



MUNICÍPIO: Mercedes – PR
TRECHO: Linha Sanga Ituporanga
EXTENSÃO: 4,06 km

PROJETO DE ENGENHARIA PARA IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA

VOLUME 2 - PROJETO EXECUTIVO

AGOSTO/2025

Duovias Engenharia Ltda



PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

SUMÁRIO

- 1. APRESENTAÇÃO
- 2. CARACTERÍSTICAS TÉCNICAS
- 3. PROJETO GEOMÉTRICO
- 4. PROJETO DE TERRAPLANAGEM
- 5. PROJETO DE PAVIMENTAÇÃO
- 6. PROJETO DE SINALIZAÇÃO



PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

1. APRESENTAÇÃO



1. APRESENTAÇÃO

Este volume, denominado **Volume 2: Projeto Executivo**, apresenta os serviços realizados para o **Projeto Executivo** de Pavimentação Asfáltica em Concreto Betuminoso Usinado a Quente (CBUQ), composto por serviços de sub-base, base, pavimentação, sinalização horizontal e vertical em uma extensão de 4.065,51 m, na Linha Sanga Ituporanga, do município de Mercedes/PR.

O Projeto Executivo de Engenharia aqui apresentado foi elaborado em cumprimento às disposições contidas foi desenvolvido de acordo com as normas e diretrizes do DNIT e DER/PR, visando garantir os parâmetros de desempenho, através de soluções que atendam técnica e economicamente as necessidades e expectativas da população, contendo: projeto geométrico, projeto de terraplanagem, projeto de pavimentação e o projeto de sinalização horizontal e vertical.

Constam nesse projeto os seguintes volumes:

- Volume 1: Memória Justificativa
- **Volume 2: Projeto Executivo**
- Volume 3: Orçamento da Obra.



PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

2. CARACTERÍSTICAS TÉCNICAS

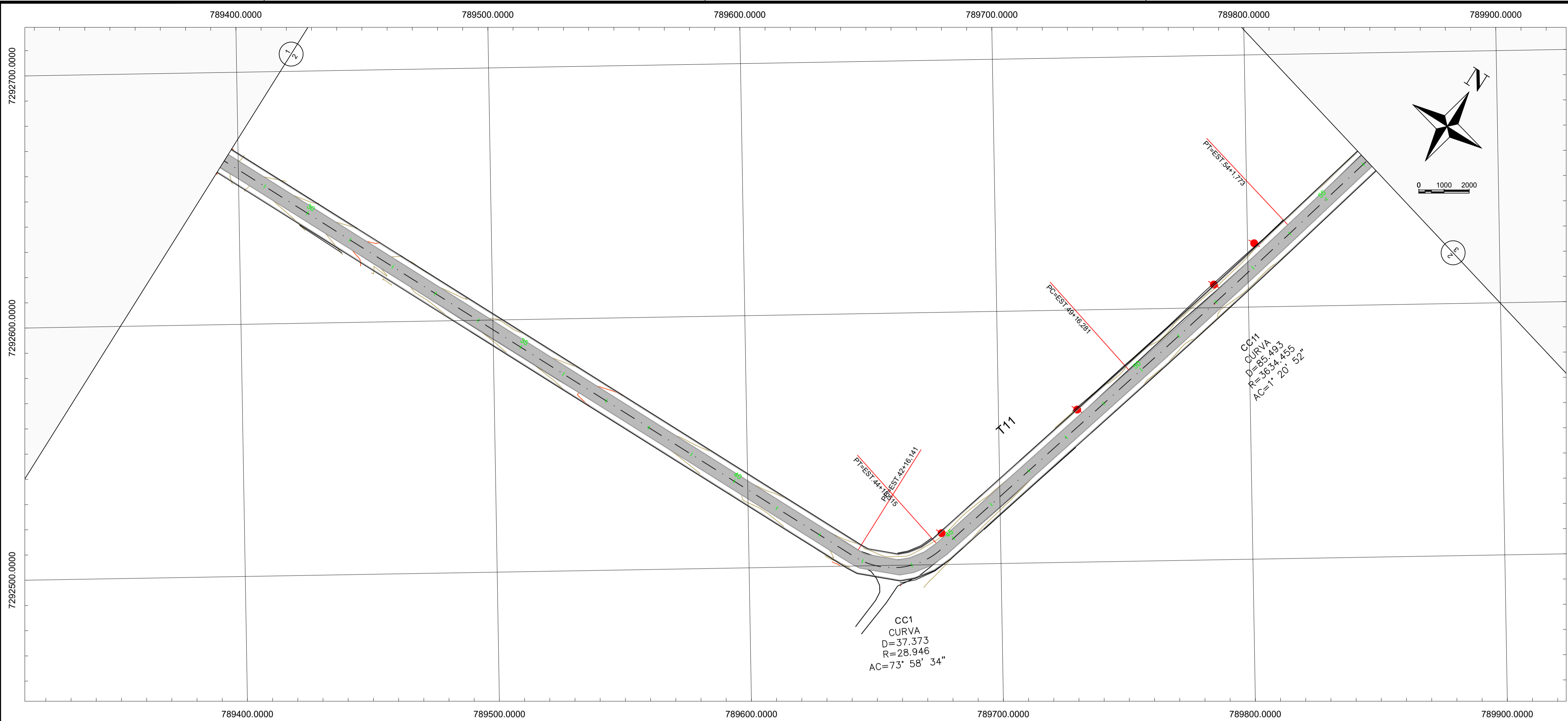
CARACTERÍSTICAS TÉCNICAS										
RODOVIA: SECUND.		Extensão: 4.065,51m						RAMPA MÁXIMA: 7.76% EM 130,00m		
TRECHO: MERCEDES (SANGA ITUPORANGA)					DIST. MIN. DE VISIB DE PARADA:			PISTA DE ROLAMENTO:		
RELEVO DA REGIÃO: ONDULADO					DIST. MIN.DE VISIB.DE ULTRAPASSAGEM:					
CLASSE DA RODOVIA: IV					SUPERELEVAÇÃO MÁXIMA:			SARJETAS:		
VELOCIDADE DA DIRETRIZ: 60,00 KM/H					SUPERLARGURA MÁXIMA:			PLATAFORMA DE TERRAPLENAGEM: 8,00m		
DECLIVIDADE TRANSVERSAL DA PLATAFORMA EM TANGENTE: 2%					INCLINAÇÃO DO TALUDE:			CORTE: 1ª E 2ª Cat. 1:1 (3ª Cat. = 4:1) ATERRO: 3:2		
PLANTA					PERFIL					
CURVAS	EXTENSÃO TOTAL: 331,41m				RAMPAS	ACLIVES		NIVEL (m)	DECLIVES	
	SEM TRANSIÇÃO	FREQUÊNCIA: 1				(%)	(m)		(%)	(m)
		EXTENSÃO TOTAL: 331,41m				0 a 1	30,00	0 a 1	180,00	
		RAIO MINÍMO: 30,00				1 a 2		1 a 2		
						2 a 3	110,00	2 a 3		
	COM TRANSIÇÃO	FREQUÊNCIA:				3 a 4	130,00	3 a 4		
		EXTENSÃO TOTAL:				4 a 5		4 a 5	113,37	
		RAIO MINÍMO:				5 a 6	20,00	5 a 6		
						6 a 7		6 a 7		
						7 a 8	130,00	7 a 8		
			8 a 10			8 a 10				
TANGENTE	EXTENSÃO TOTAL: 4.065,51m					10 a 12		10 a 12		
	TANGENTE MINÍMA: 8,58m					TOTAIS	420,00	—		293,37
	TANGENTE MÁXIMA: 848,97m				CURVAS	PARÂMETROS	VALORES MÍNIMOS			EXTENSÃO TOTAL
							K	FREQUÊNCIA	EXTENSÃO	
				CONCAVAS		0,00007	1	120,00	500,00	
				CONVEXAS	0,00010	1	120,00	660,00		

 PREFEITURA DE MERCEDES	PREFEITURA MUNICIPAL DE MERCEDES			Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA	
	RODOVIA: LINHA SANGA-ITUPORANGA			POLIANA TONIETO CITTADELLA Eng. Civil - CREA 162.706/D	
	TRECHO: PROJETO DE PAVIMENTAÇÃO ASFÁLTICA			Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.660-000	
	PROJETO: CARACTERÍSTICAS TÉCNICAS			e-mail: engenharia@duovias.com.br	
	RESPONSABILIDADE TÉCNICA PROJETO:		PROPRIETÁRIO:		EMIÇÃO INICIAL: AGOSTO/2025
POLIANA TONIETO CITTADELLA Eng. Civil - CREA PR 162.706/D		PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 95.719.373/0001-23		ÁREA: -	01
				ESCALA: SEM ESCALA	

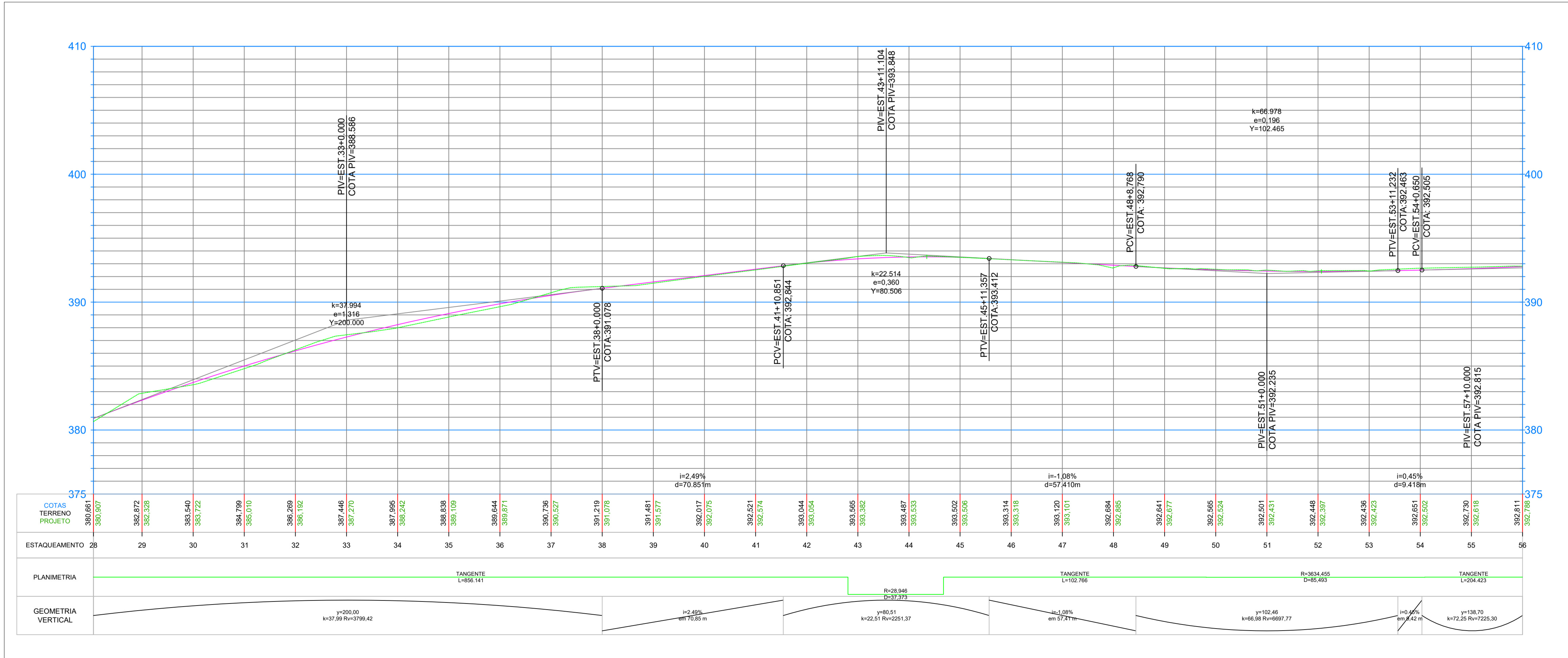


PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

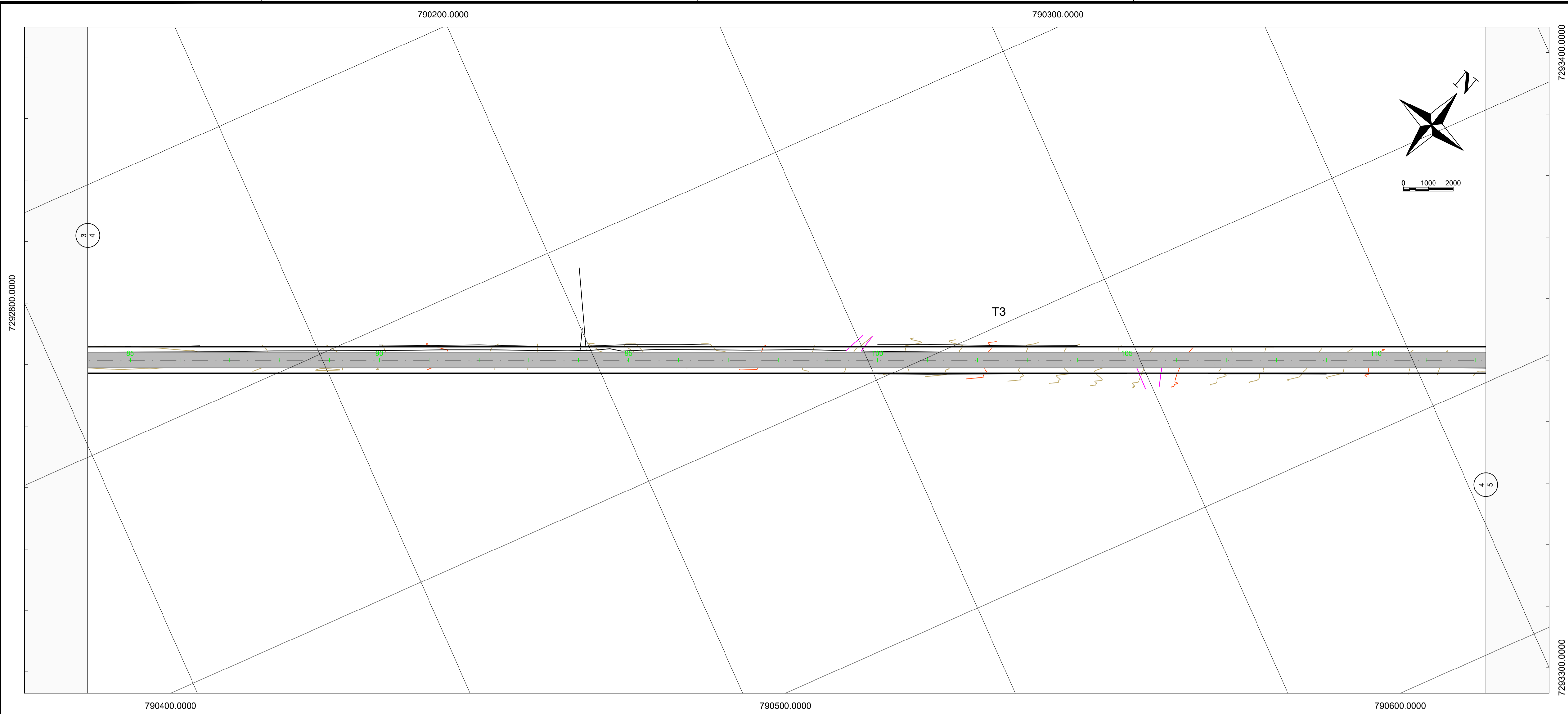
3. PROJETO GEOMÉTRICO



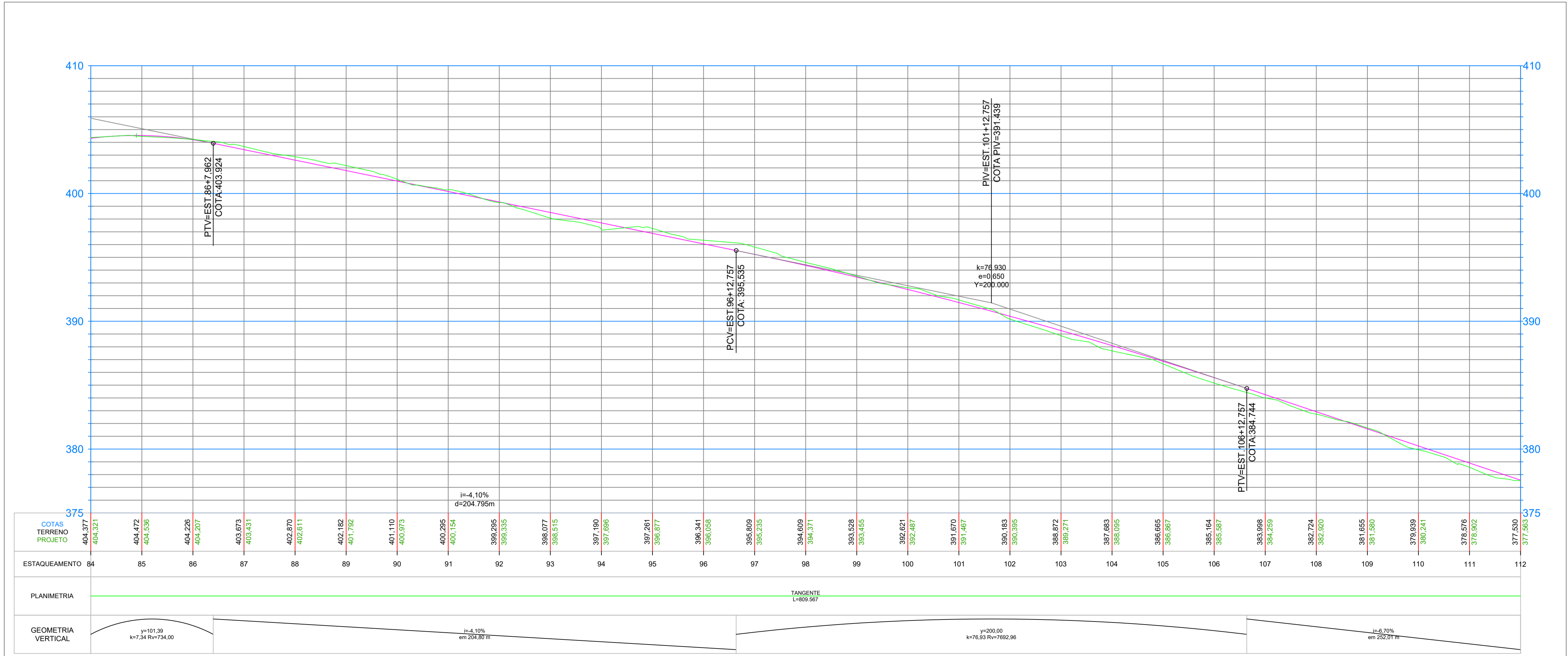
- LEGENDA:
- CURVAS DE NIVEIS MESTRAS
 - CURVAS DE NIVEIS AUXILIARES
 - MURO EXISTENTE
 - CERCA EXISTENTE
 - TUBULAÇÃO EXISTENTE
 - ACESSOS EXISTENTES
 - BORDO DA PISTA PROJETADO
 - BORDO DA PISTA PROJETADO
 - LINHA DE TRANSMISSÃO DE ENERGIA
 - ÁREA A PAVIMENTAR
 - POLIÉDRO EXISTENTE
 - POSTE DE ENERGIA
 - ÁRVORES EXISTENTES



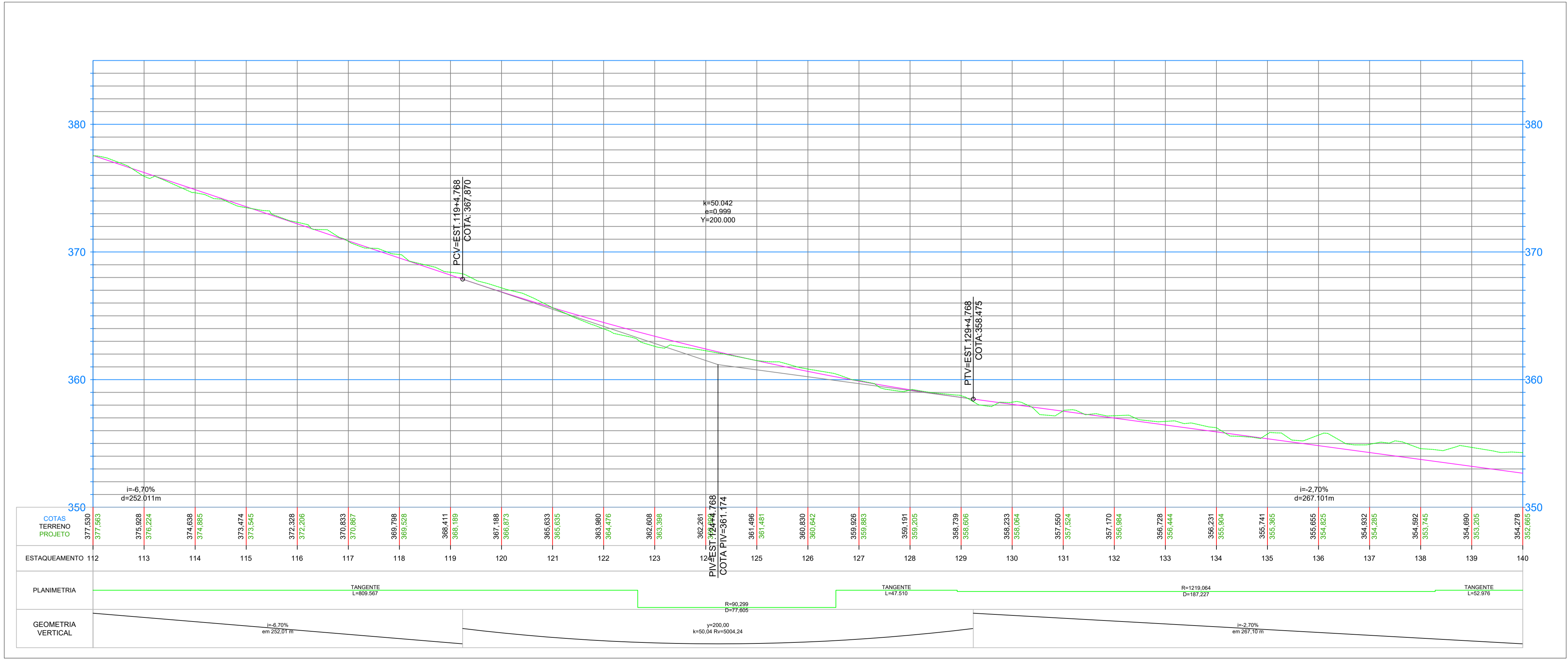
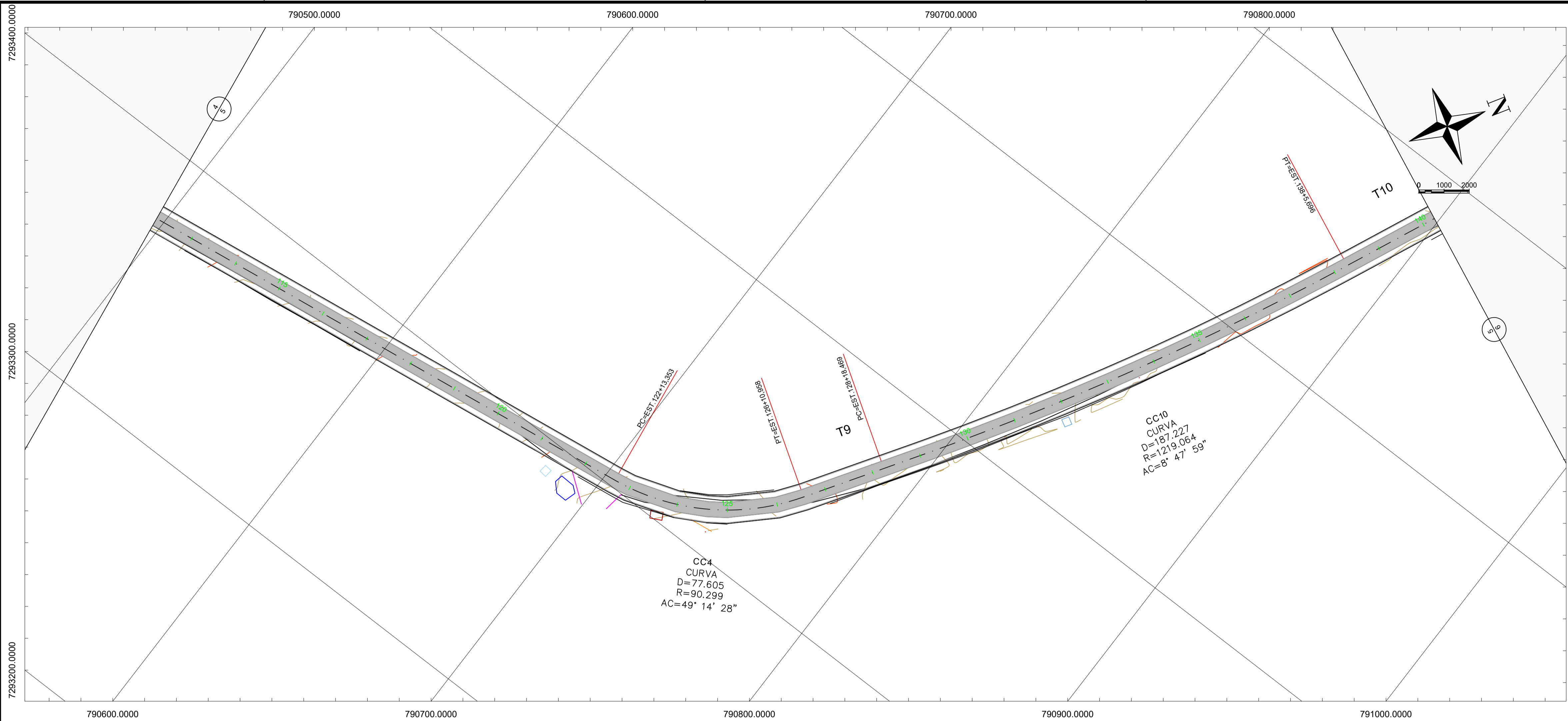
	PREFEITURA MUNICIPAL DE MERCEDES	Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA POLIANA TONETTO CITADELLA Eng. Civil - CREA 162.706/D
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA	Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.660-000
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA	e-mail: engenharia@duovias.com.br
	PROJETO: PROJETO GEOMÉTRICO	PRANCHAS: ÁREA: ESCALA: 1:1000
RESPONSABILIDADE TÉCNICA PROJETO:	PROPRIETÁRIO:	02
POLIANA TONETTO CITADELLA Eng. Civil - CREA PR 162.706/D	PREFEITURA MUNICIPAL DE MERCEDES CNPJ 35.719.373/0001-23	

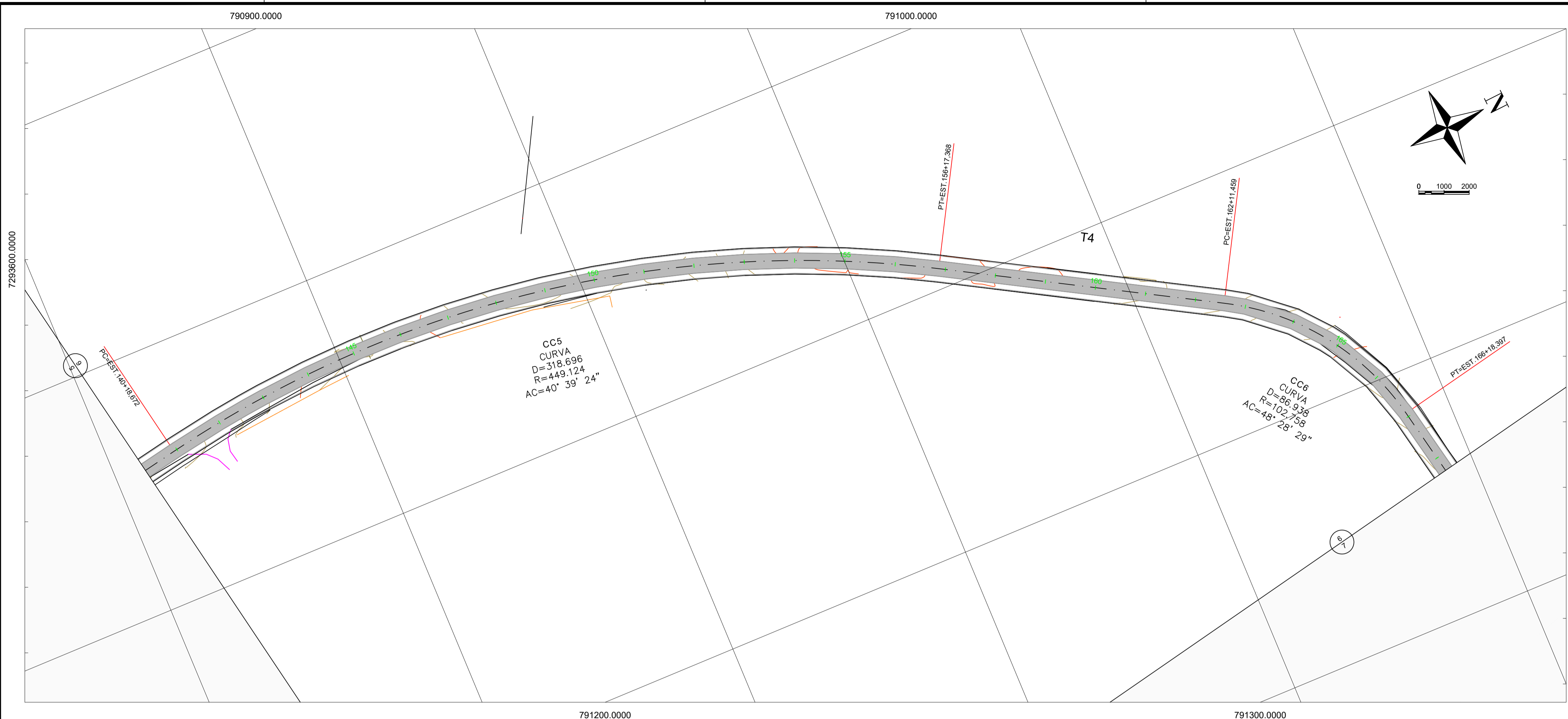


- LEGENDA:
- CURVAS DE NIVEIS MESTRAS
 - CURVAS DE NIVEIS AUXILIARES
 - MURO EXISTENTE
 - CERCA EXISTENTE
 - TUBULAÇÃO EXISTENTE
 - ACESSOS EXISTENTES
 - BORDO DA PISTA PROJETADO
 - BORDO DA PISTA PROJETADO
 - LINHA DE TRANSMISSÃO DE ENERGIA
 - ÁREA A PAVIMENTAR
 - POLIÉDRO EXISTENTE
 - POSTE DE ENERGIA
 - ÁRVORES EXISTENTES

