	439.513	440.932	442.351	443.770	445.189	446.608	448.027	449.446	450.865	452.284	453.703	455.122	456.541	457.960	459.379	460.798	462.217	463.636	465.055	466.474	467.893	469.312	470.731	472.150	473.569	474.988	476.407	477.826	479.245	480.664	482.083	483.502	484.921	486.340	487.759	489.178	490.597	492.016	493.435	494.854	496.273	497.692	499.111	500.530	501.949	503.368	504.787	506.206	507.625	509.044	510.463	511.882	513.301	514.720	516.139	517.558	518.977	520.396	521.815	523.234	524.653	526.072	527.491	528.910	530.329	531.748	533.167	534.586	536.005	537.424	538.843	540.262	541.681	543.100	544.519	545.938	547.357	548.776	550.195	551.614	553.033	554.452	555.871	557.290	558.709	560.128	561.547	562.966	564.385	565.804	567.223	568.642	570.061	571.480	572.899	574.318	575.737	577.156	578.575	580.000	581.419	582.838	584.257	585.676	587.095	588.514	589.933	591.352	592.771	594.190	595.609	597.028	598.447	599.866	601.285	602.704	604.123	605.542	606.961	608.380	609.799	611.218	612.637	614.056	615.475	616.894	618.313	619.732	621.151	622.570	623.989	625.408	626.827	628.246	629.665	631.084	632.503	633.922	635.341	636.760	638.179	639.598	641.017	642.436	643.855	645.274	646.693	648.112	649.531	650.950	652.369	653.788	655.207	656.626	658.045	659.464	660.883	662.302	663.721	665.140	666.559	667.978	669.397	670.816	672.235	673.654	675.073	676.492	677.911	679.330	680.749	682.168	683.587	685.006	686.425	687.844	689.263	690.682	692.101	693.520	694.939	696.358	697.777	699.196	700.615	702.034	703.453	704.872	706.291	707.710	709.129	710.548	711.967	713.386	714.805	716.224	717.643	719.062	720.481	721.900	723.319	724.738	726.157	727.576	728.995	730.414	731.833	733.252	734.671	736.090	737.509	738.928	740.347	741.766	743.185	744.604	746.023	747.442	748.861	750.280	751.699	753.118	754.537	755.956	757.375	758.794	760.213	761.632	763.051	764.470	765.889	767.308	768.727	770.146	771.565	772.984	774.403	775.822	777.241	778.660	780.079	781.498	782.917	784.336	785.755	787.174	788.593	790.012	791.431	792.850	794.269	795.688	797.107	798.526	799.945	801.364	802.783	804.202	805.621	807.040	808.459	809.878	811.297	812.716	814.135	815.554	816.973	818.392	819.811	821.230	822.649	824.068	825.487	826.906	828.325	829.744	831.163	832.582	833.999	835.418	836.837	838.256	839.675	841.094	842.513	843.932	845.351	846.770	848.189	849.608	851.027	852.446	853.865	855.284	856.703	858.122	859.541	860.960	862.379	863.798	865.217	866.636	868.055	869.474	870.893	872.312	873.731	875.150	876.569	877.988	879.407	880.826	882.245	883.664	885.083	886.502	887.921	889.340	890.759	892.178	893.597	895.016	896.435	897.854	899.273	900.692	902.111	903.530	904.949	906.368	907.787	909.206	910.625	912.044	913.463	914.882	916.301	917.720	919.139	920.558	921.977	923.396	924.815	926.234	927.653	929.072	930.491	931.910	933.329	934.748	936.167	937.586	938.999	940.418	941.837	943.256	944.675	946.094	947.513	948.932	950.351	951.770	953.189	954.608	956.027	957.446	958.865	960.284	961.703	963.122	964.541	965.960	967.379	968.798	970.217	971.636	973.055	974.474	975.893	977.312	978.731	980.150	981.569	982.988	984.407	985.826	987.245	988.664	990.083	991.502	992.921	994.340	995.759	997.178	998.597	1000.016	1001.435	1002.854	1004.273	1005.692	