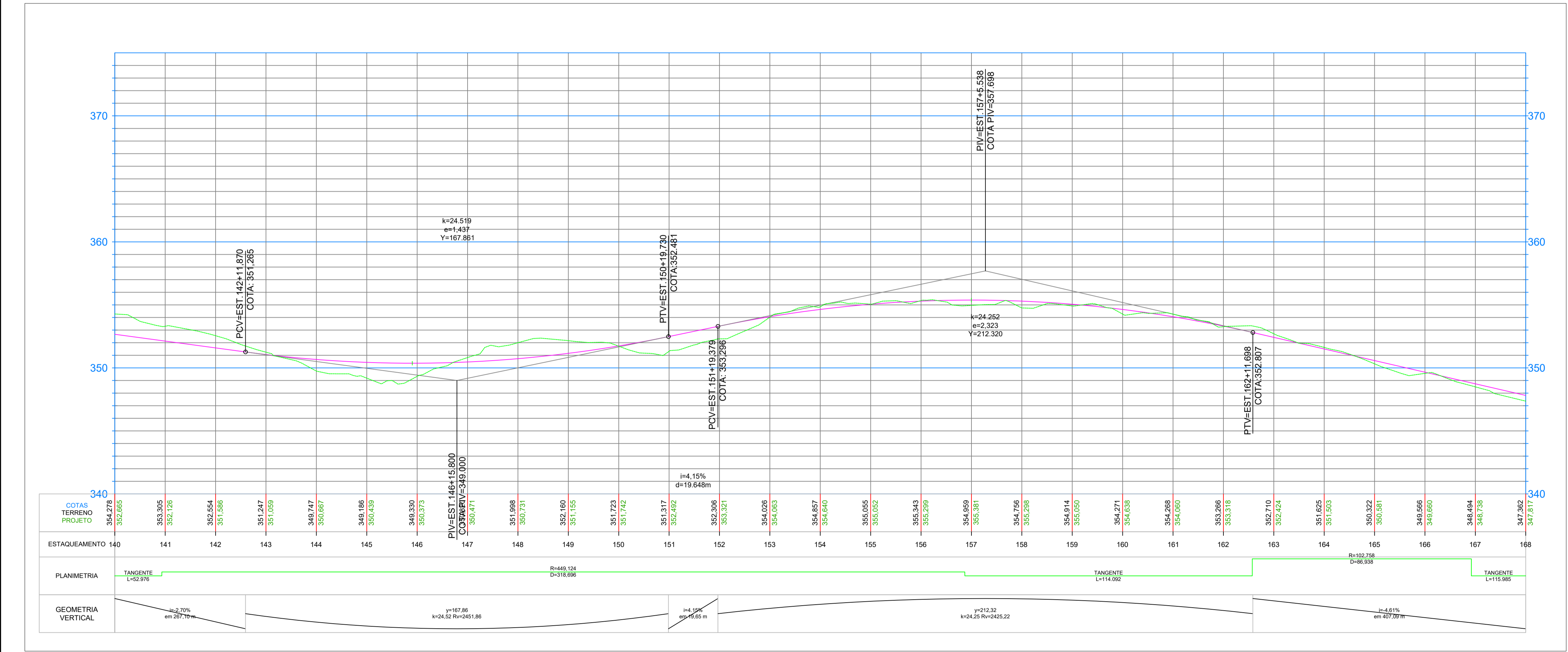


	PREFEITURA MUNICIPAL DE MERCEDES	Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA POLIANA TONETO CITADELLA Eng. Civil - CREA 162.706/D
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA	Rua 28 de Novembro, 210, sala 01 Dias Vizinhas, Paraná - 85.560-000
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA	e-mail: engenharia@duovias.com.br
	PROJETO: PROJETO GEOMÉTRICO	PRANCHA: AGOSTO/2025 ÁREA: ESCALA: 1:1000
RESPONSABILIDADE TÉCNICA PROJETO: POLIANA TONETO CITADELLA Eng. Civil - CREA PR 162.706/D	PROPRIETÁRIO: PREFEITURA MUNICIPAL DE MERCEDES CNPJ 35.719.373/0001-23	04

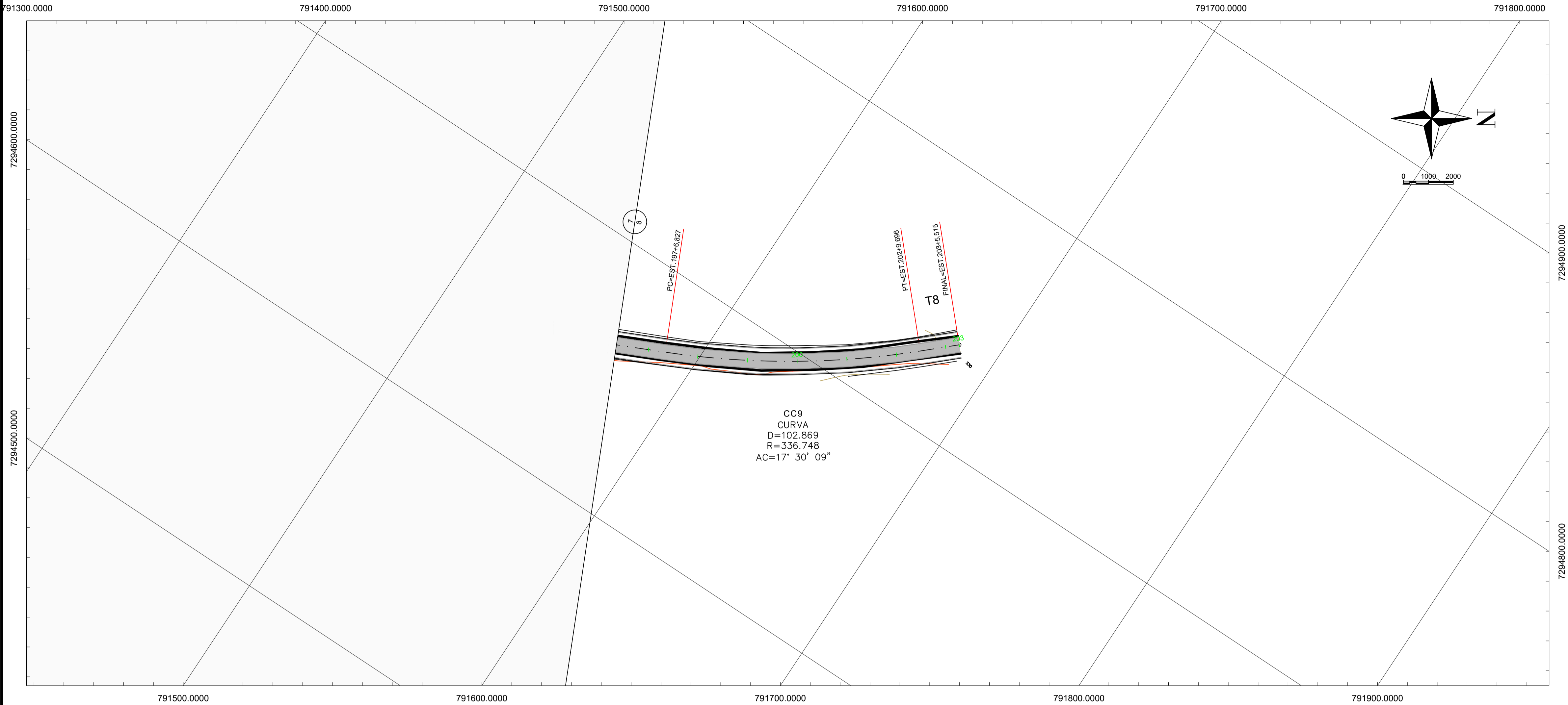




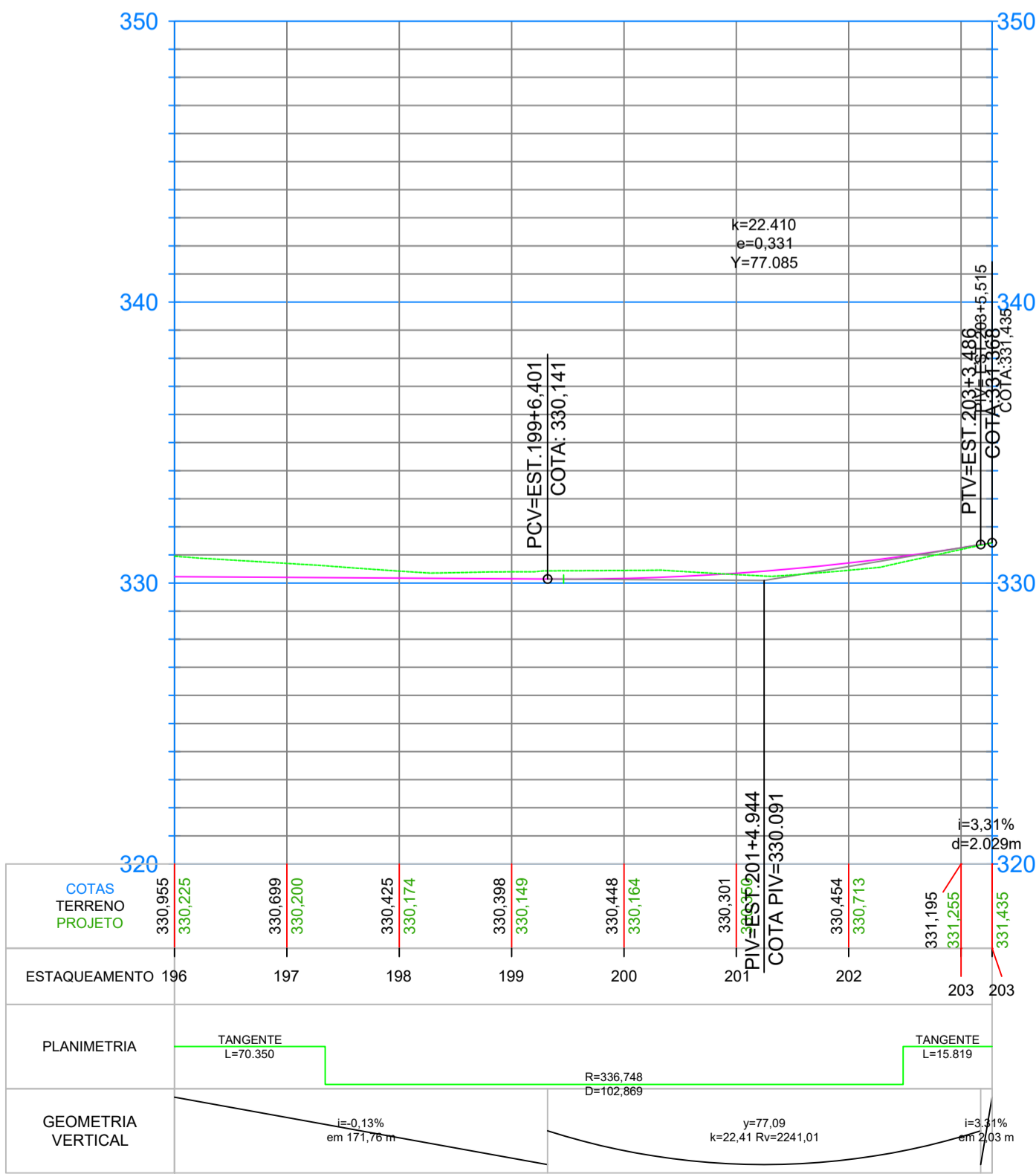
- LEGENDA:
- CURVAS DE NIVEIS MESTRAS
 - CURVAS DE NIVEIS AUXILIARES
 - MURO EXISTENTE
 - CERCA EXISTENTE
 - TUBULAÇÃO EXISTENTE
 - ACESSOS EXISTENTES
 - BORDO DA PISTA PROJETADO
 - BORDO DA PISTA PROJETADO
 - ÁREA A PAVIMENTAR
 - POLIÉDRO EXISTENTE
 - POSTE DE ENERGIA
 - ÁRVORES EXISTENTES




	PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA POLIANA TONETO CITTADELLA Eng. Civil - CREA 162.706/D		
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA		Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.660-000		
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA		e-mail: engenharia@duovias.com.br		
	PROJETO: PROJETO GEOMÉTRICO		PRANCHA: 06		
RESPONSABILIDADE TÉCNICA PROJETO: POLIANA TONETO CITTADELLA Eng. Civil - CREA PR 162.706/D		PROPRIETÁRIO: PREFEITURA MUNICIPAL DE MERCEDES CNPJ 35.719.373/0001-23		EMISSÃO INICIAL: AGOSTO 2025 ÁREA: ESCALA: 1:1000	



- LEGENDA:
- CURVAS DE NIVEIS MESTRAS
 - CURVAS DE NIVEIS AUXILIARES
 - MURO EXISTENTE
 - CERCA EXISTENTE
 - TUBULAÇÃO EXISTENTE
 - ACESSOS EXISTENTES
 - BORDO DA PISTA PROJETADO
 - BORDO DA PISTA PROJETADO
 - LINHA DE TRANSMISSÃO DE ENERGIA
 - ÁREA A PAVIMENTAR
 - POLIÉDRO EXISTENTE
 - POSTE DE ENERGIA
 - ÁRVORES EXISTENTES





PREFEITURA MUNICIPAL DE MERCEDES

OBRA: **IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA**

TRECHO: **ESTRADA MUNICIPAL SANGA ITUPORANGA**

PROJETO: **PROJETO GEOMÉTRICO**

Coordenação Geral de Projetos:
DUOVIAS ENGENHARIA LTDA
POLIANA TONETO CITTADELLA
Eng. Civil - CREA 162.706/D

Rua 28 de Novembro, 210, sala 01
Dois Vizinhos, Paraná -
85.560-000

e-mail:
engenharia@duovias.com.br

RESPONSABILIDADE TÉCNICA PROJETO:

PROPRIETÁRIO:

EMISSÃO INICIAL:
AGOSTO/2025

PRANCHAS:

ÁREA:

ESCALA:
1:1000

POLIANA TONETO CITTADELLA
Eng. Civil - CREA PR 162.706/D

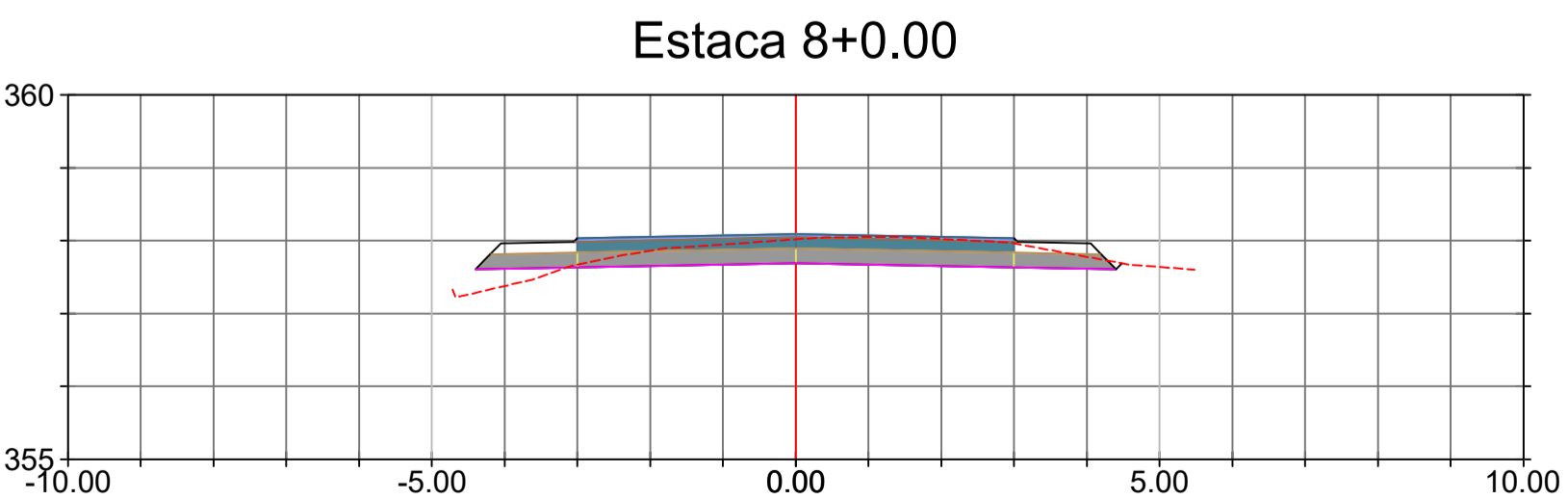
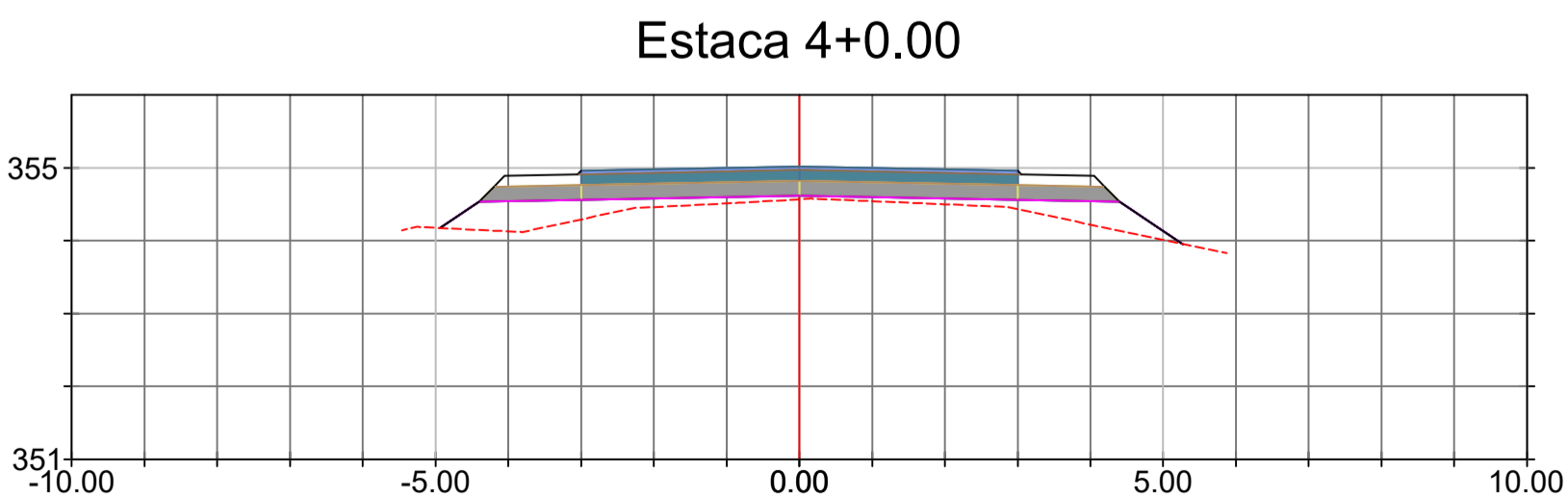
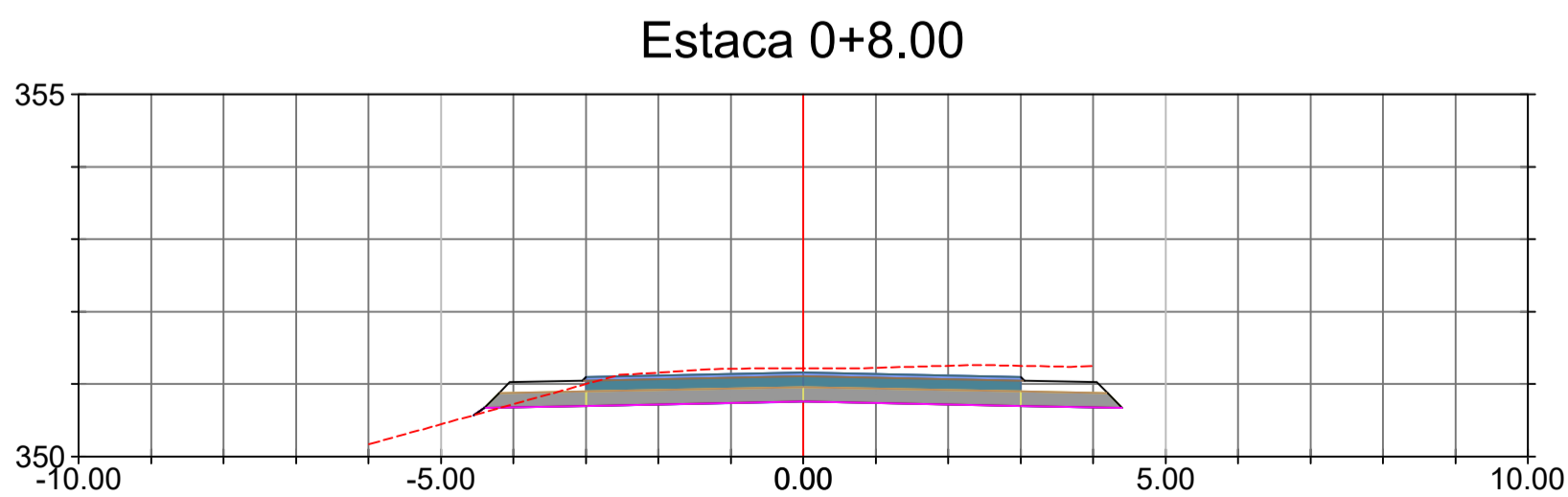
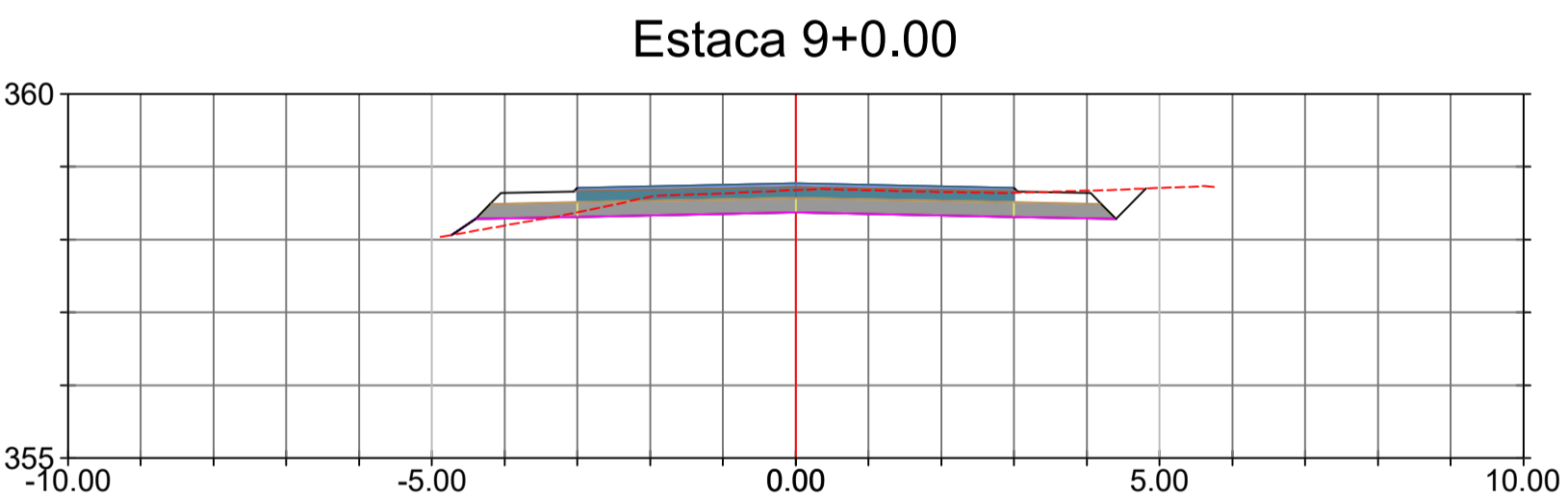
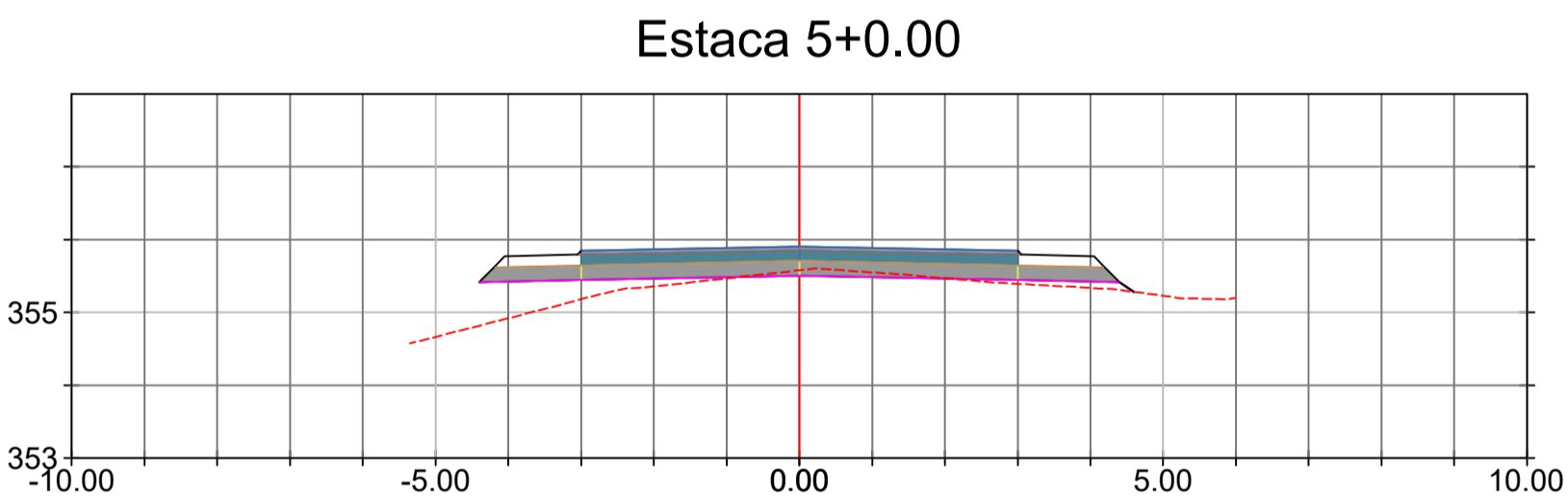
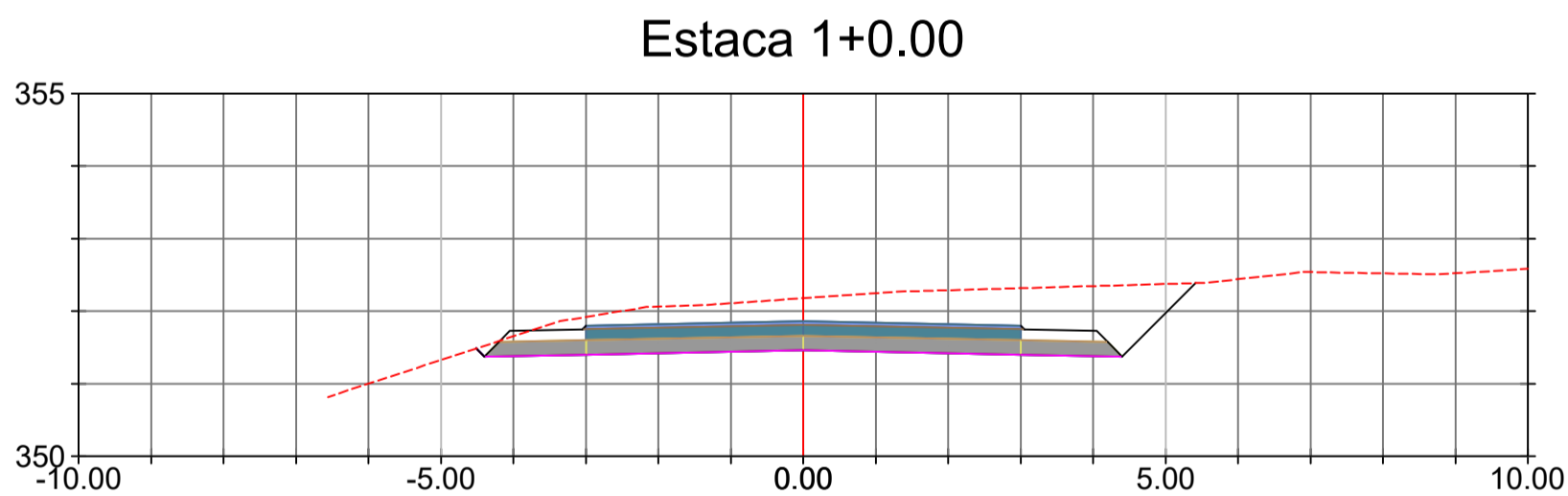
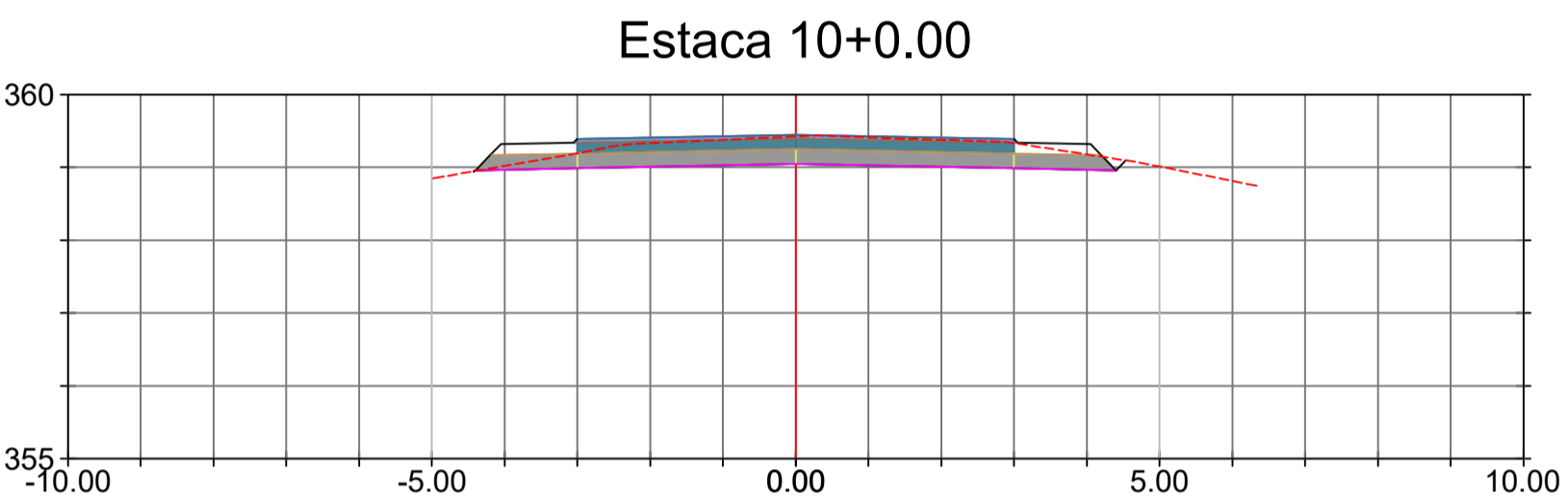
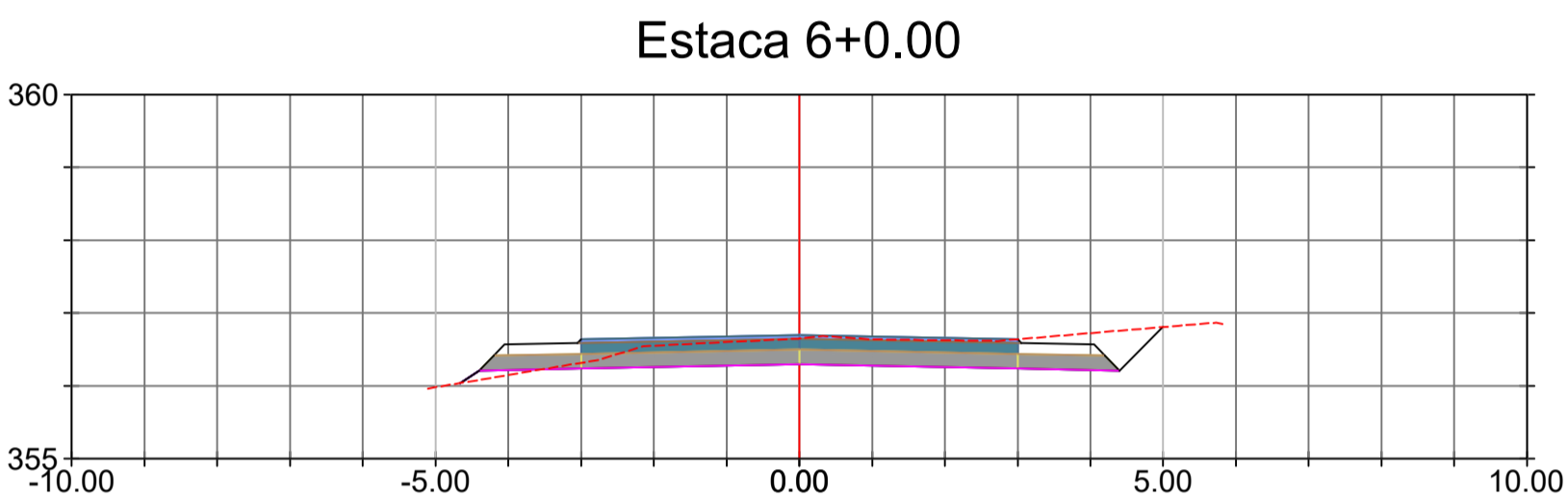
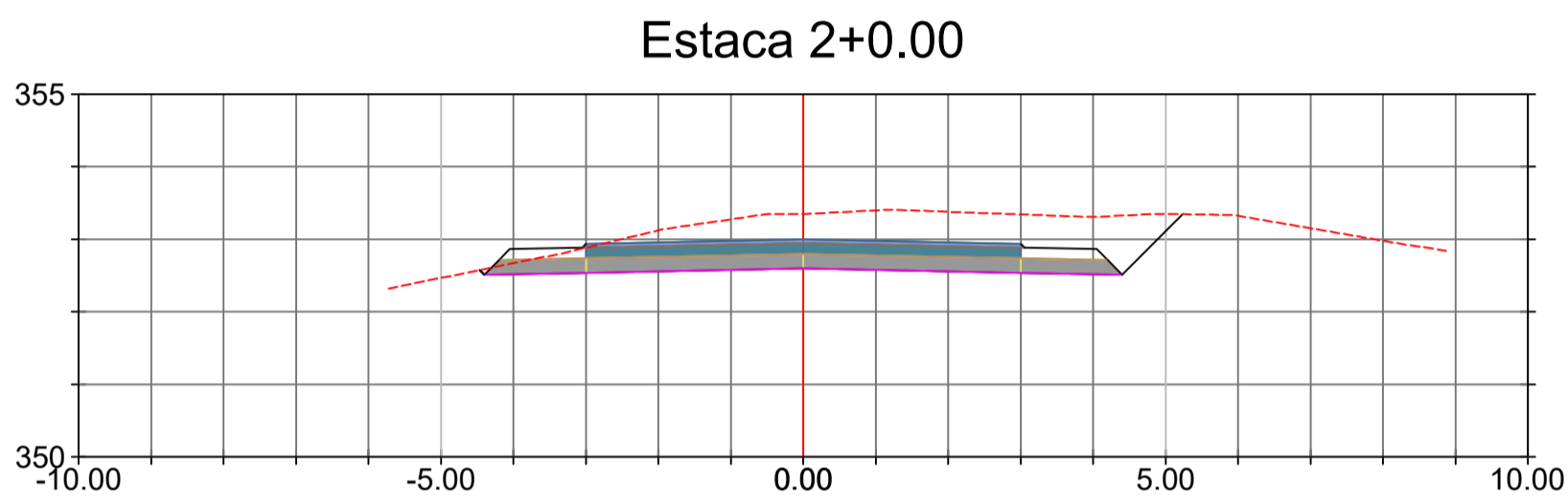
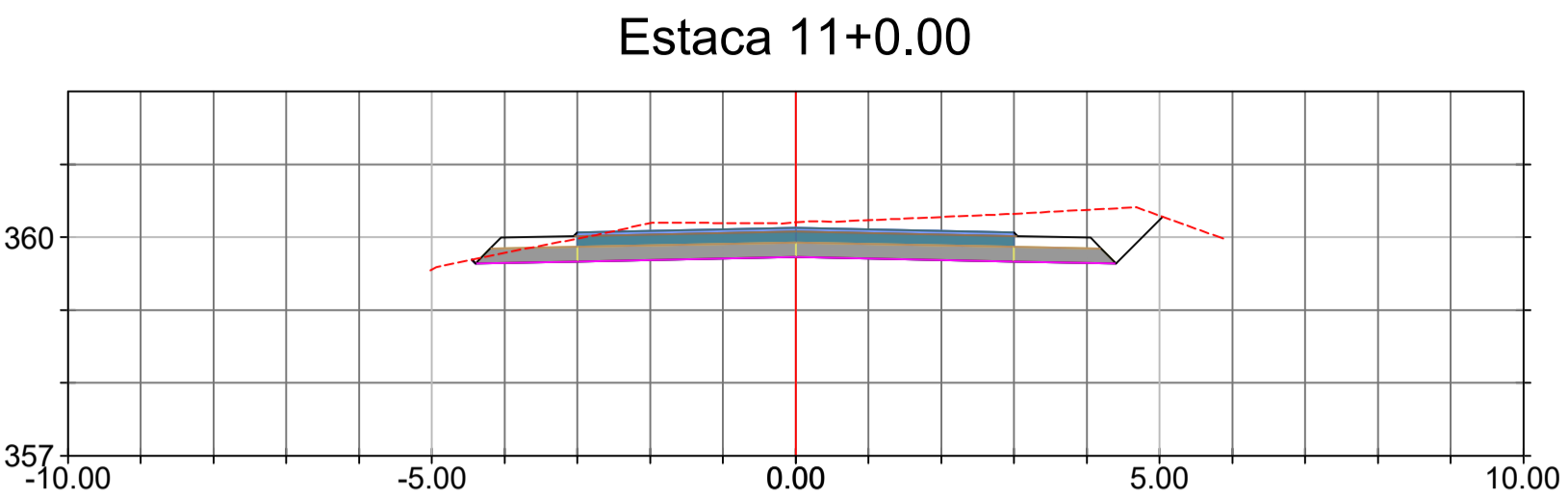
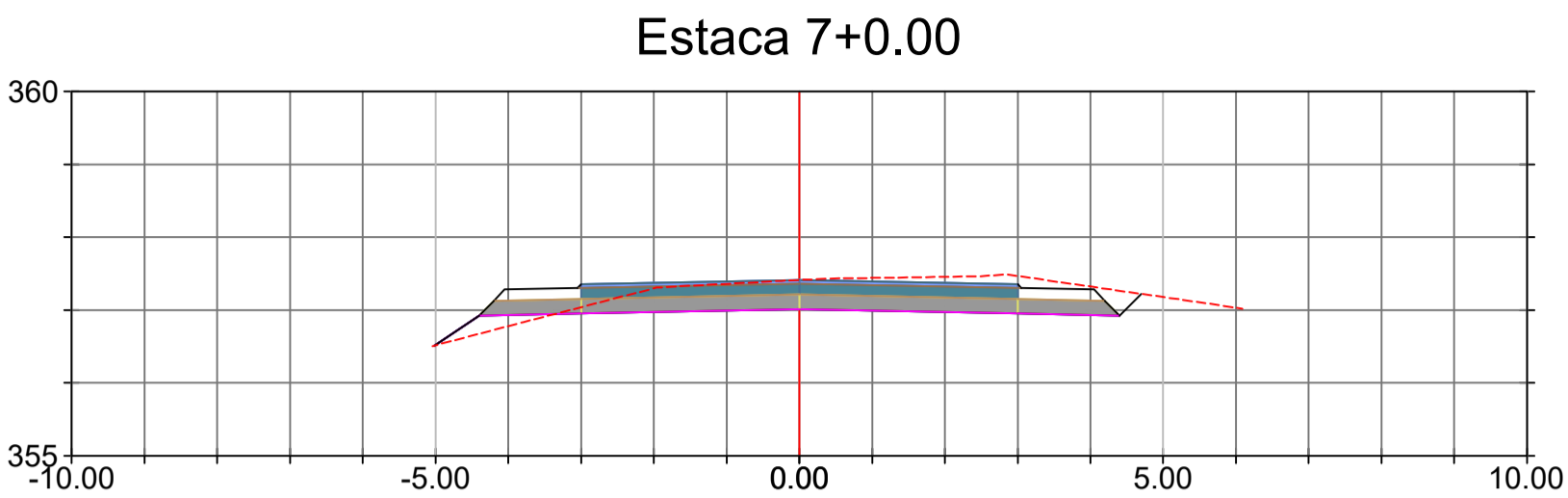
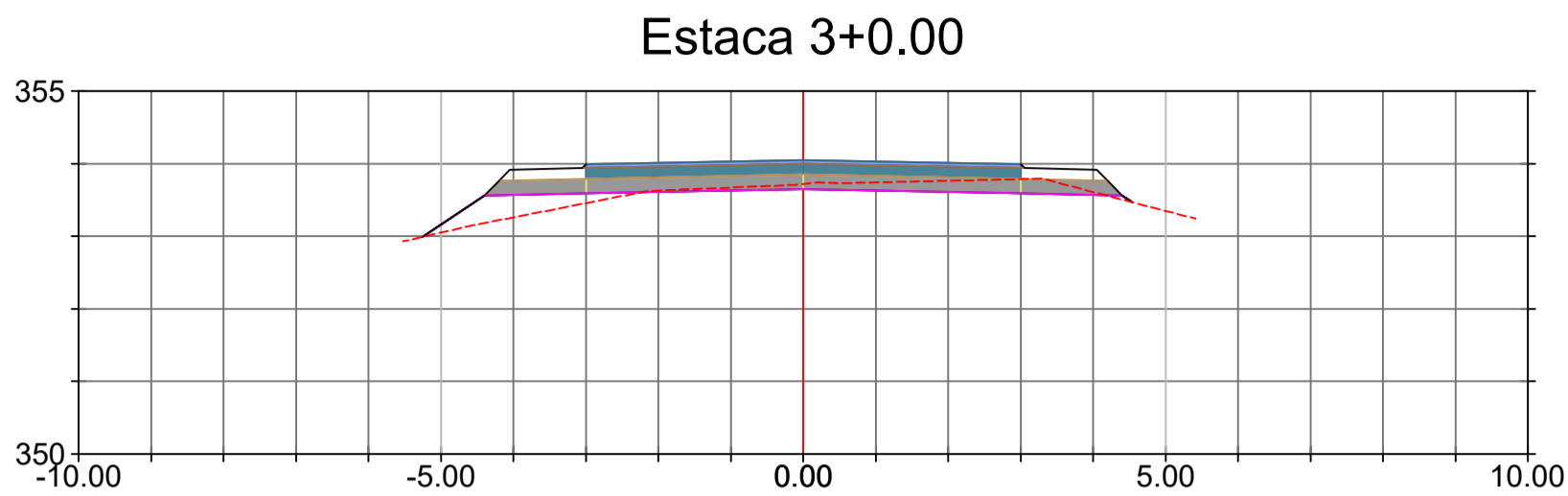
PREFEITURA MUNICIPAL DE MERCEDES
CNPJ: 06.719.373/0001-23

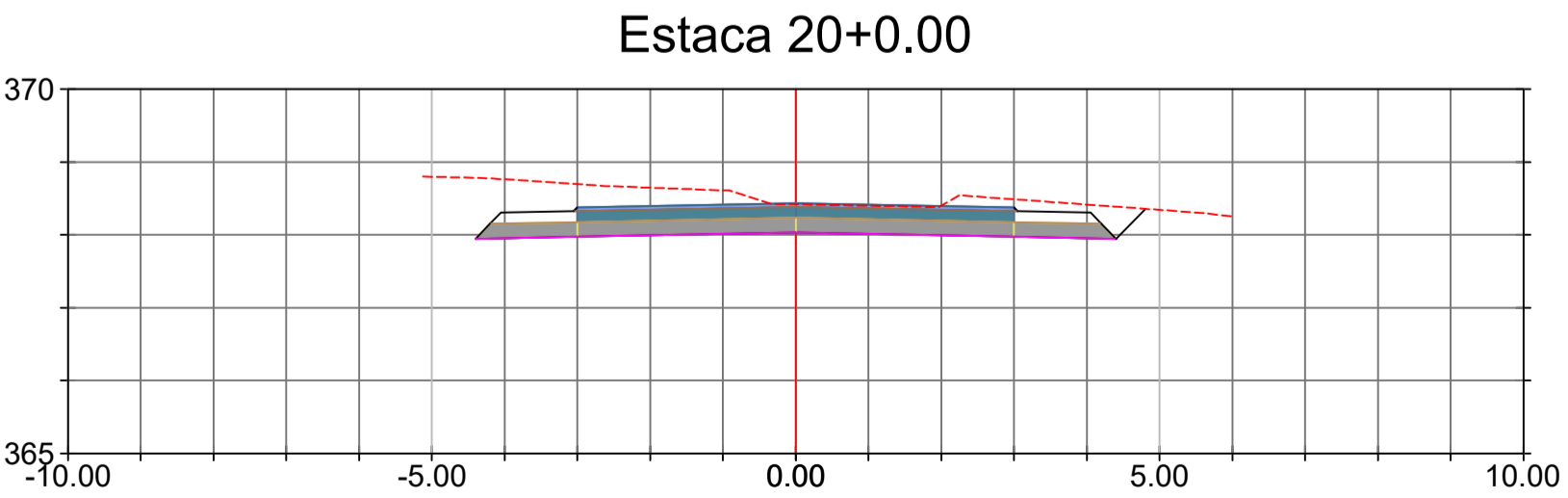
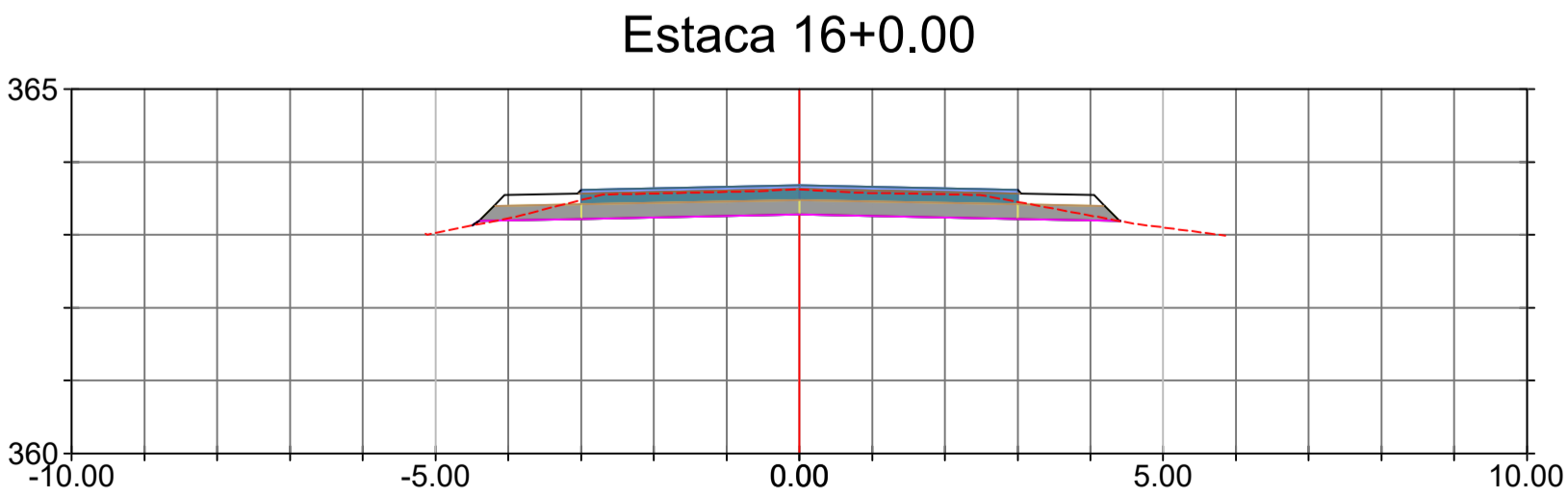
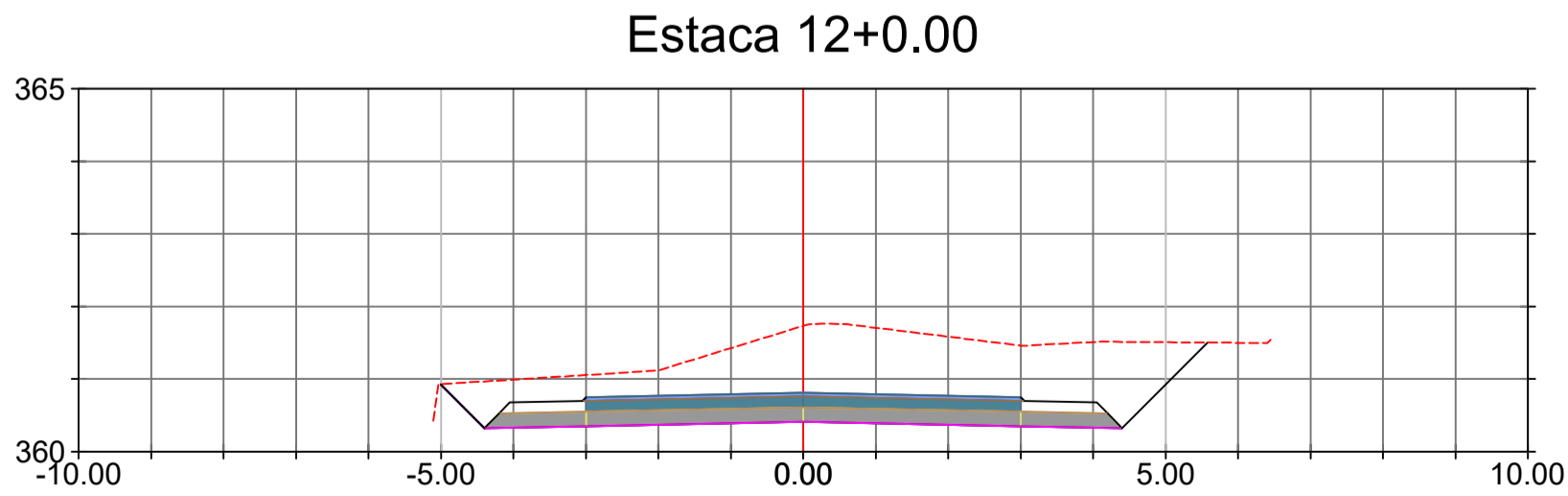
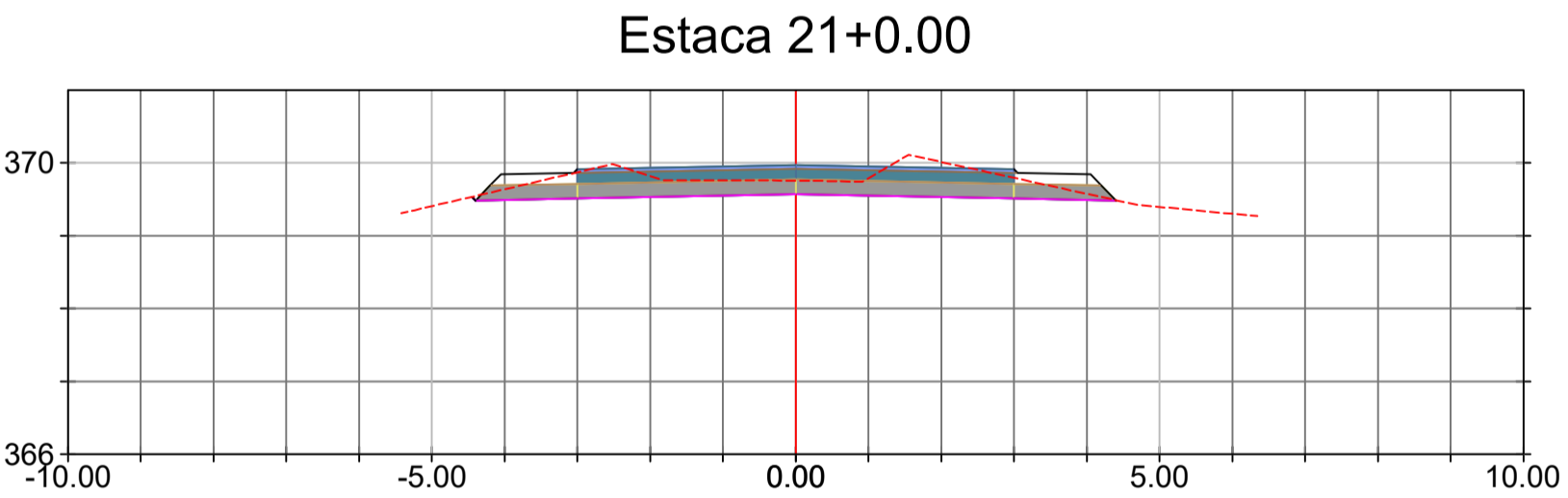
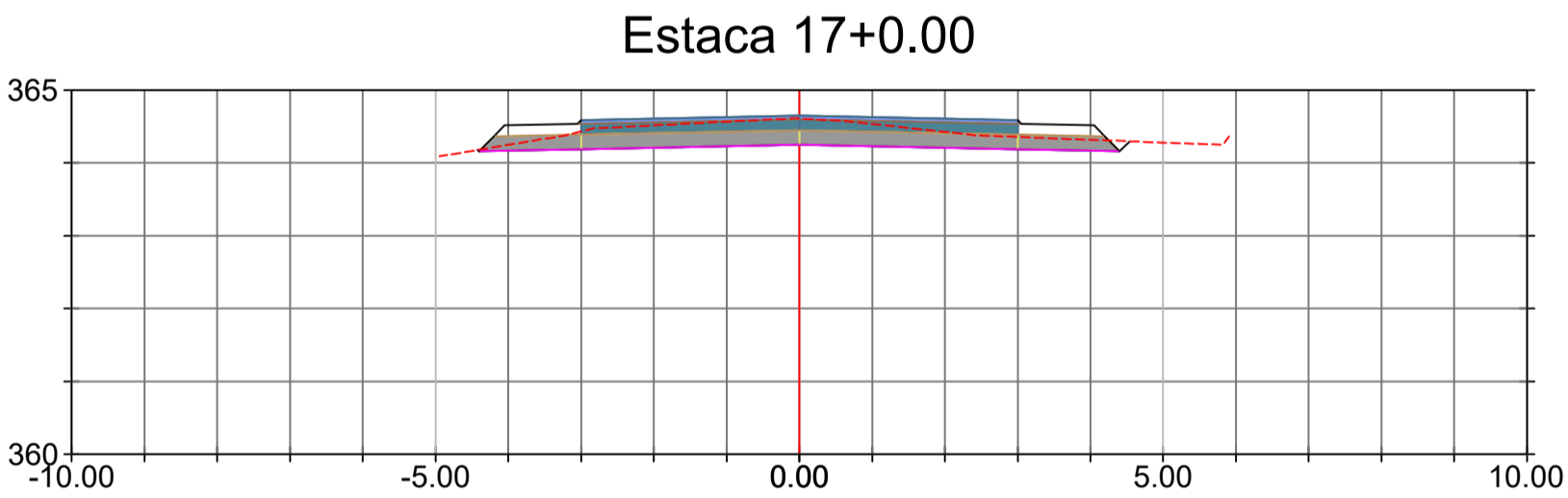
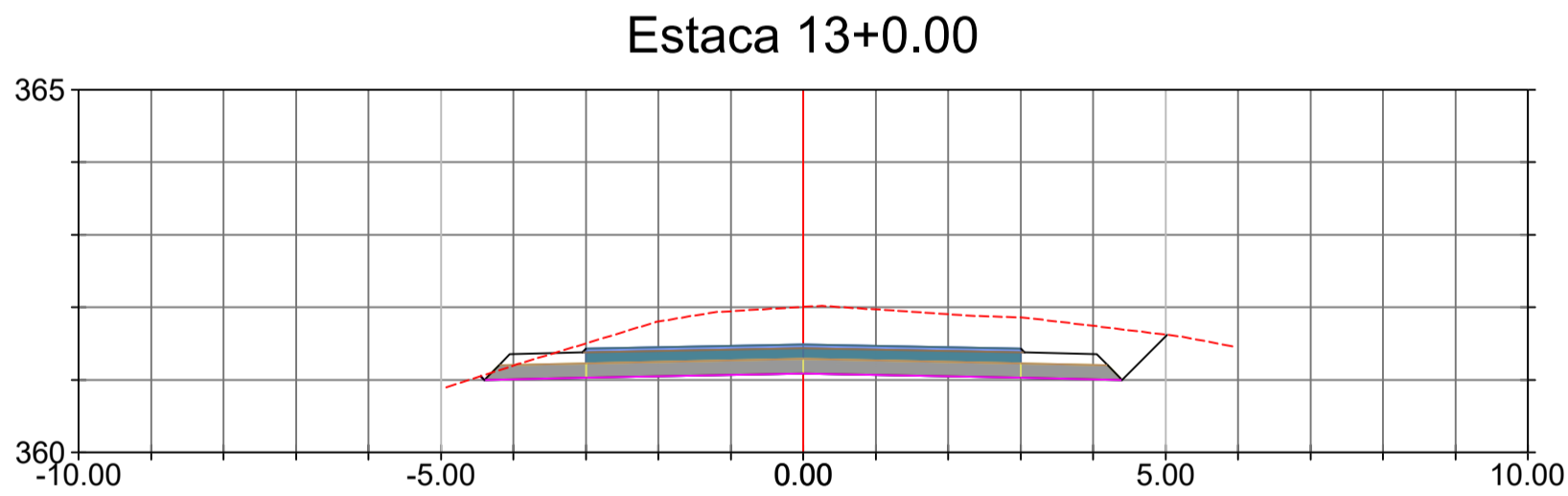
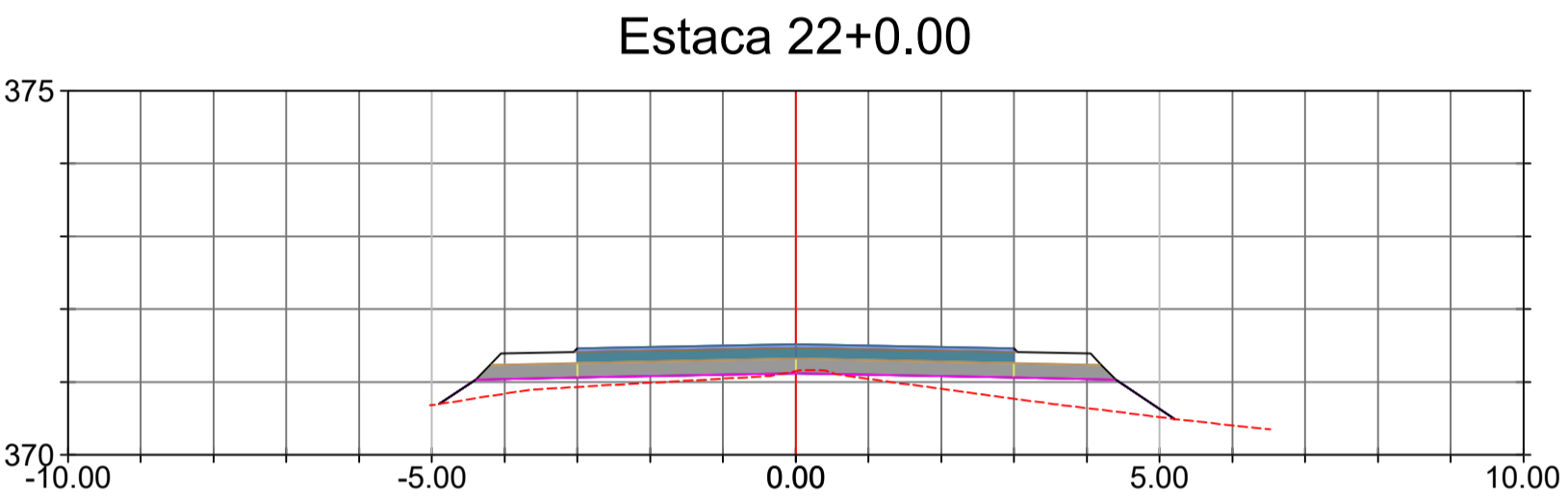
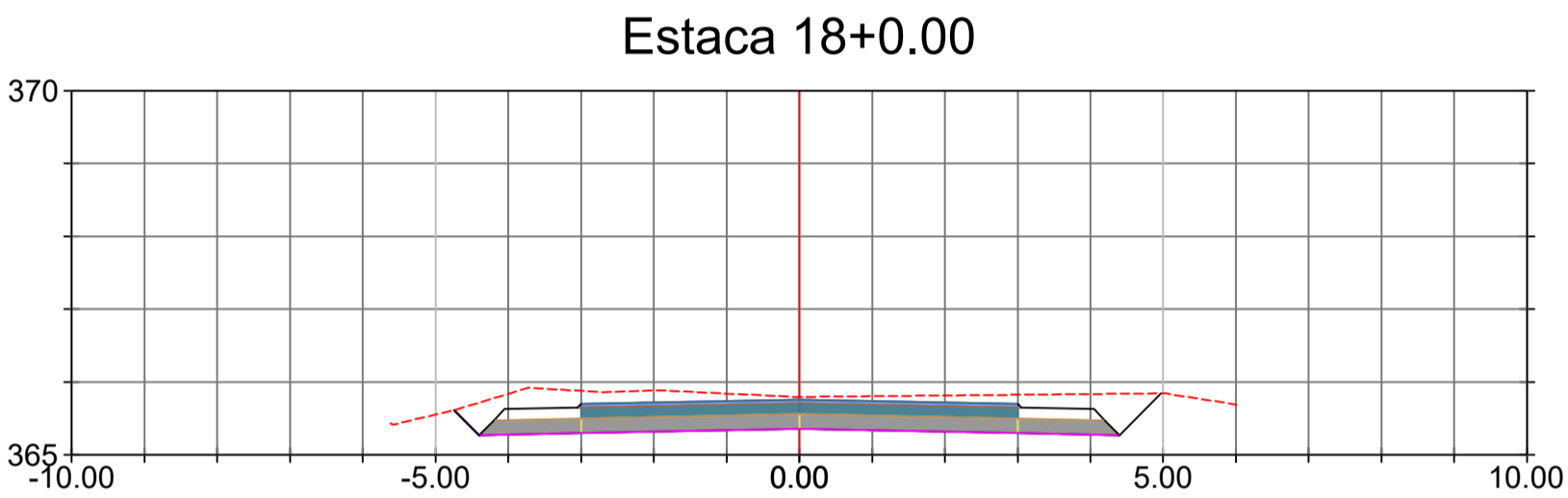
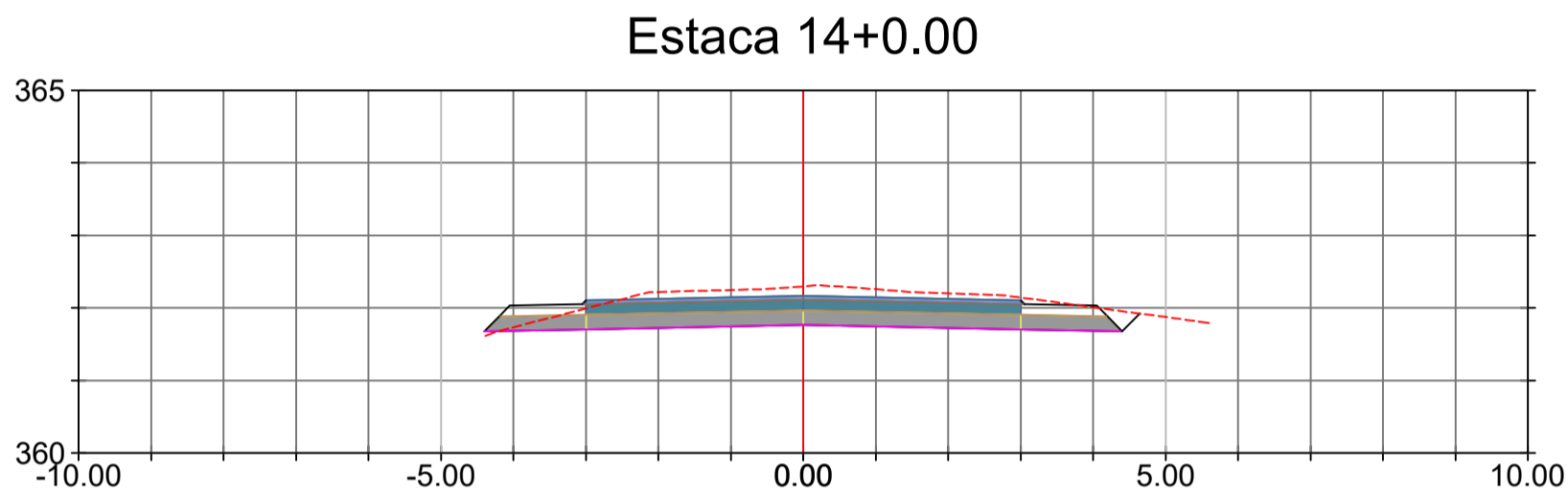
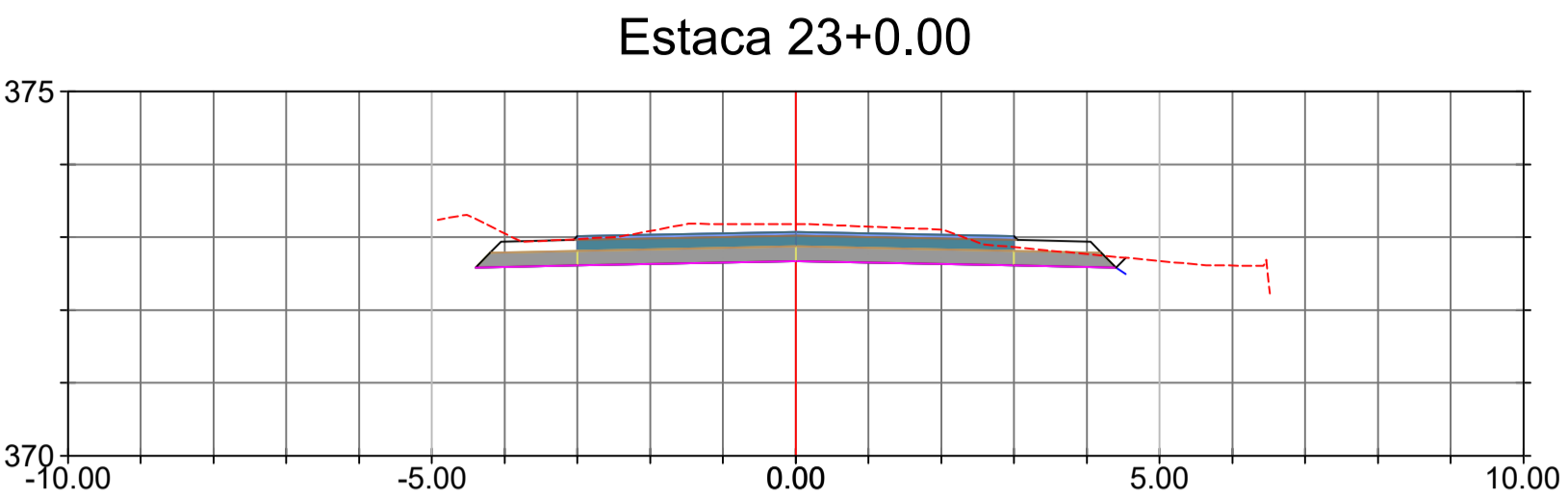
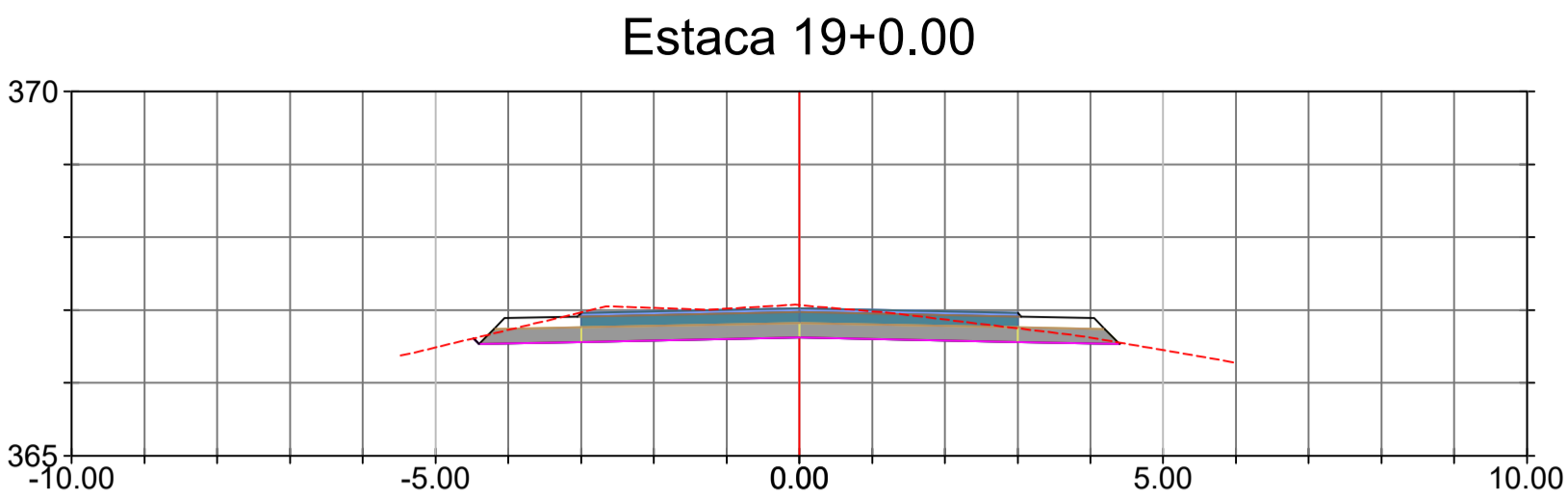
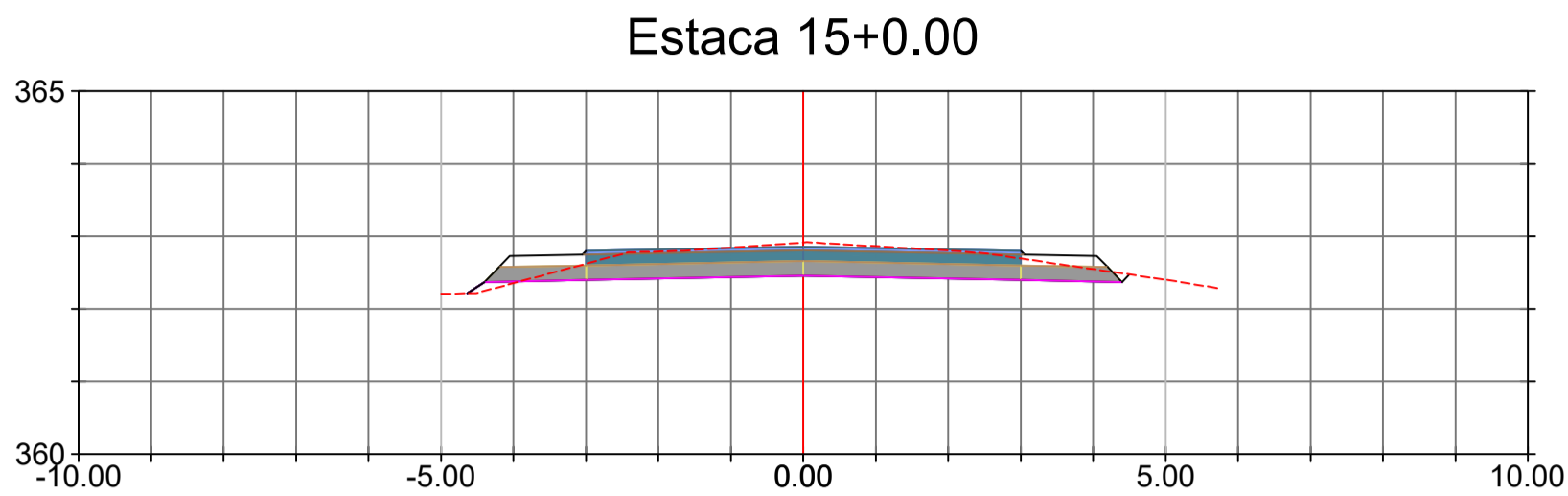
08