1007.111	1008.530	1009.949	1011.368	1012.787	1014.206	1015.625	1017.044	1018.463	1019.882	1021.301	1022.720	1024.139	1025.558	1026.977	1028.396	1029.815	1031.234	1032.653	1034.072	1035.491	1036.910	1038.329	1039.748	1041.167	1042.586	1044.005	1045.424	1046.843	1048.262	1049.681	1051.100	1052.519	1053.938	1055.357	1056.776	1058.195	1059.614	1061.033	1062.452	1063.871	1065.290	1066.709	1068.128	1069.547	1070.966	1072.385	1073.804	1075.223	1076.642	1078.061	1079.480	1080.899	1082.318	1083.737	1085.156	1086.575	1087.994	1089.413	1090.832	1092.251	1093.670	1095.089	1096.508	1097.927	1099.346	1100.765	1102.184	1103.603	1105.022	1106.441	1107.860	1109.279	1110.698	1112.117	1113.536	1114.955	1116.374	1117.793	1119.212	1120.631	1122.050	1123.469	1124.888	1126.307	1127.726	1129.145	1130.564	1131.983	1133.402	1134.821	1136.240	1137.659	1139.078	1140.497	1141.916	1143.335	1144.754	1146.173	1147.592	1149.011	1150.430	1151.849	1153.268	1154.687	1156.106	1157.525	1158.944	1160.363	1161.782	1163.201	1164.620	1166.039	1167.458	1168.877	1170.296	1171.715	1173.134	1174.553	1175.972	1177.391	1178.810	1180.229	1181.648	1183.067	1184.486	1185.905	1187.324	1188.743	1190.162	1191.581	1192.999	1194.418	1195.837	1197.256	1198.675	1200.094	1201.513	1202.932	1204.351	1205.770	1207.189	1208.608	1210.027	1211.446	1212.865	1214.284	1215.703	1217.122	1218.541	1219.960	1221.379	1222.798	1224.217	1225.636	1227.055	1228.474	1229.893	1231.312	1232.731	1234.150	1235.569	1236.988	1238.407	1239.826	1241.245	1242.664	1244.083	1245.502	1246.921	1248.340	1249.759	1251.178	1252.597	1254.016	1255.435	1256.854	1258.273	1259.692	1261.111	1262.530	1263.949	1265.368	1266.787	1268.206	1269.625	1271.044	1272.463	1273.882	1275.301	1276.720	1278.139	1279.558	1280.977	1282.396	1283.815	1285.234	1286.653	1288.072	1289.491	1290.910	1292.329	1293.748	1295.167	1296.586	1298.005	1299.424	1300.843	1302.262	1303.681	1305.100	1306.519	1307.938	1309.357	1310.776	1312.195	1313.614	1315.033	1316.452	1317.871	1319.290	1320.709	1322.128	1323.547	1324.966	1326.385	1327.804	1329.223	1330.642	1332.061	1333.480	1334.899	1336.318	1337.737	1339.156	1340.575	1341.994	1343.413	1344.832	1346.251	1347.670	1349.089	1350.508	1351.927	1353.346	1354.765	1356.184	1357.603	1359.022	1360.441	1361.860	1363.279	1364.698	1366.117	1367.536	1368.955	1370.374	1371.793	1373.212	1374.631	1376.050	1377.469	1378.888	1380.307	1381.726	1383.145	1384.564	1385.983	1387.402	1388.821	1390.240	1391.659	1393.078	1394.497	1395.916	1397.335	1398.754	1400.173	1401.592	1403.011	1404.430	1405.849	1407.268	1408.687	1410.106	1411.525	1412.944	1414.363	1415.782	1417.201	1418.620	1420.039	1421.458	1422.877	1424.296	1425.715	1427.134	1428.553	1429.972	1431.391	1432.810	1434.229	1435.648	1437.067	1438.486	1439.905	1441.324	1442.743	1444.162	1445.581	1446.999	1448.418	1449.837	1451.256	1452.675	1454.094	1455.513	1456.932	1458.351	1459.770	1461.189	1462.608	1464.027	1465.446	1466.865	1468.284	1469.703	1471.122	1472.541	1473.960	1475.379	1476.798	1478.217	1479.636	1481.055	1482.474	1483.893	1485.312	1

ALTERNATIVA B - TRONCO



ALTERNATIVA B - MEJORA DP-5708 "B"



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ALTERNATIVA B - RAMAL PORTOSÍN "B"