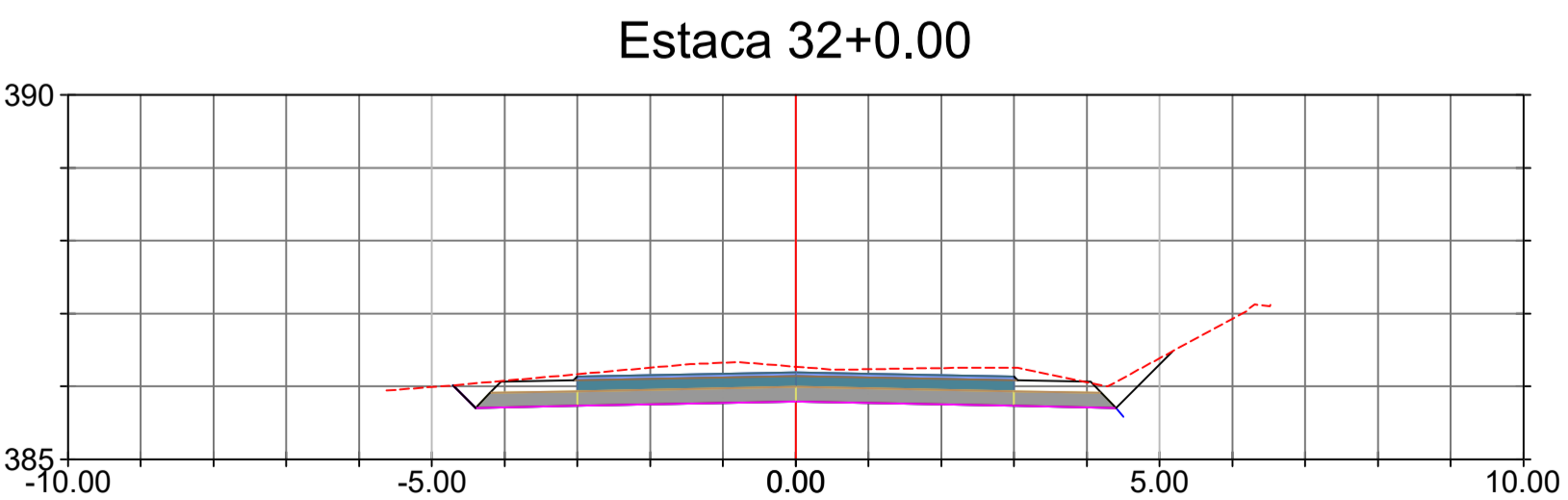
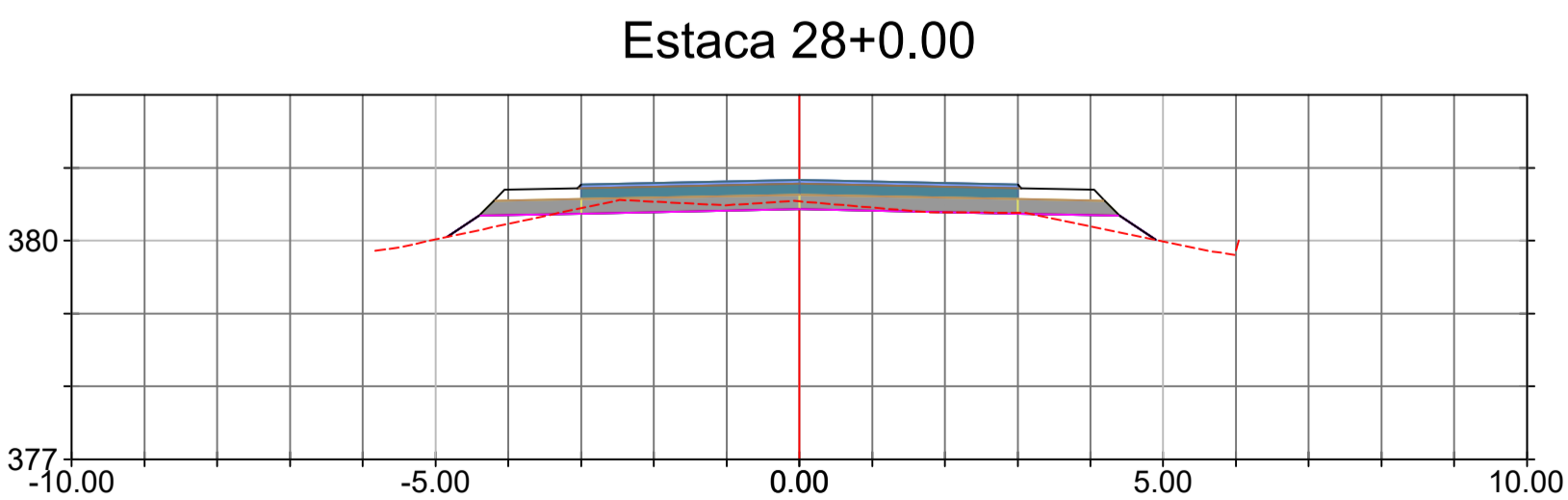
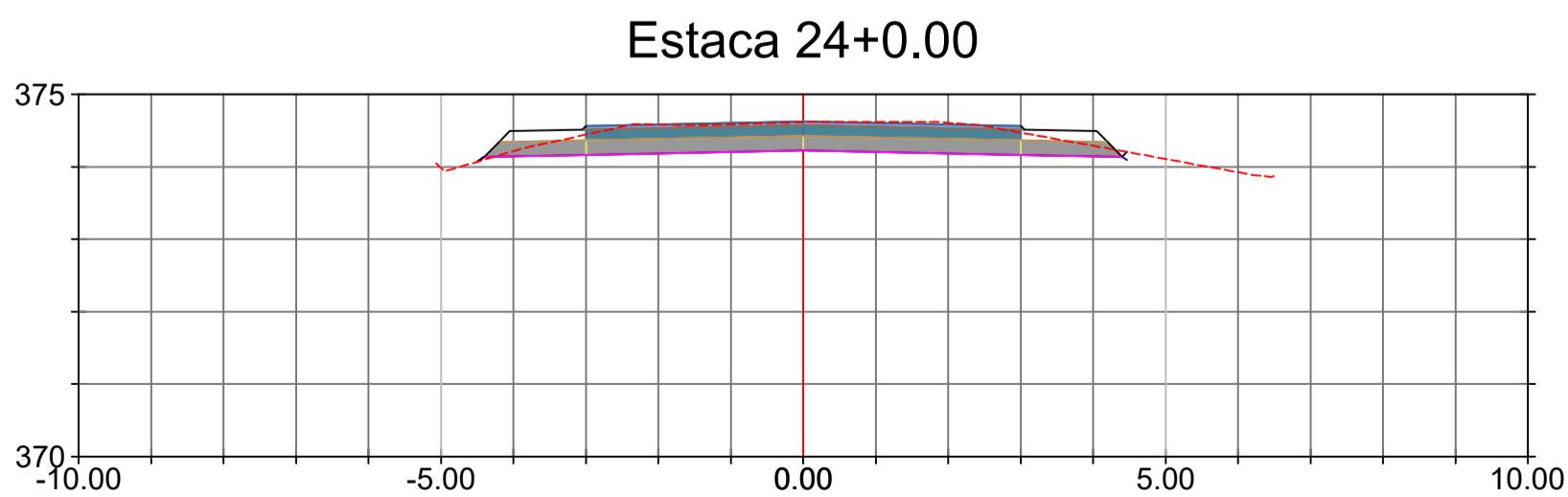
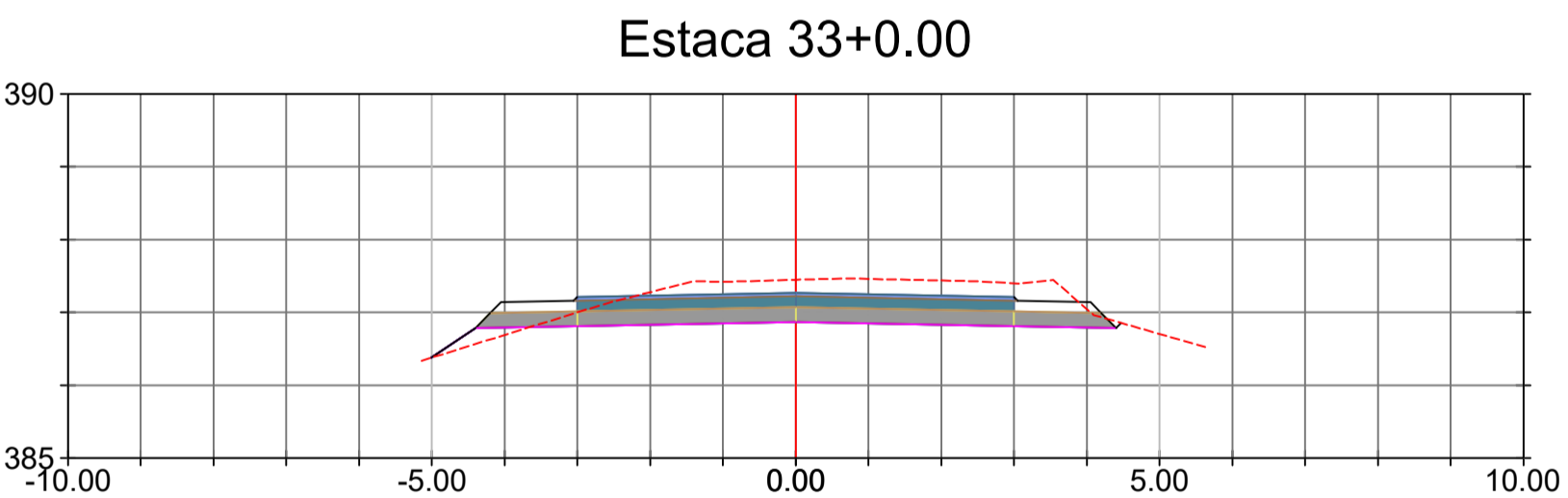
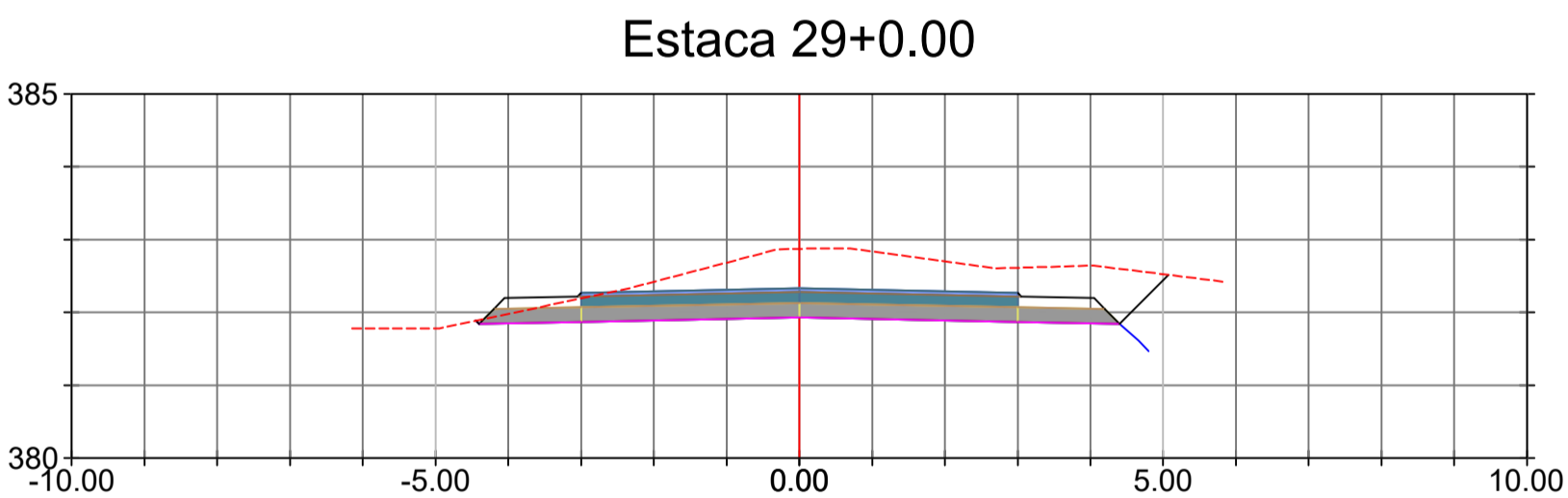
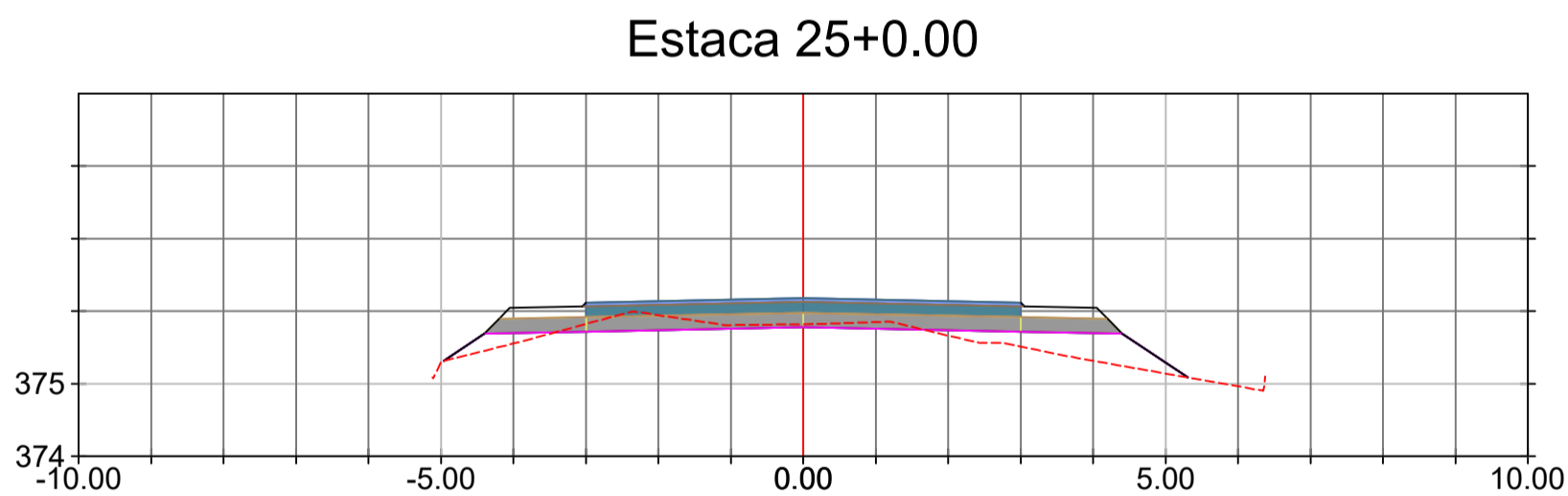
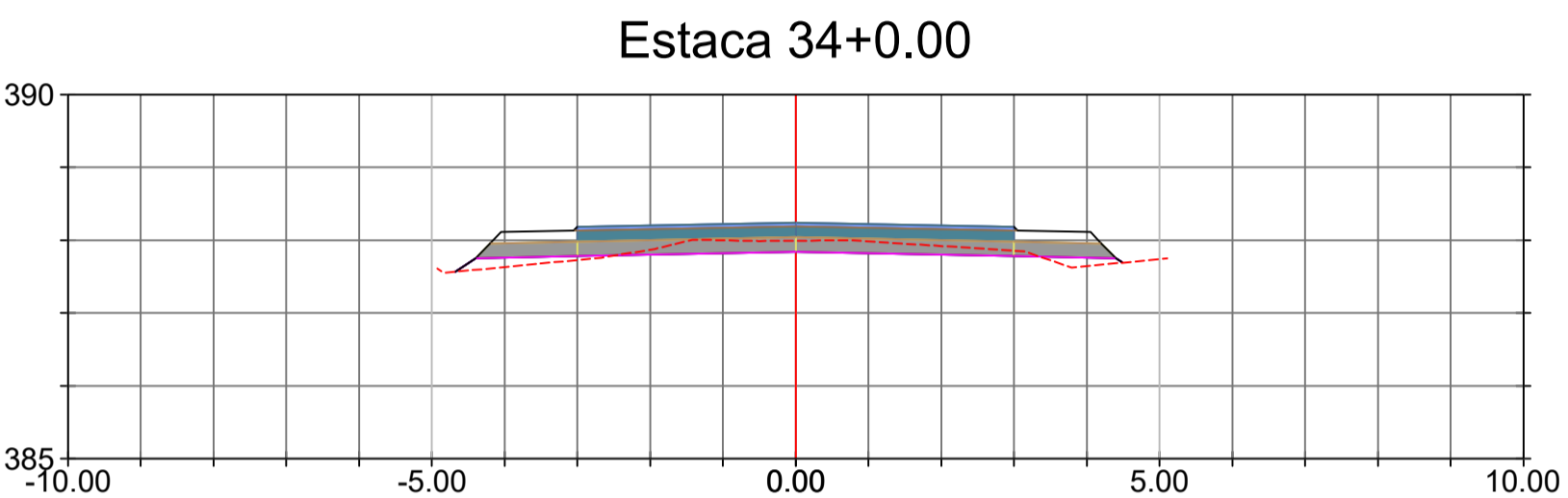
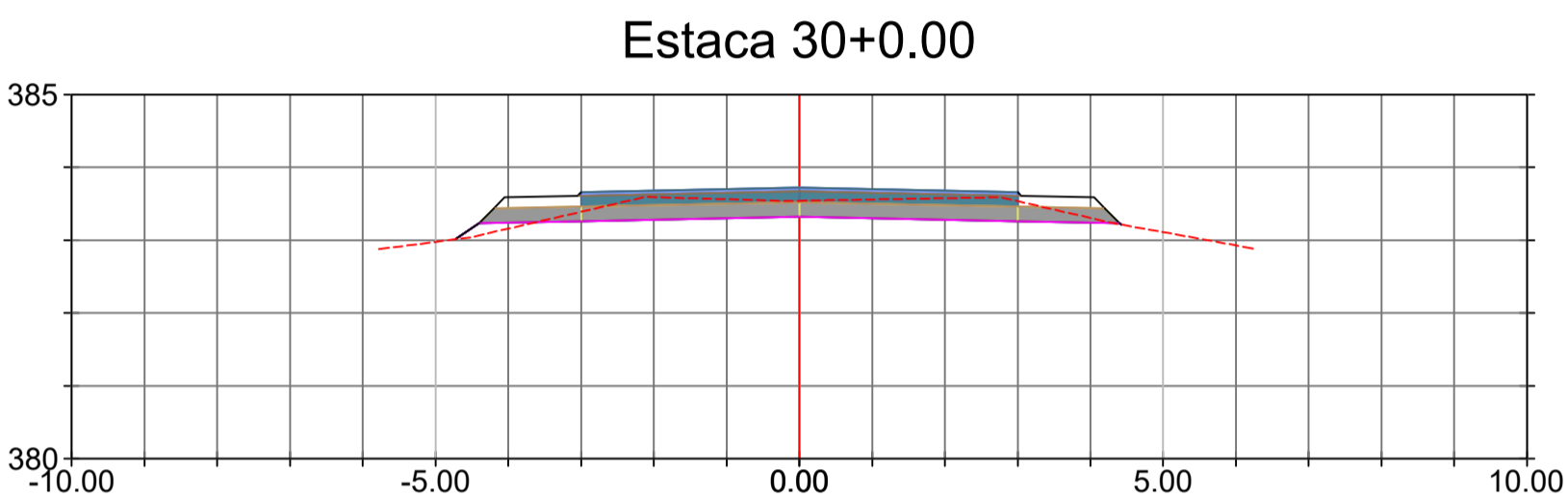
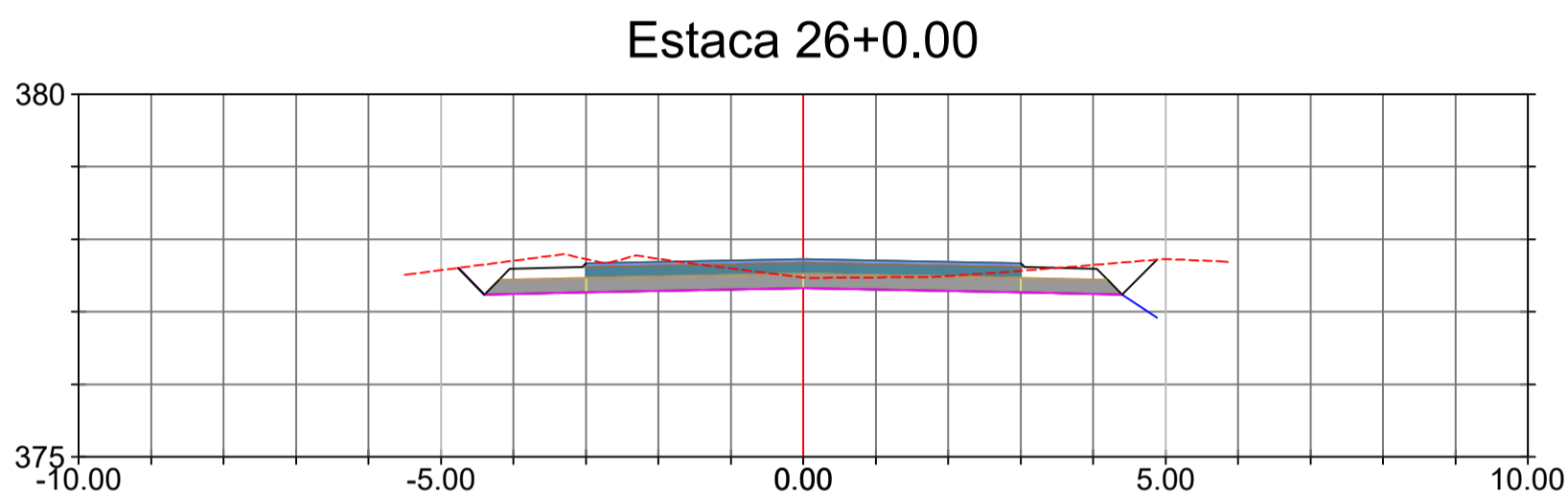
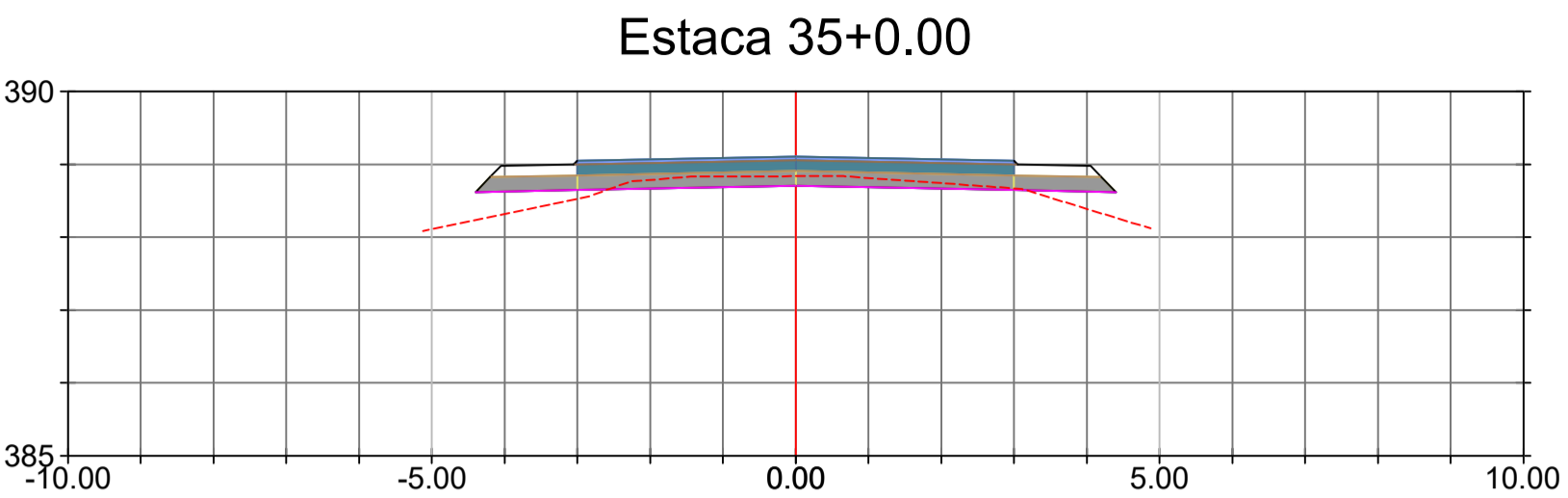
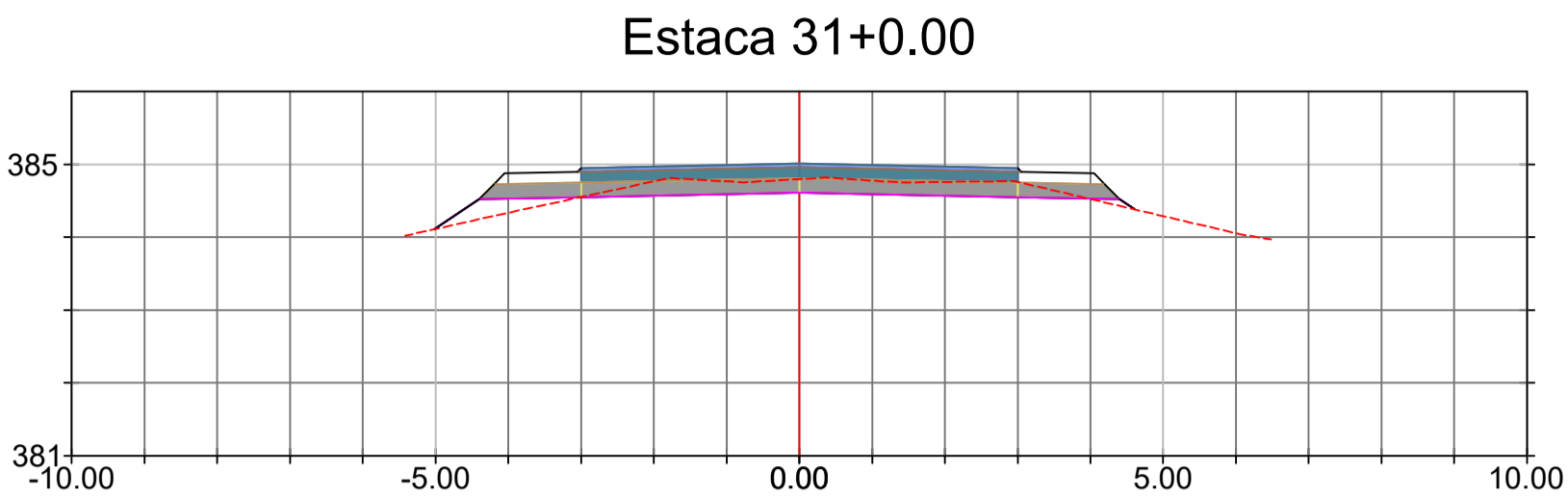
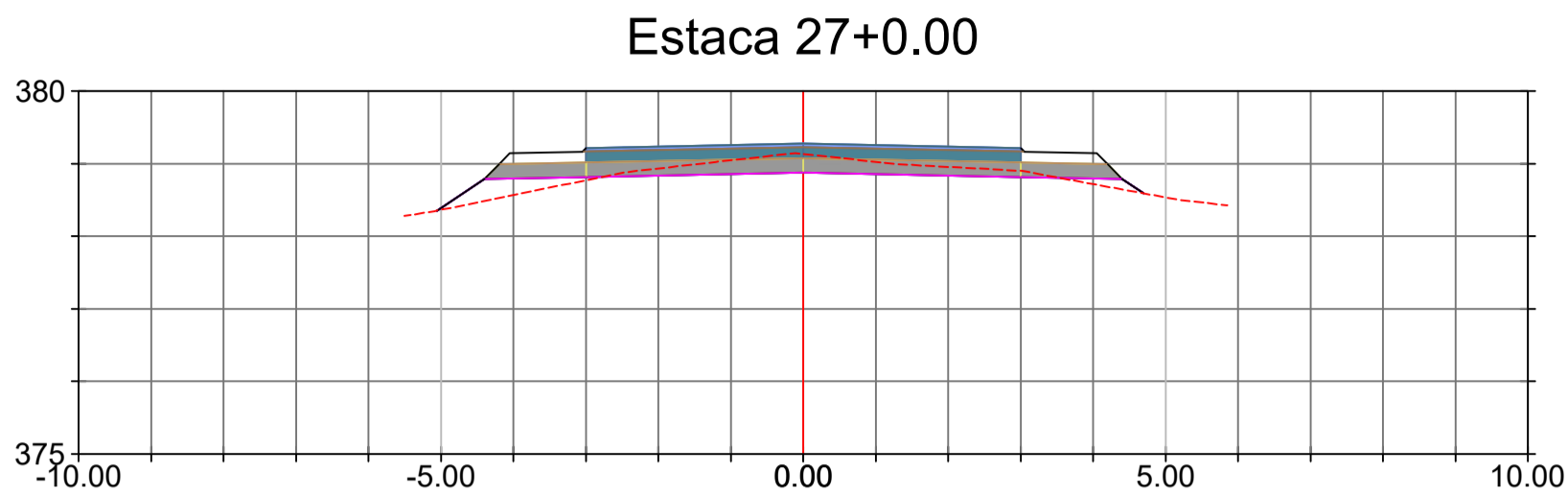


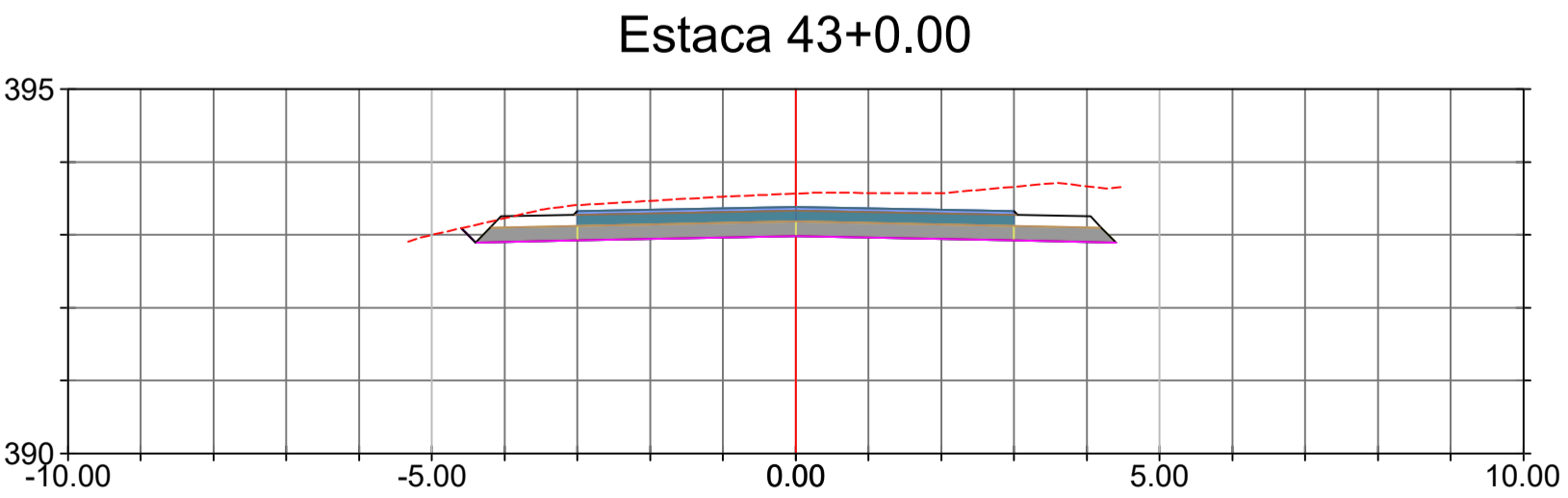
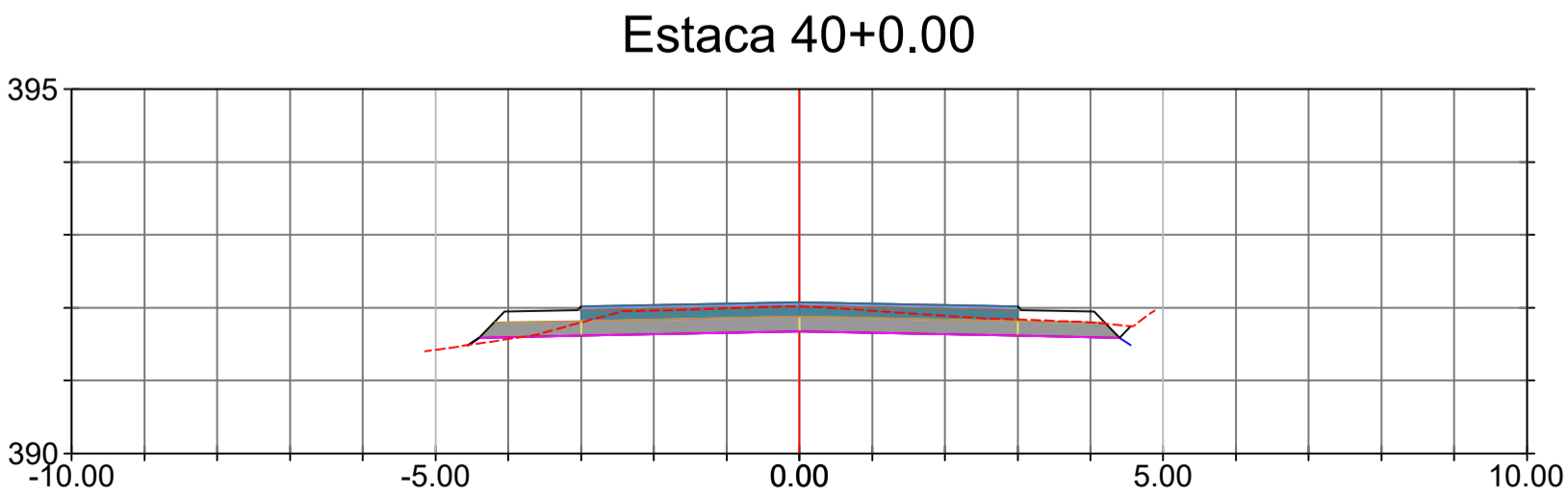
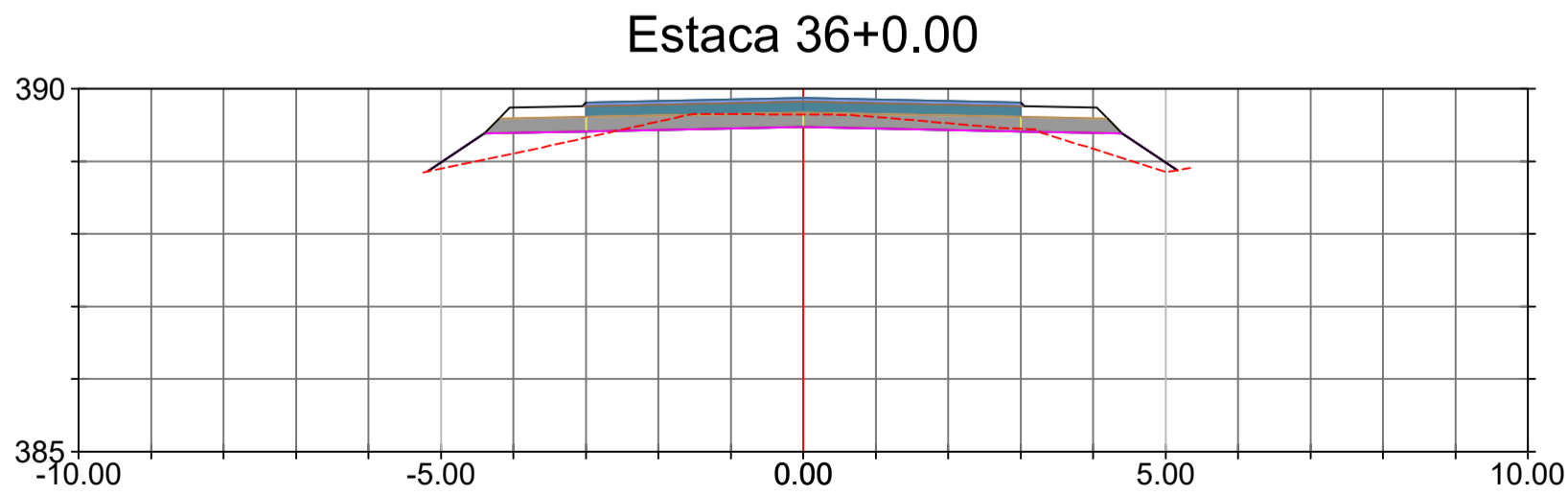
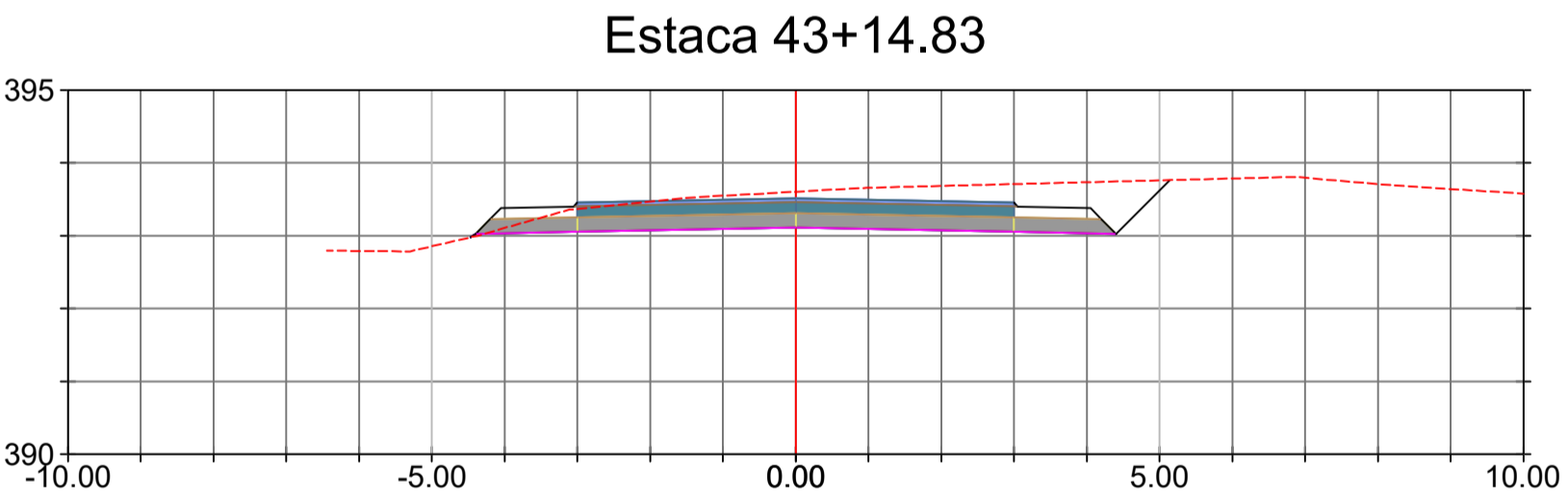
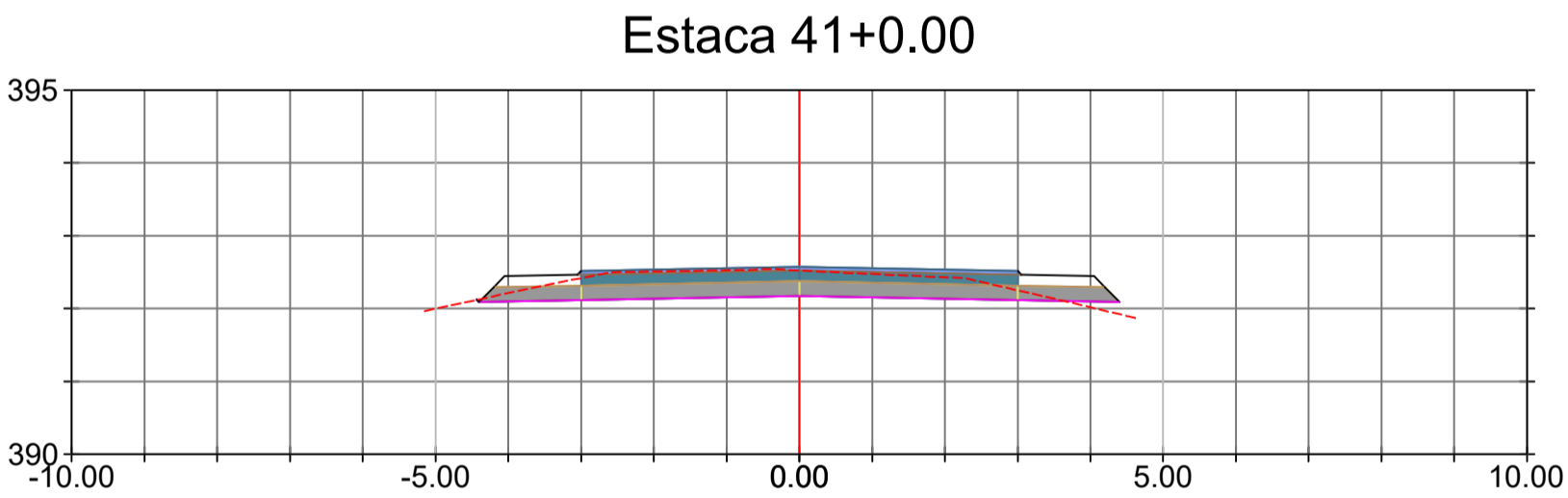
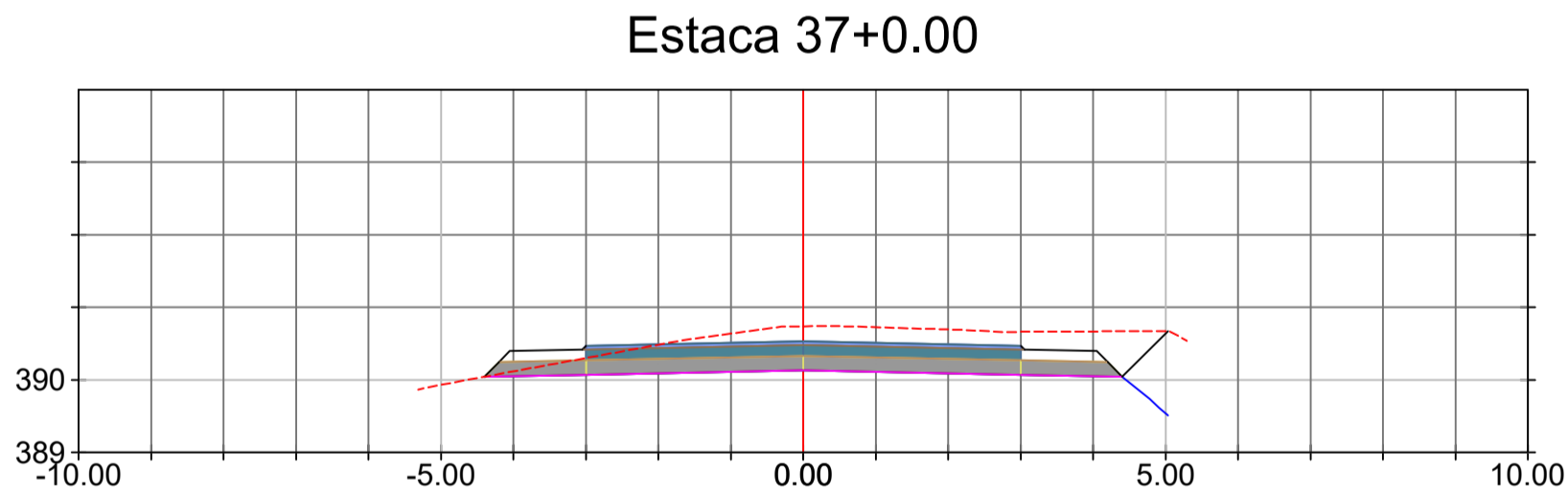
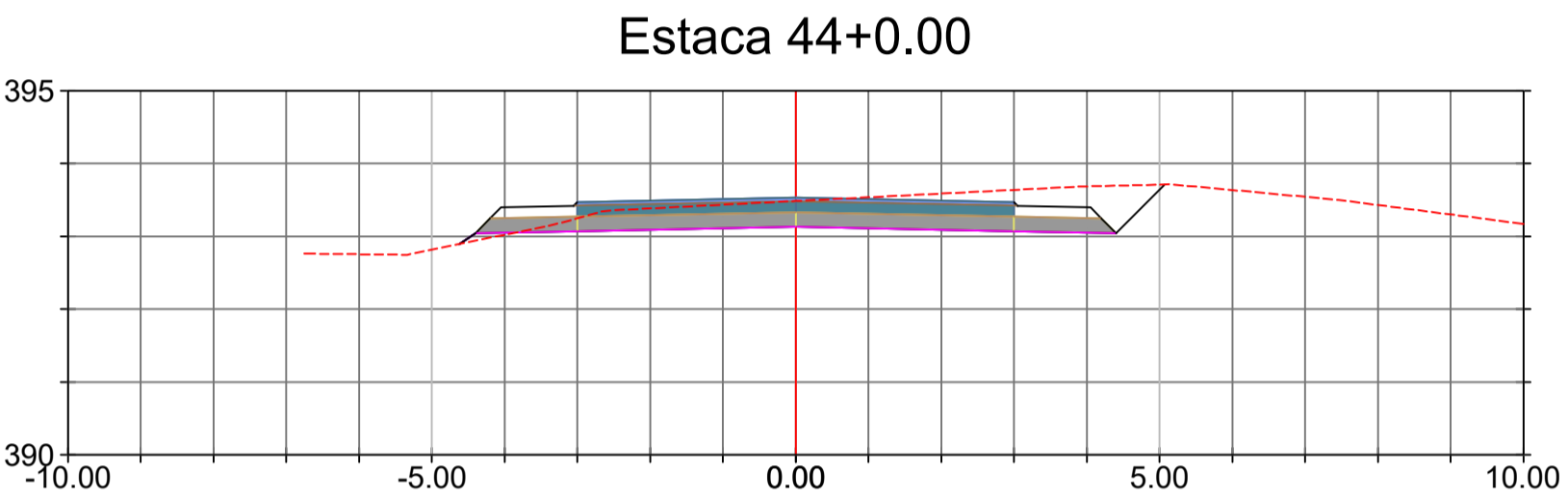
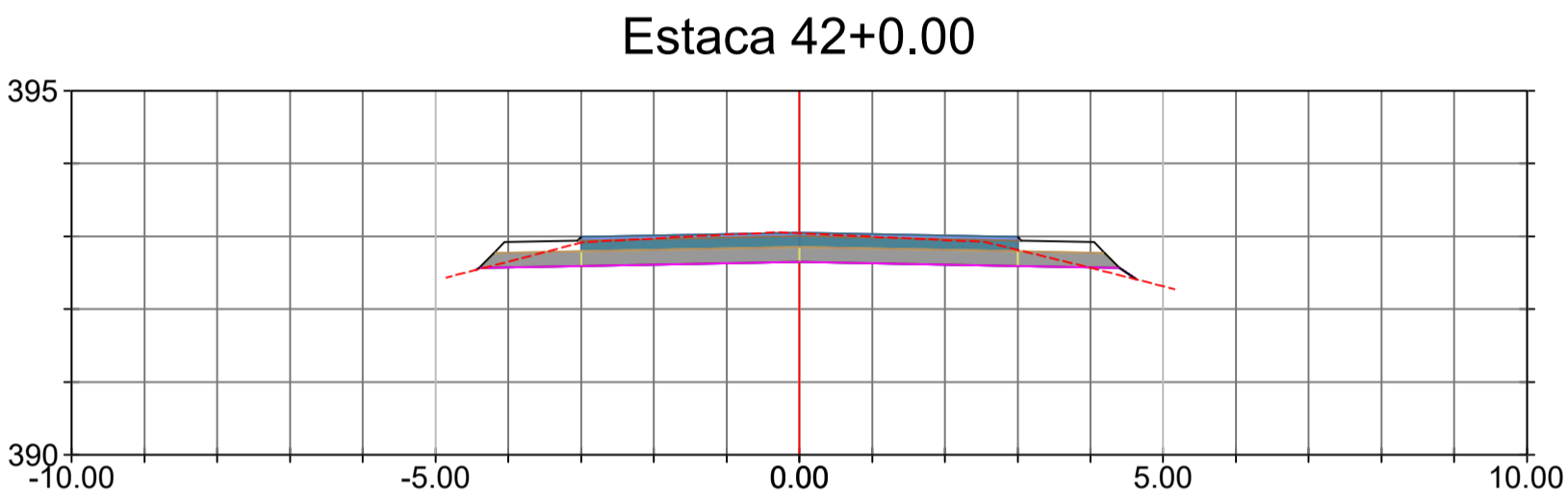
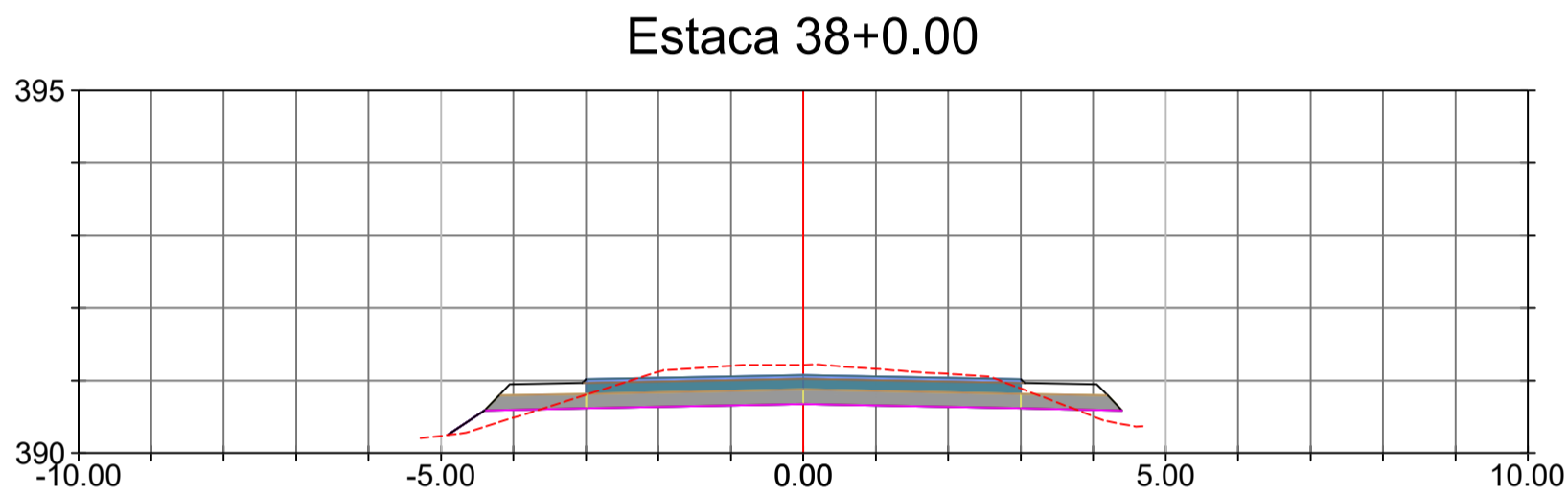
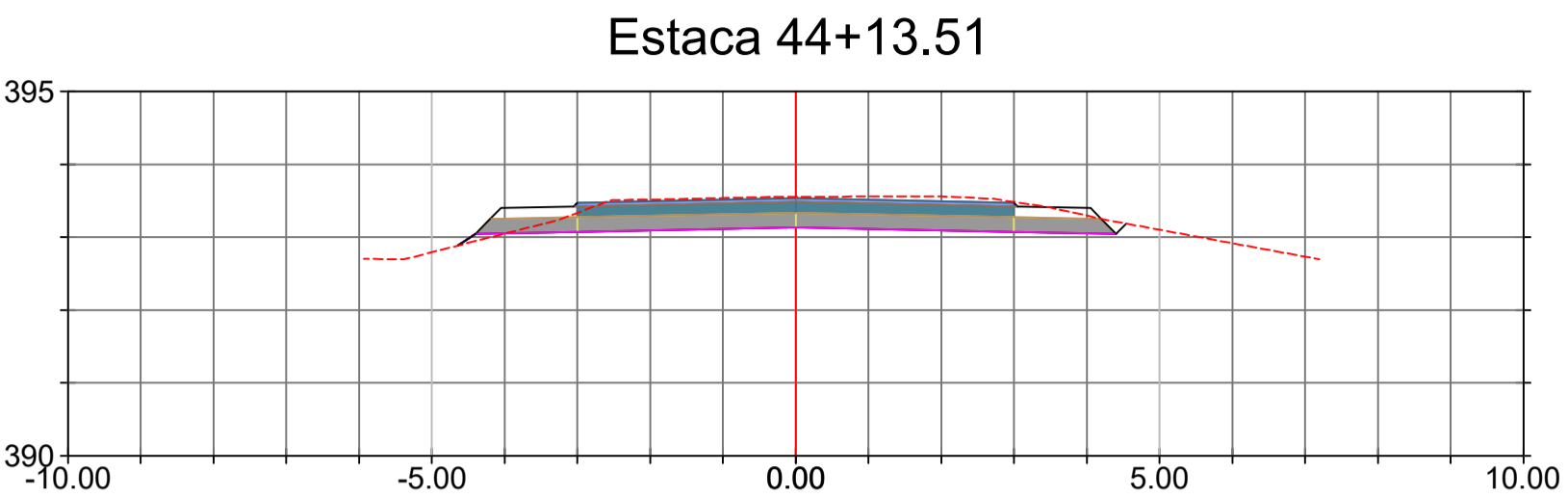
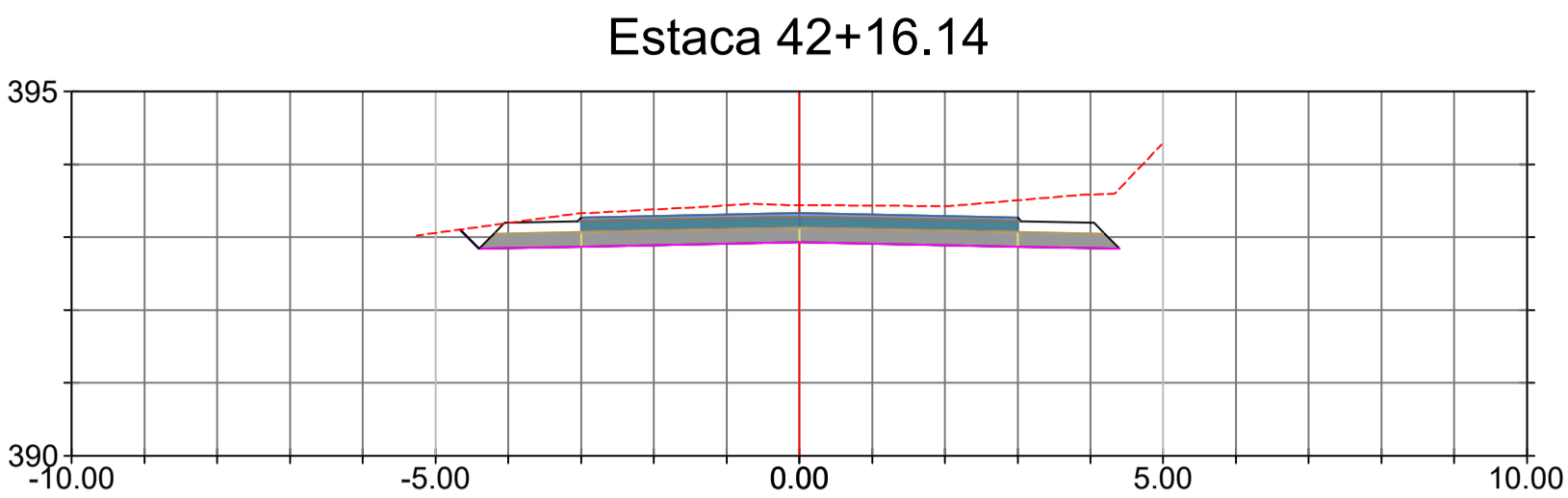
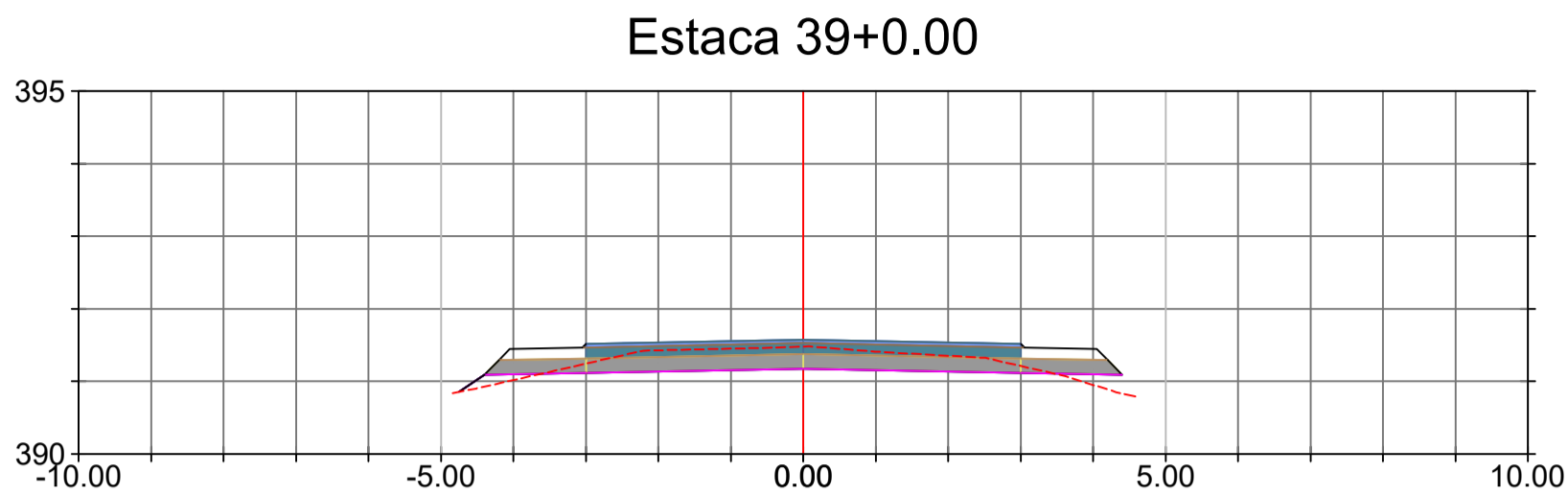
PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

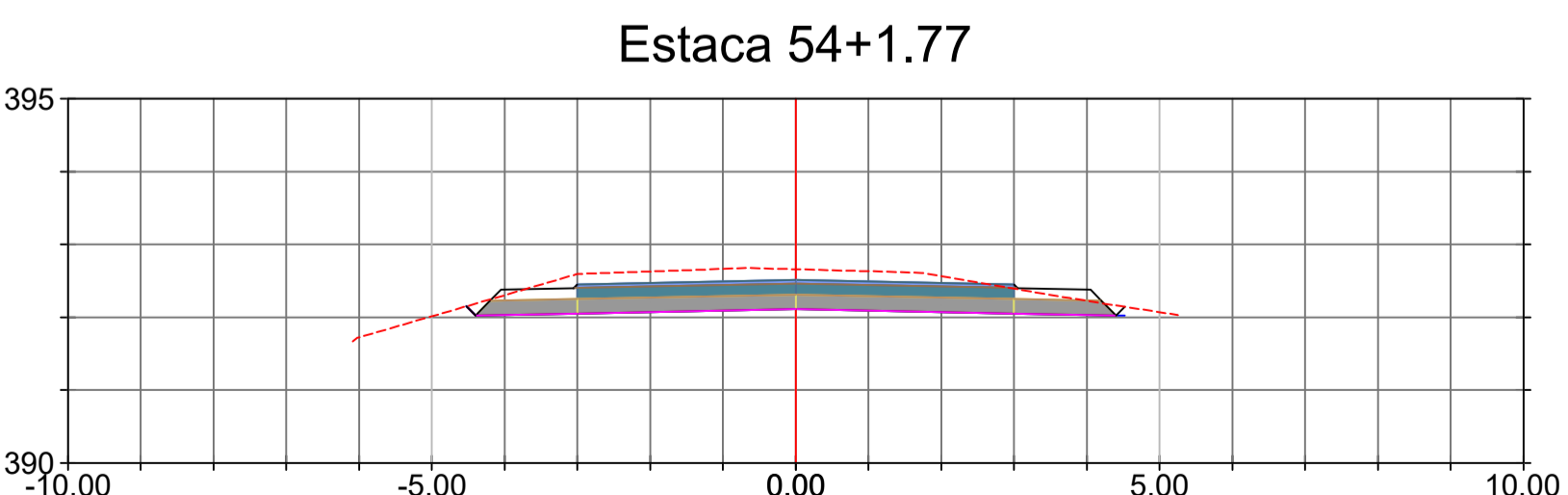
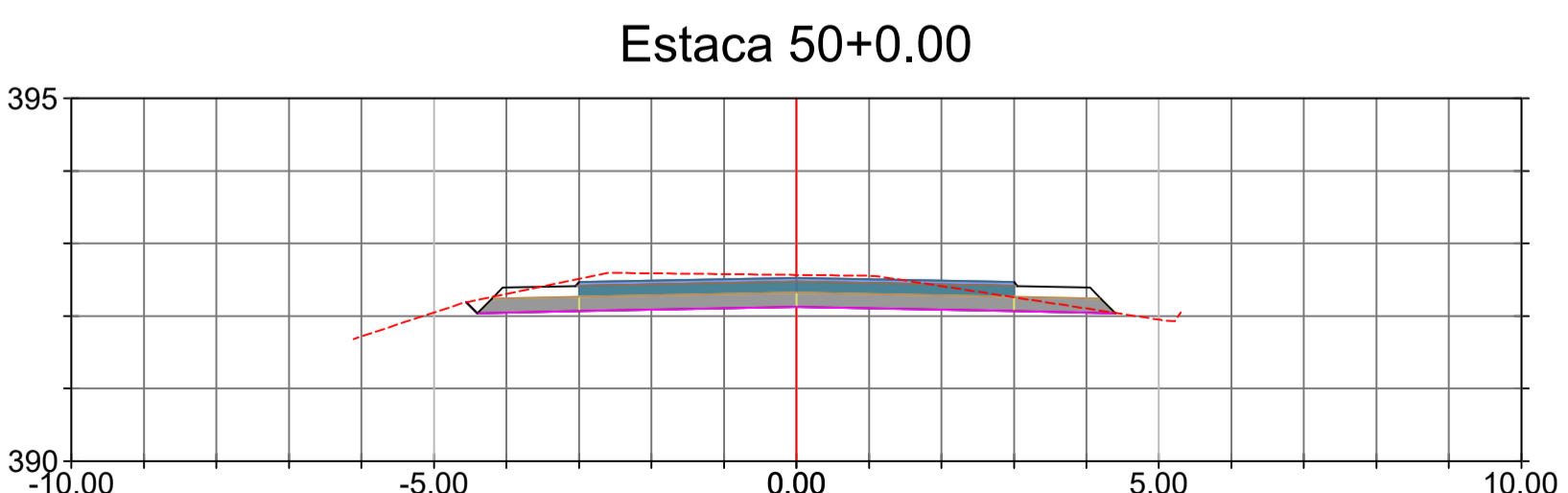
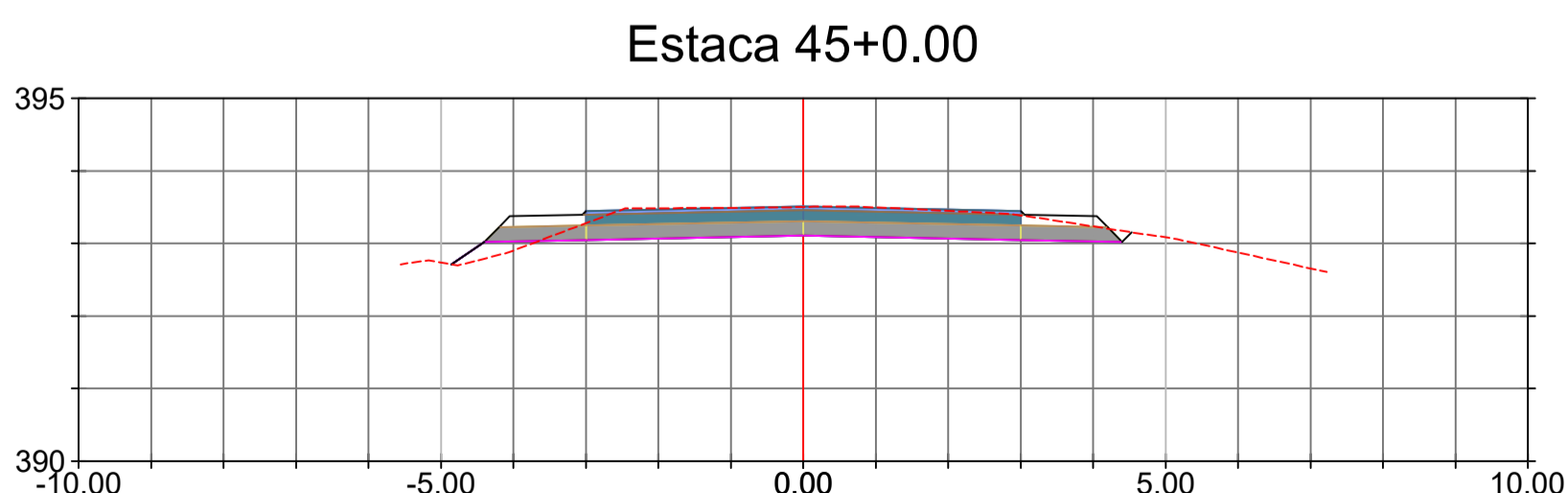
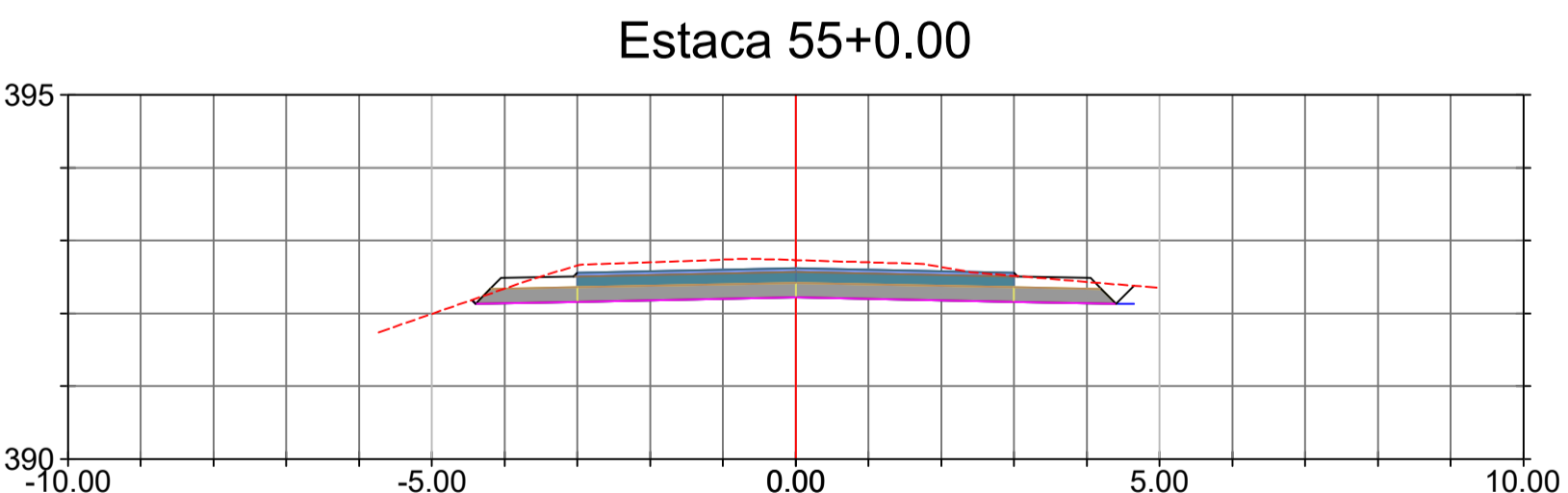
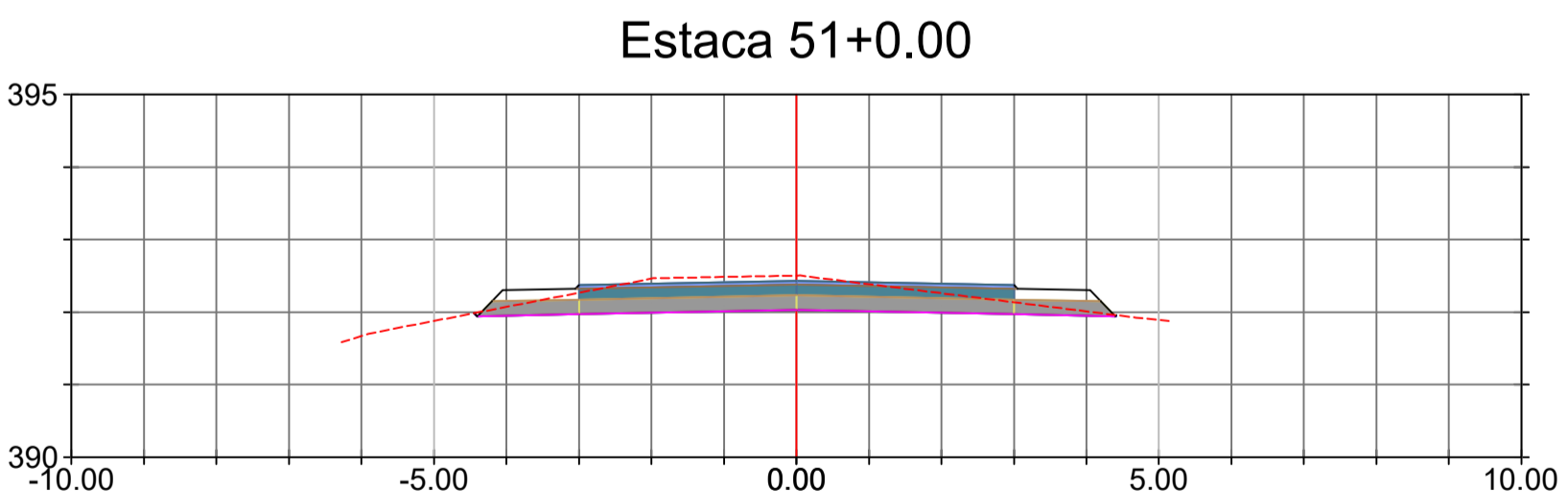
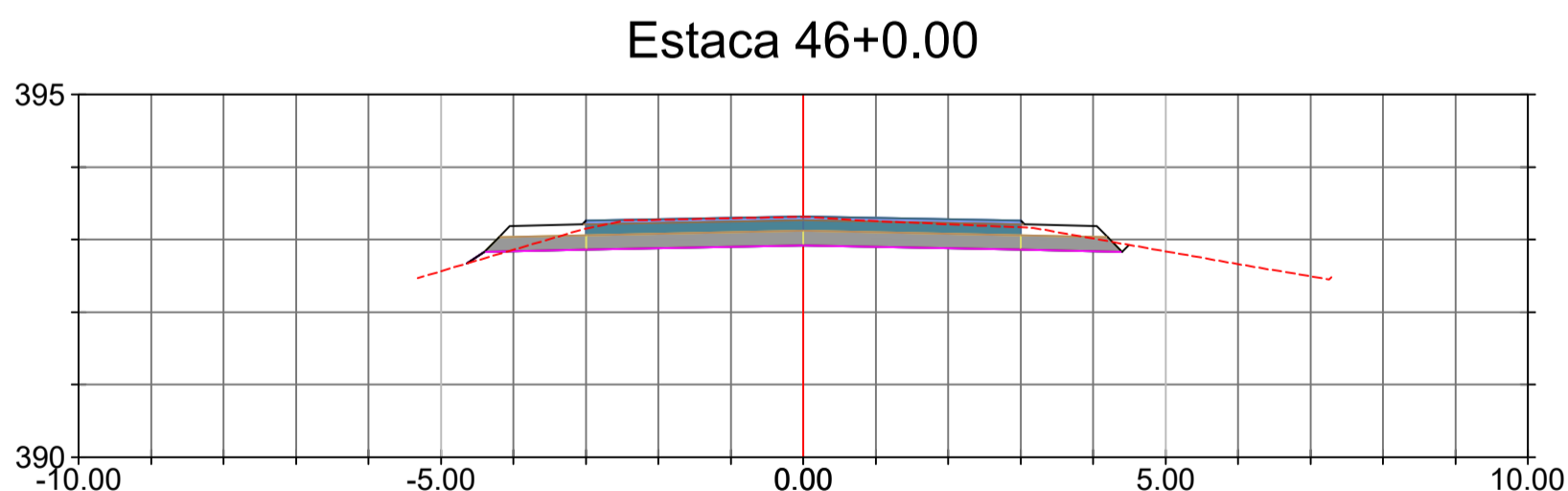
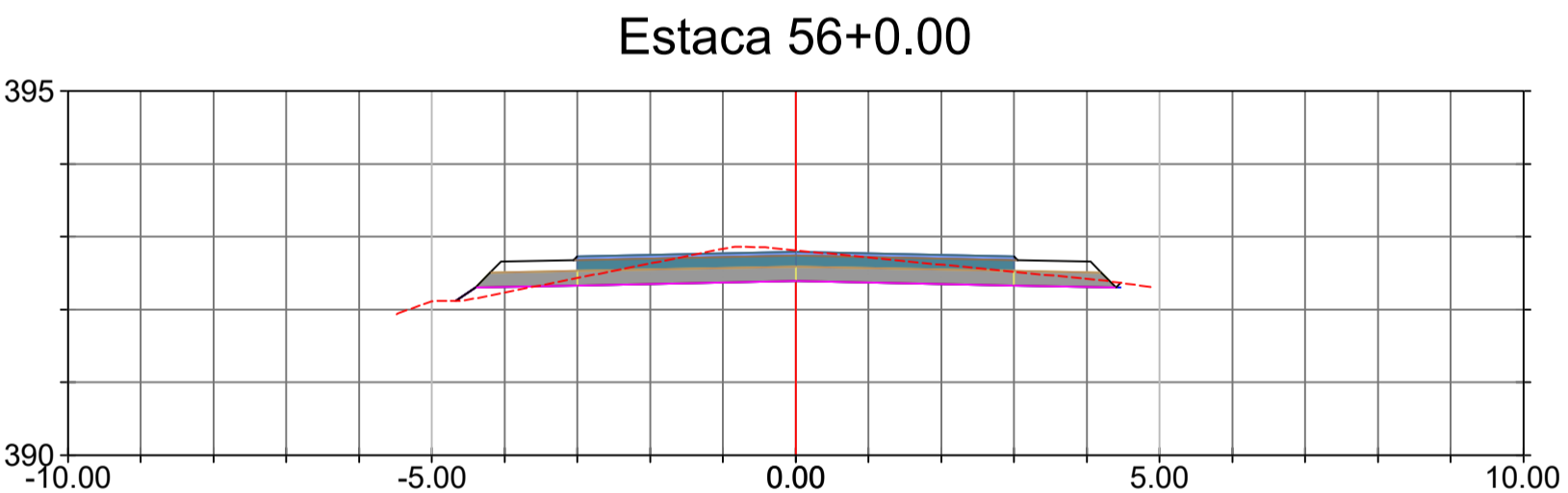
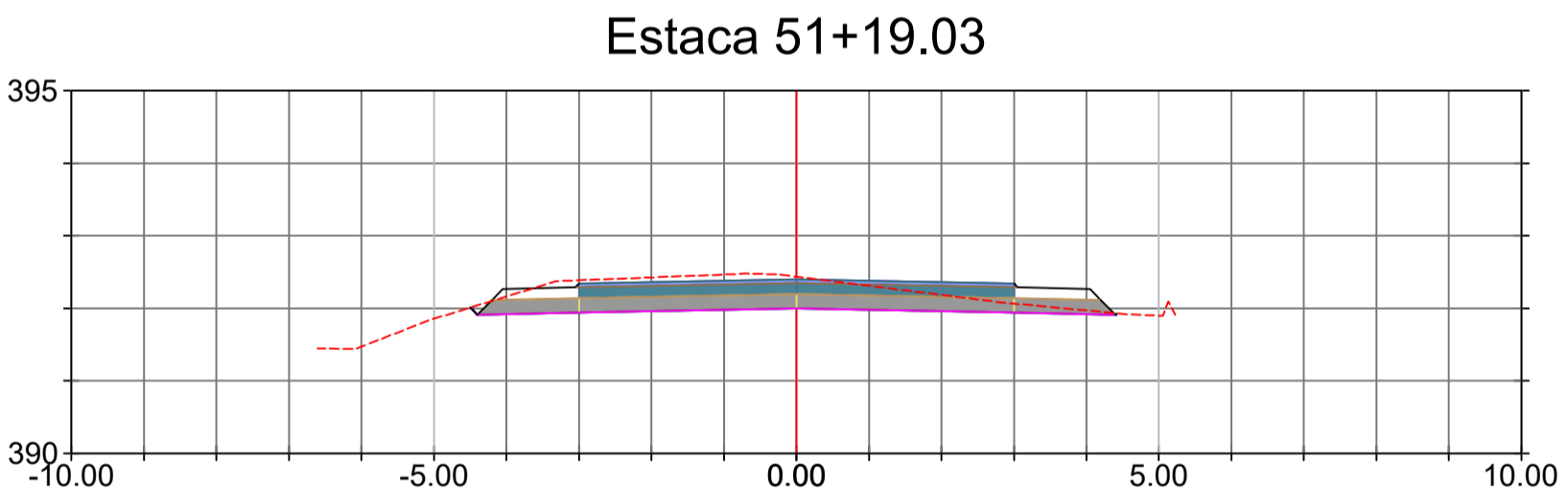
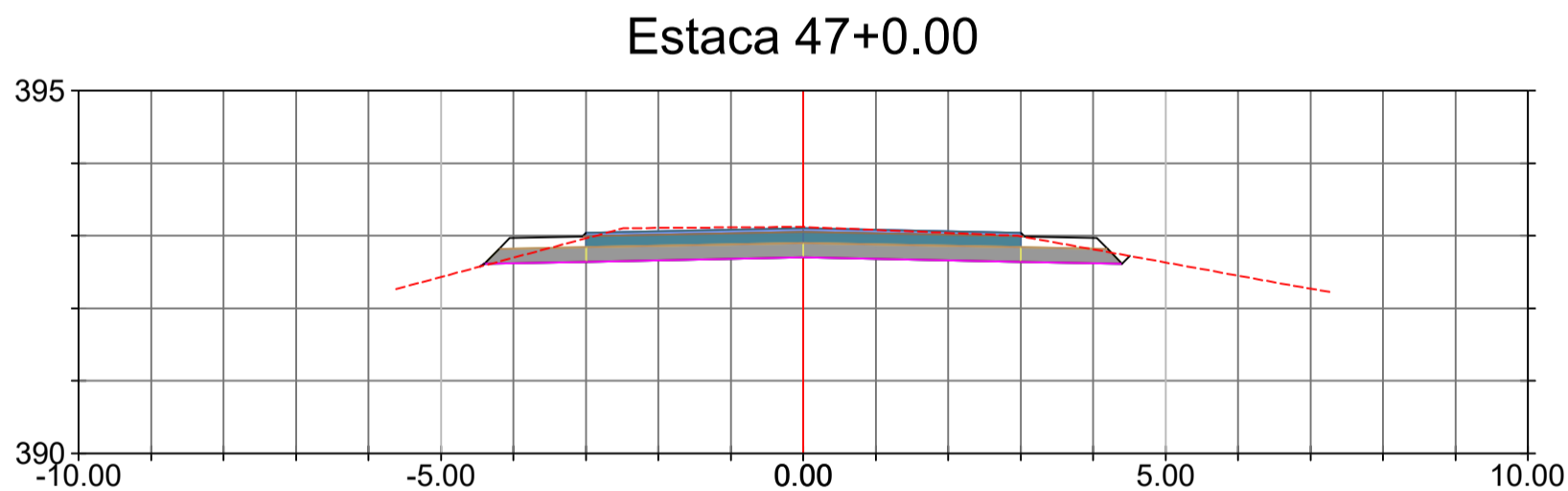
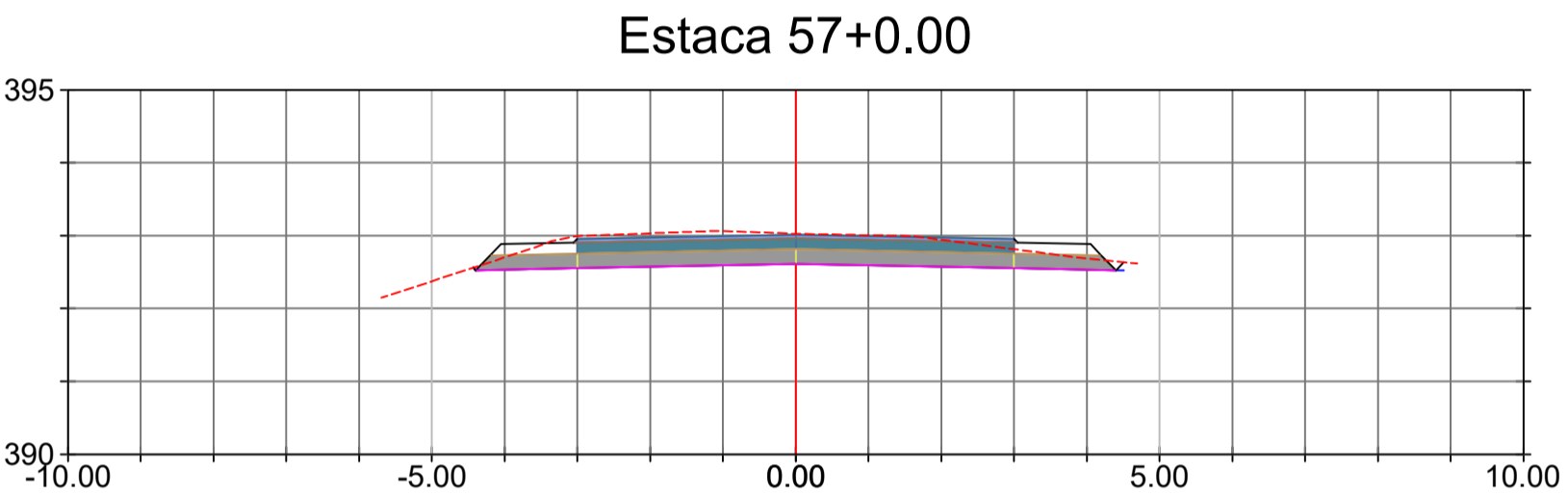
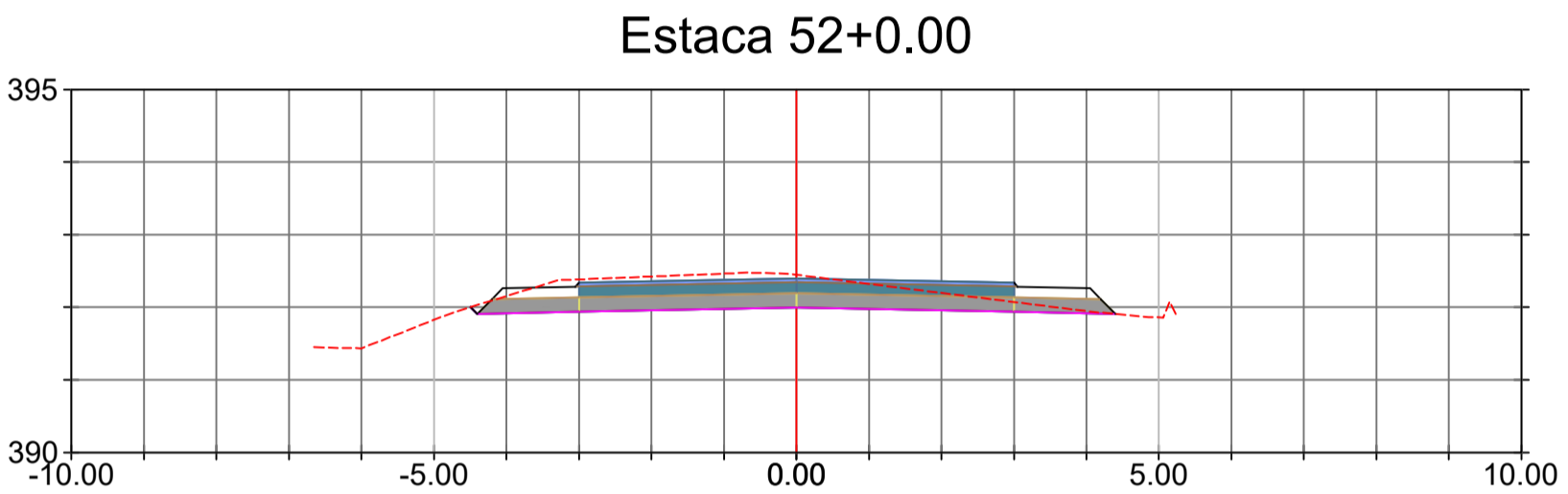
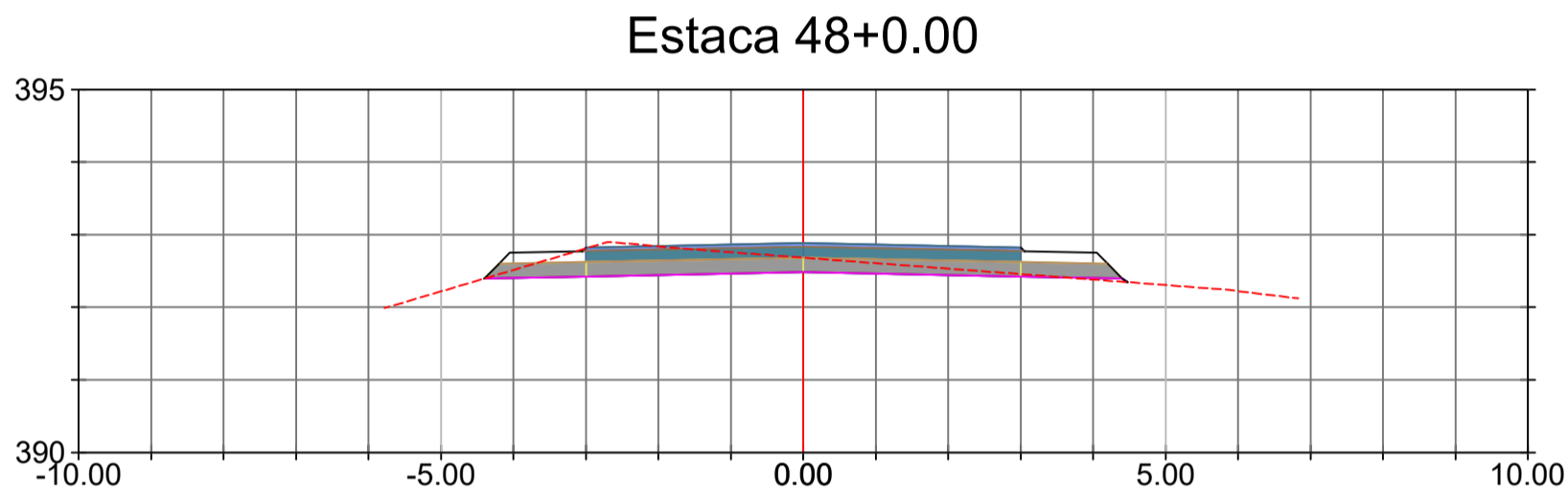
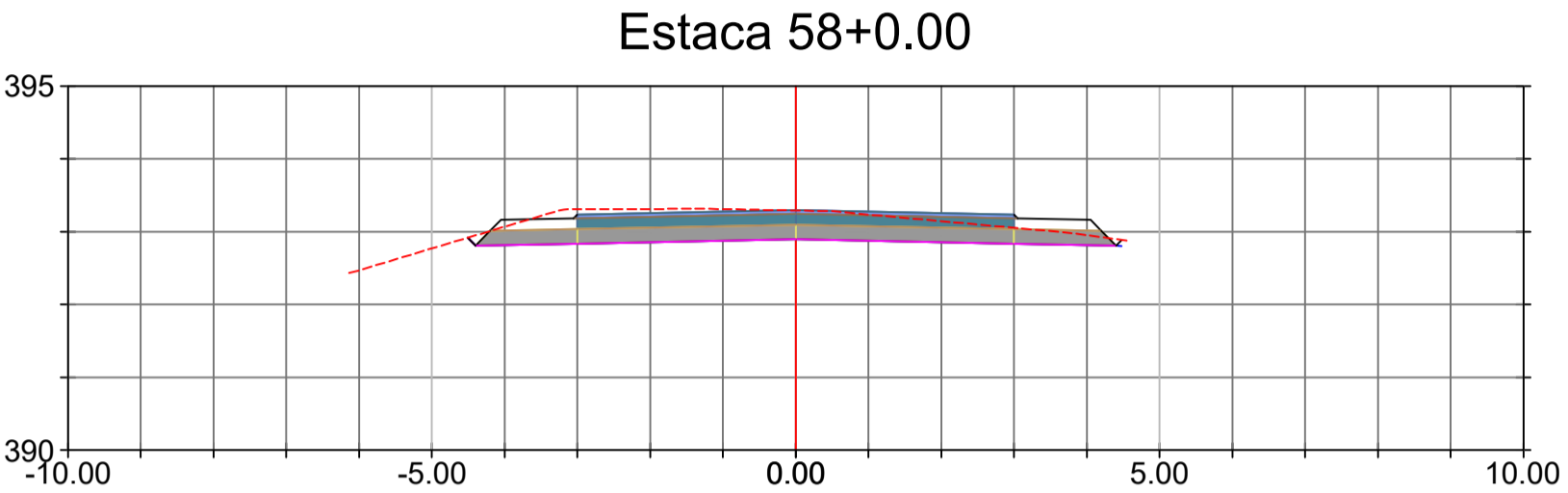
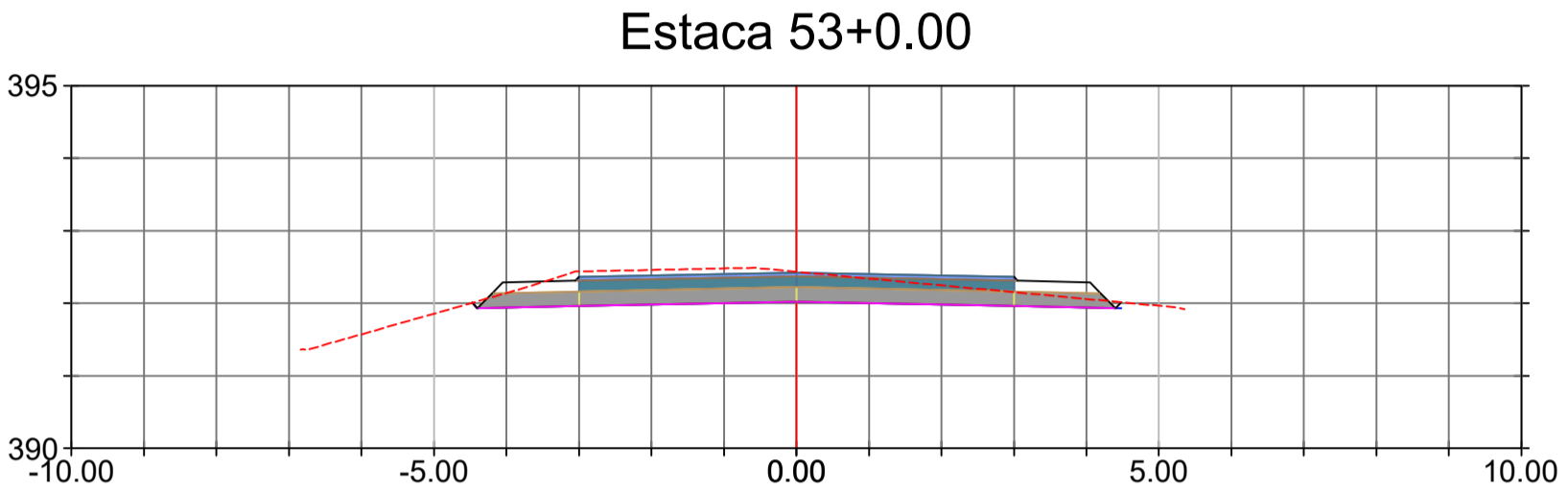
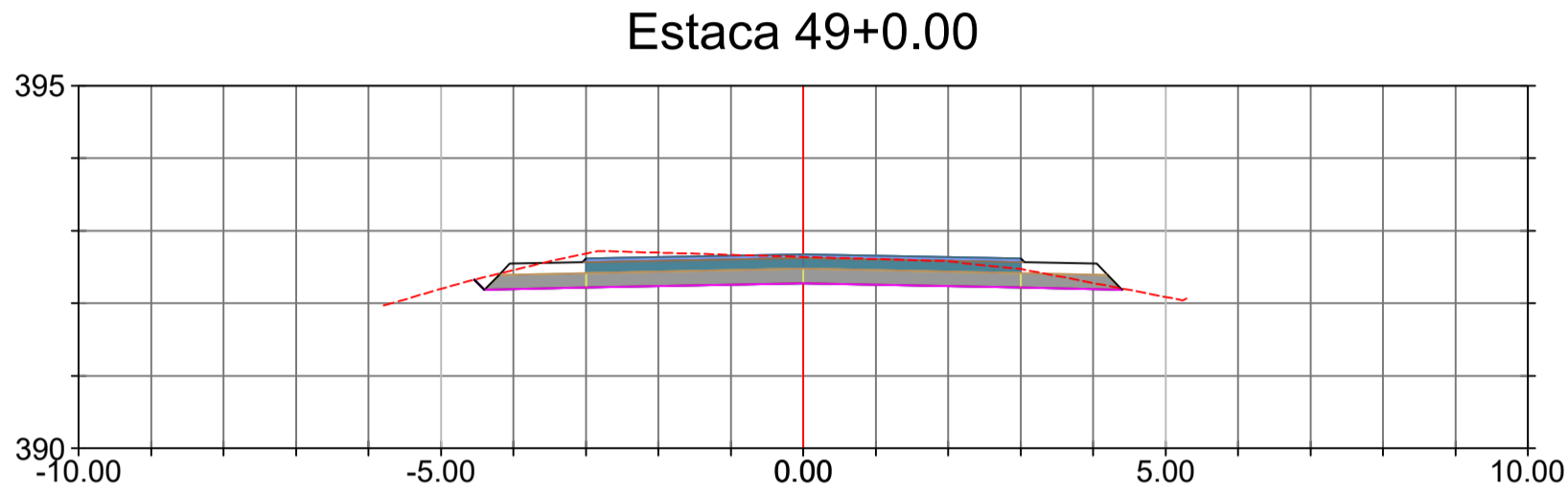
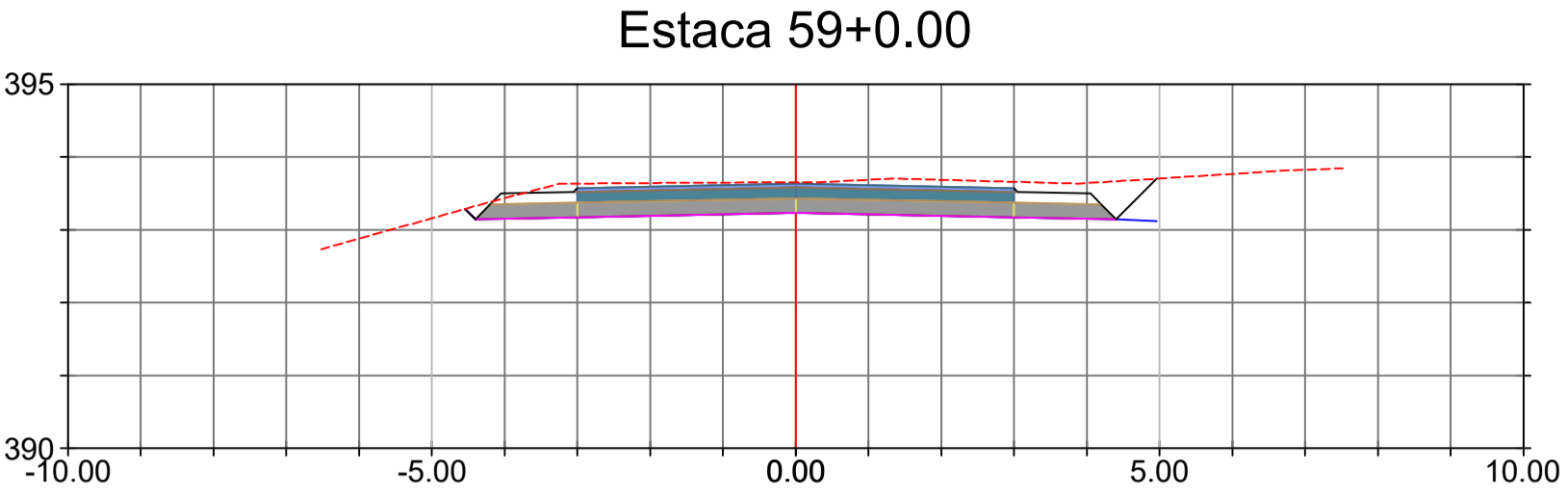
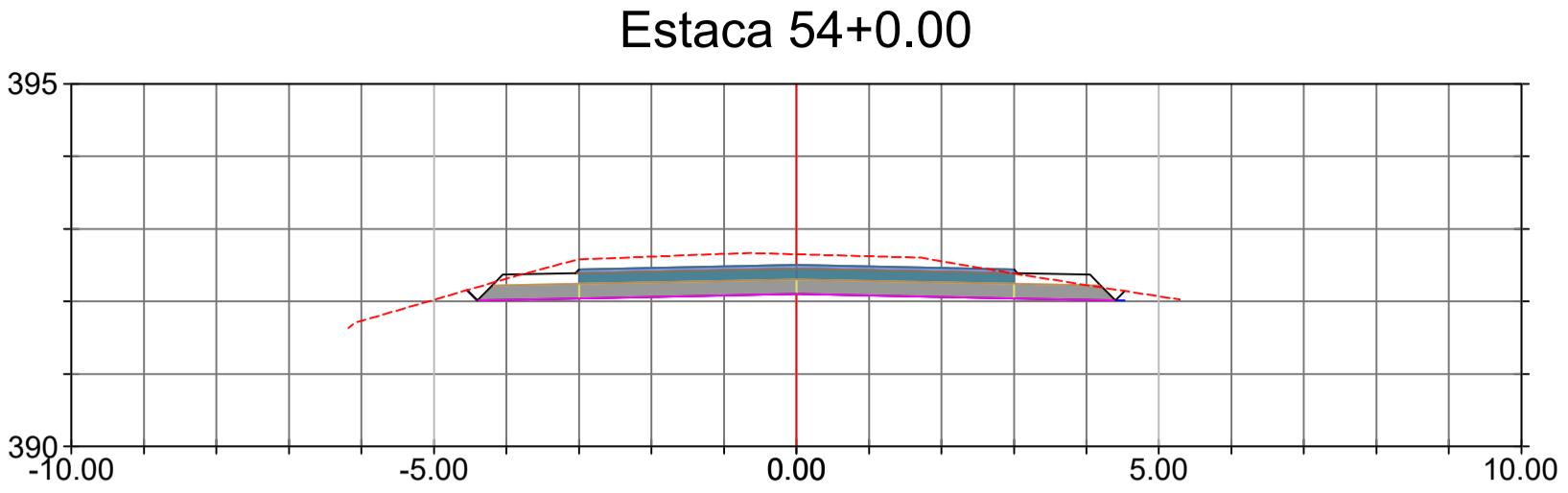
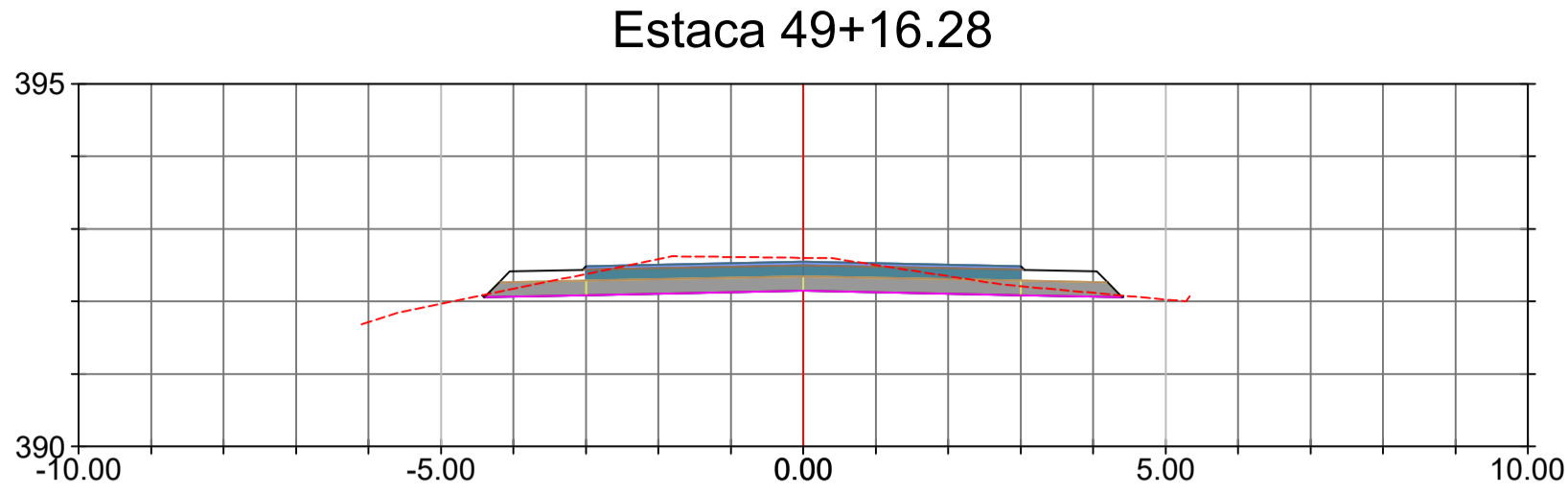
4. PROJETO DE TERRAPLANAGEM

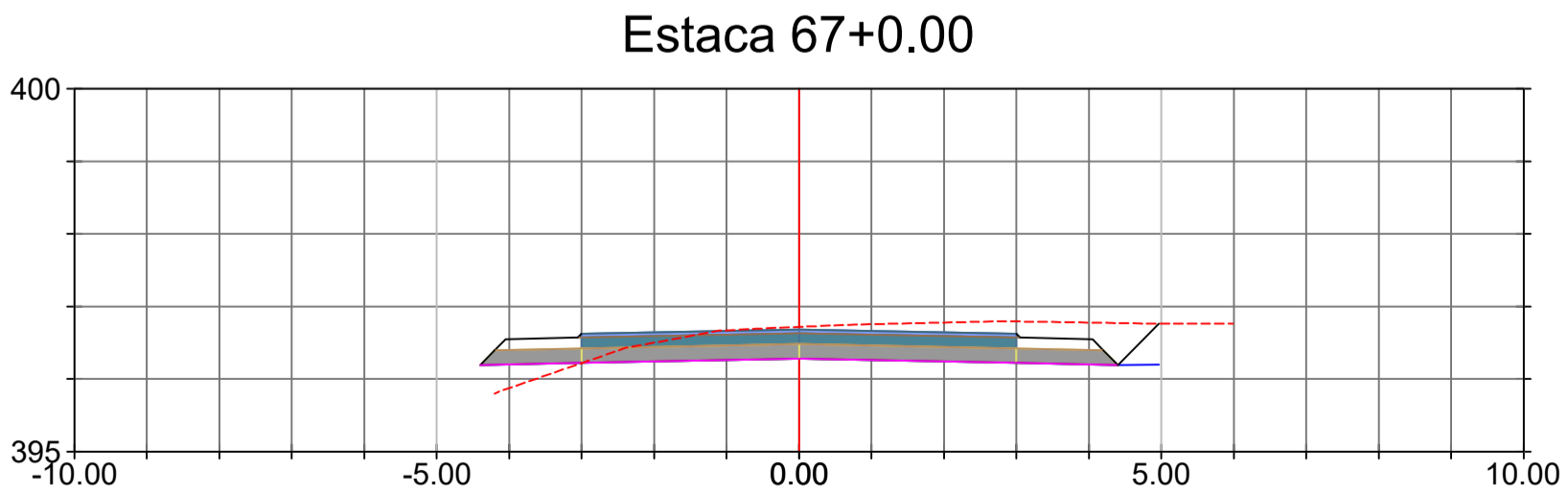
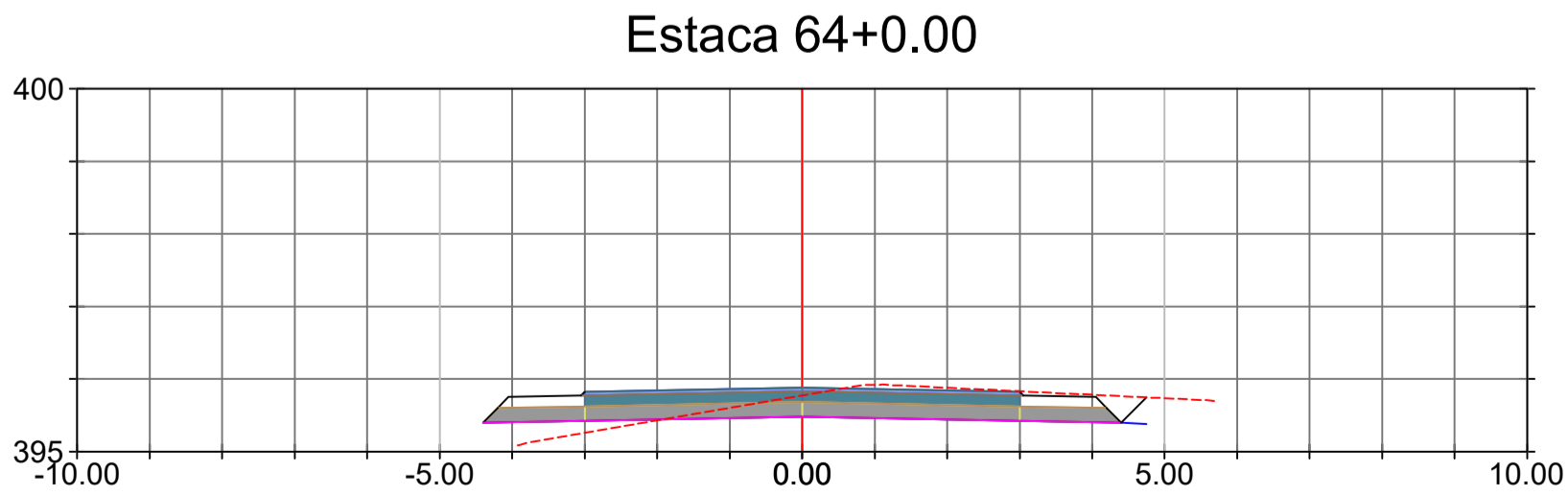
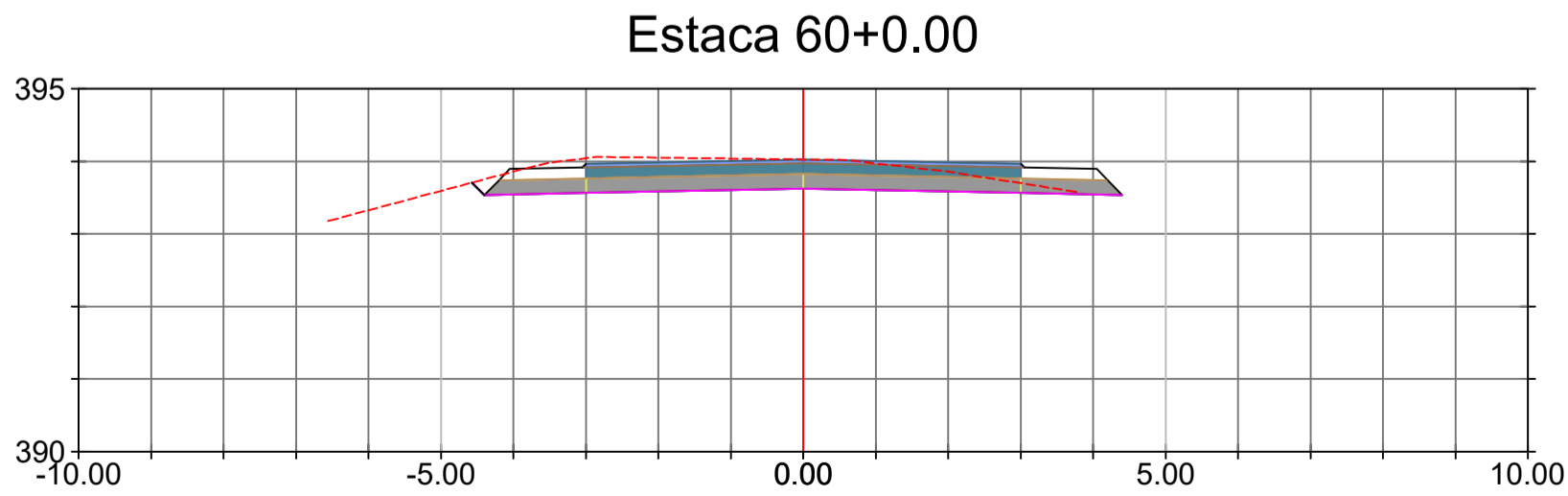
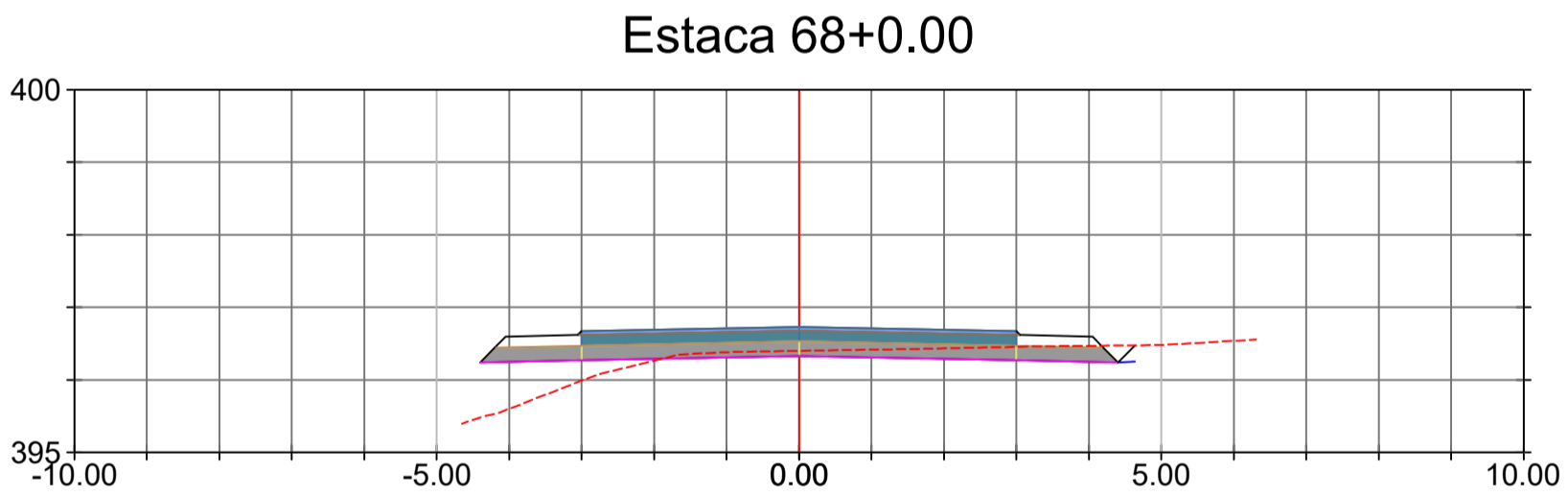
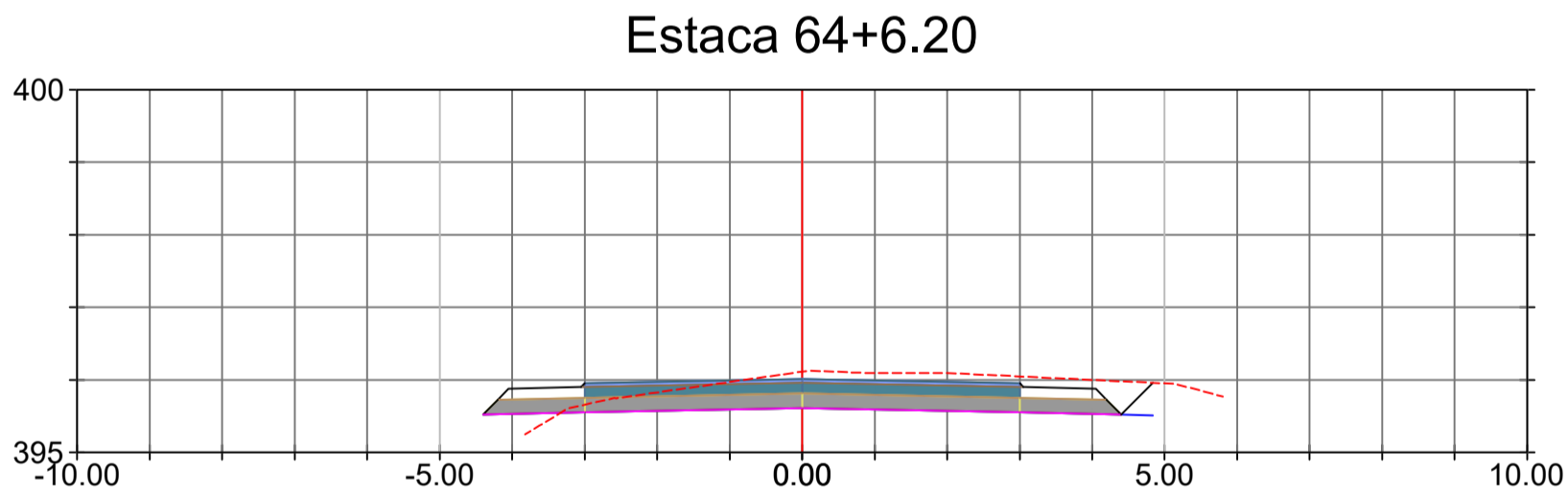
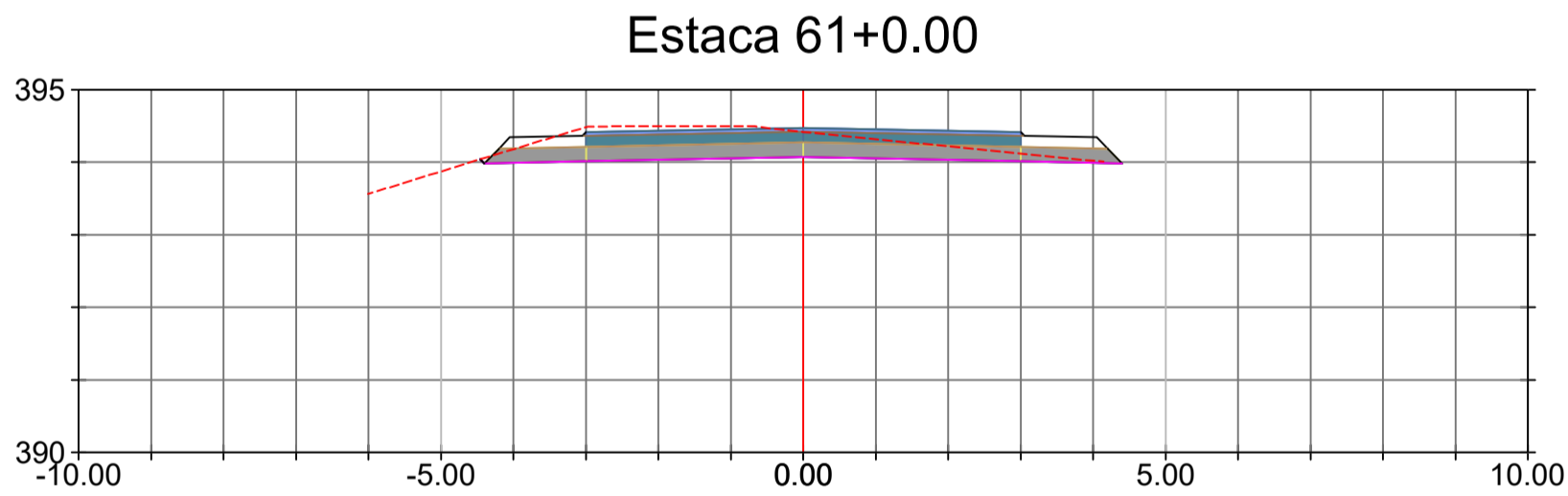
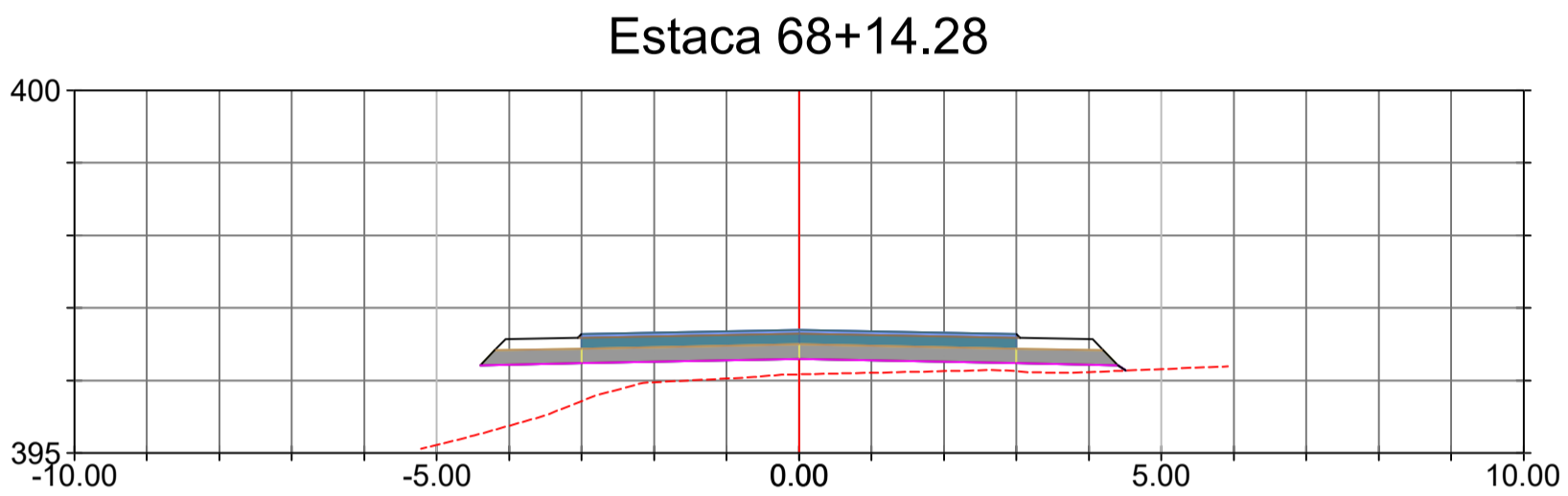
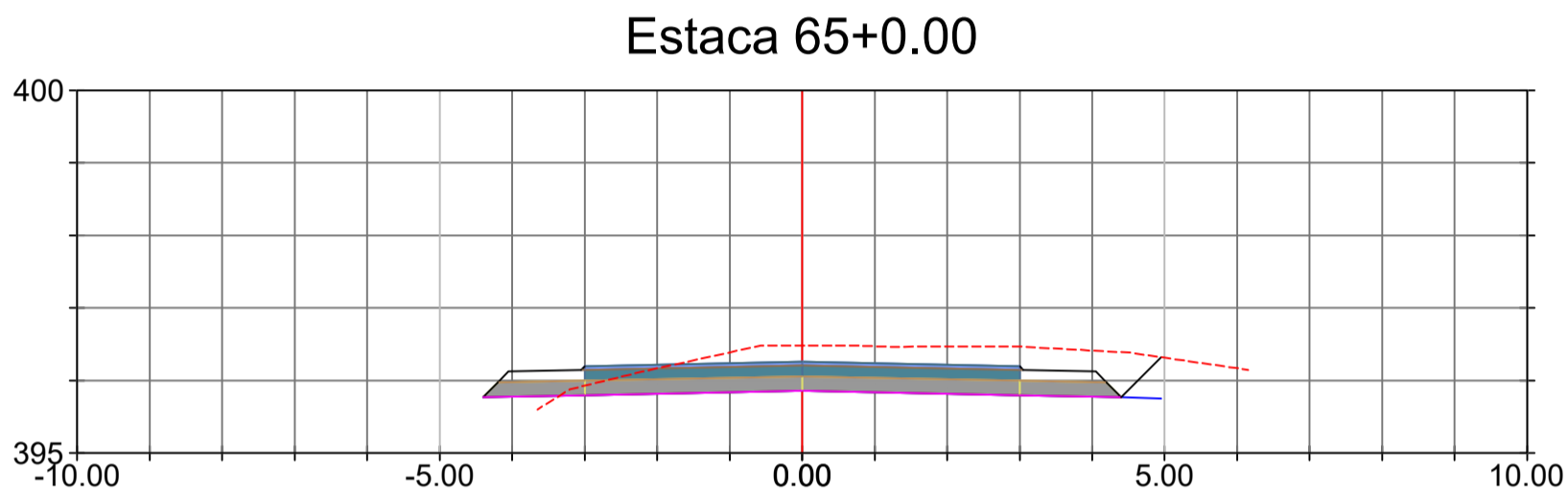
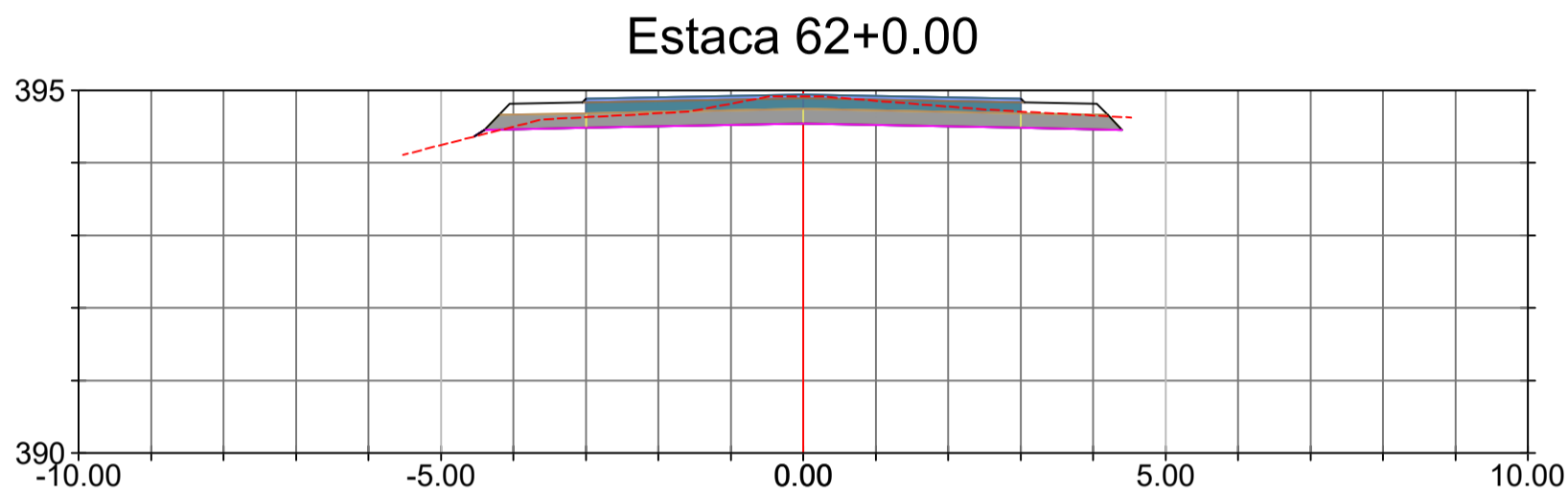
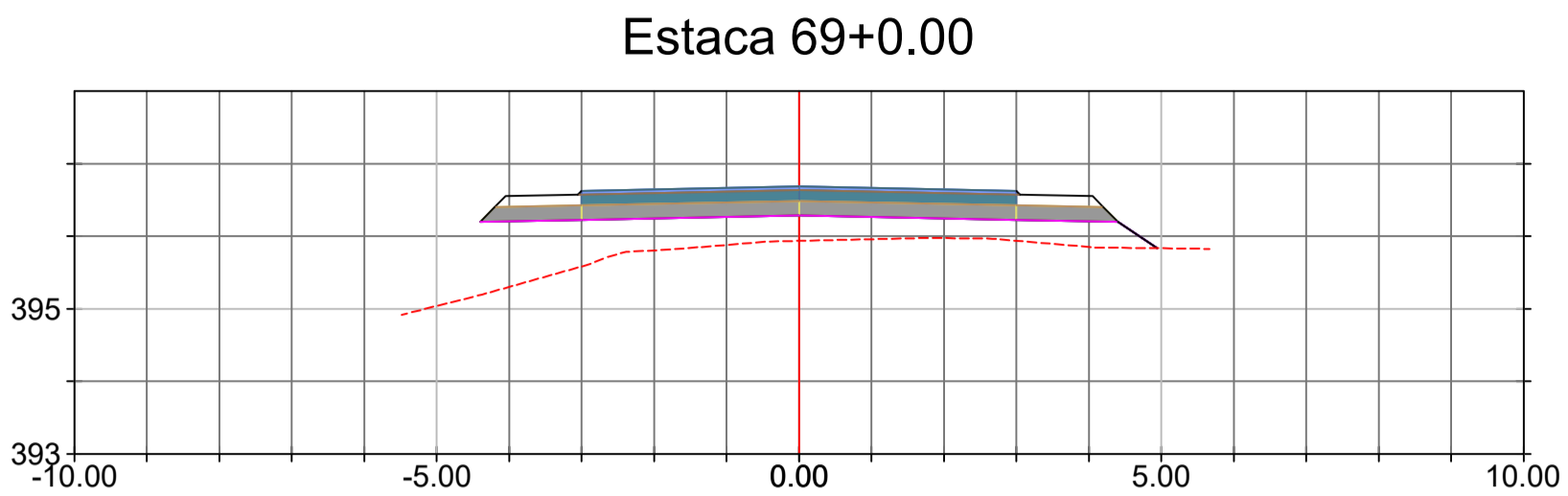
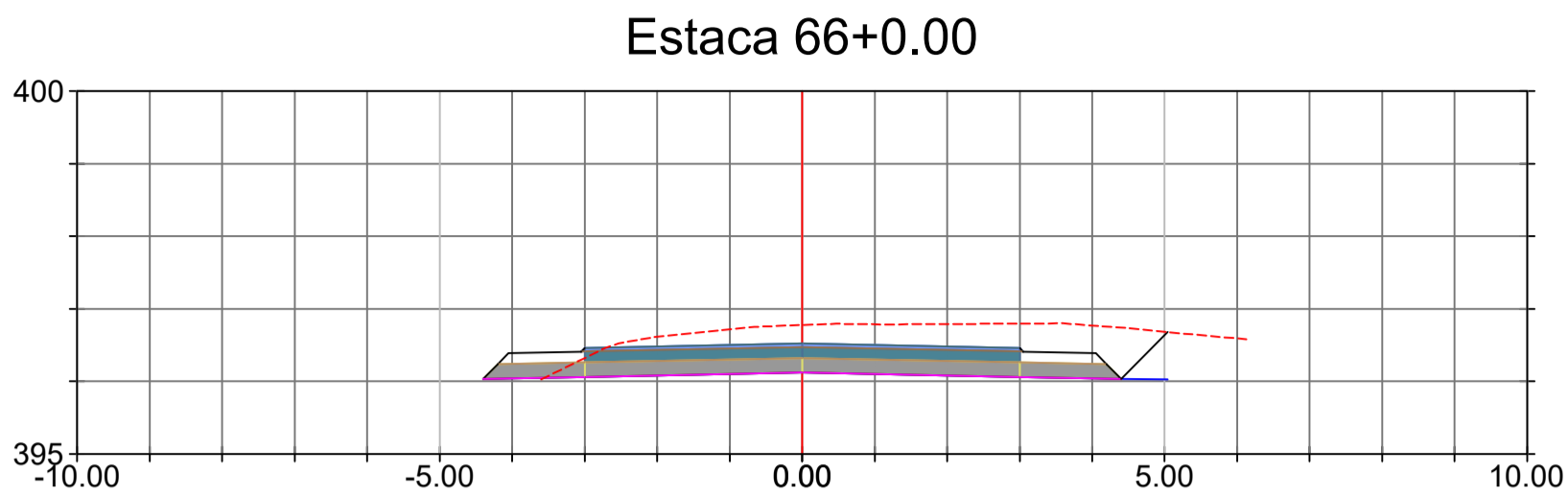
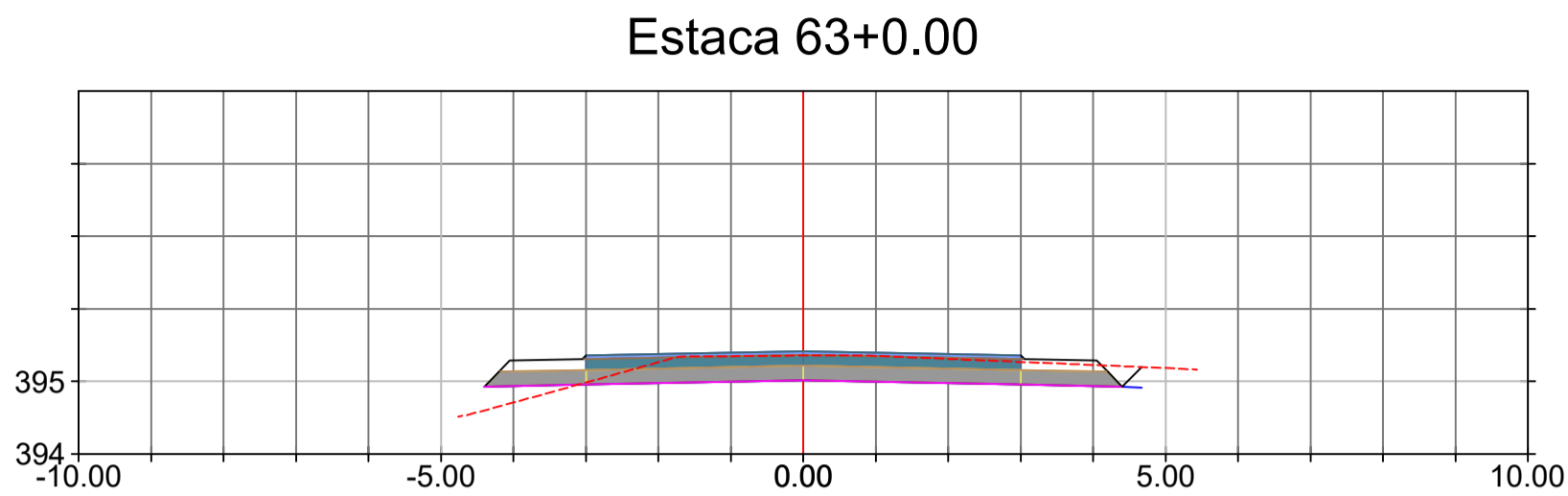


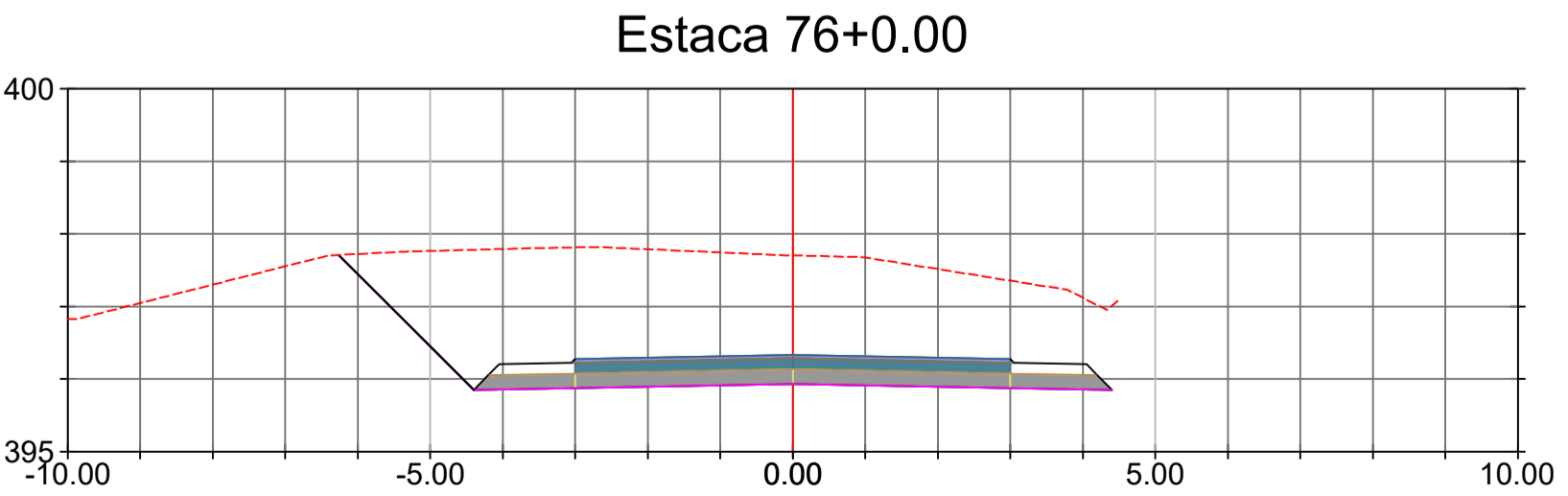
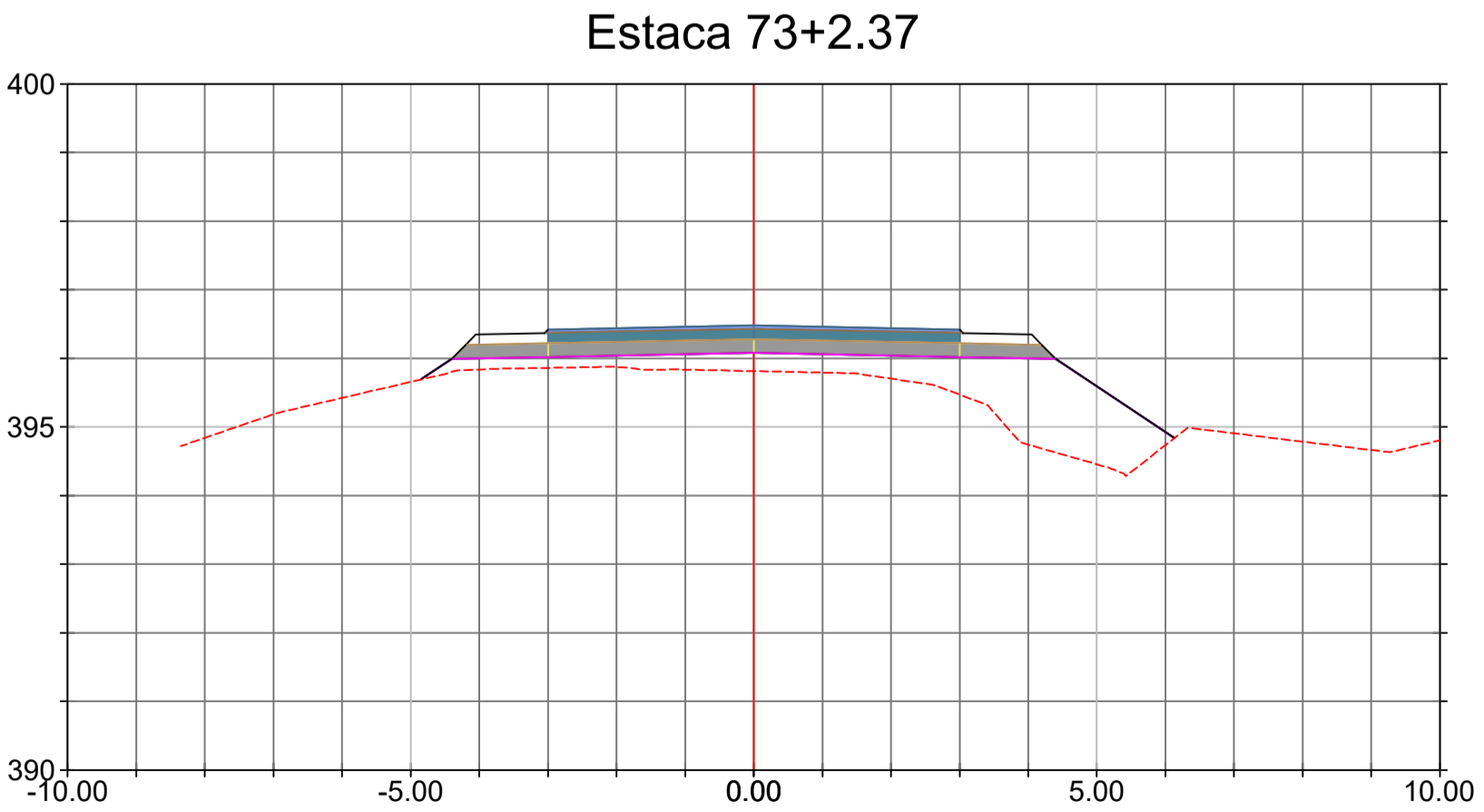
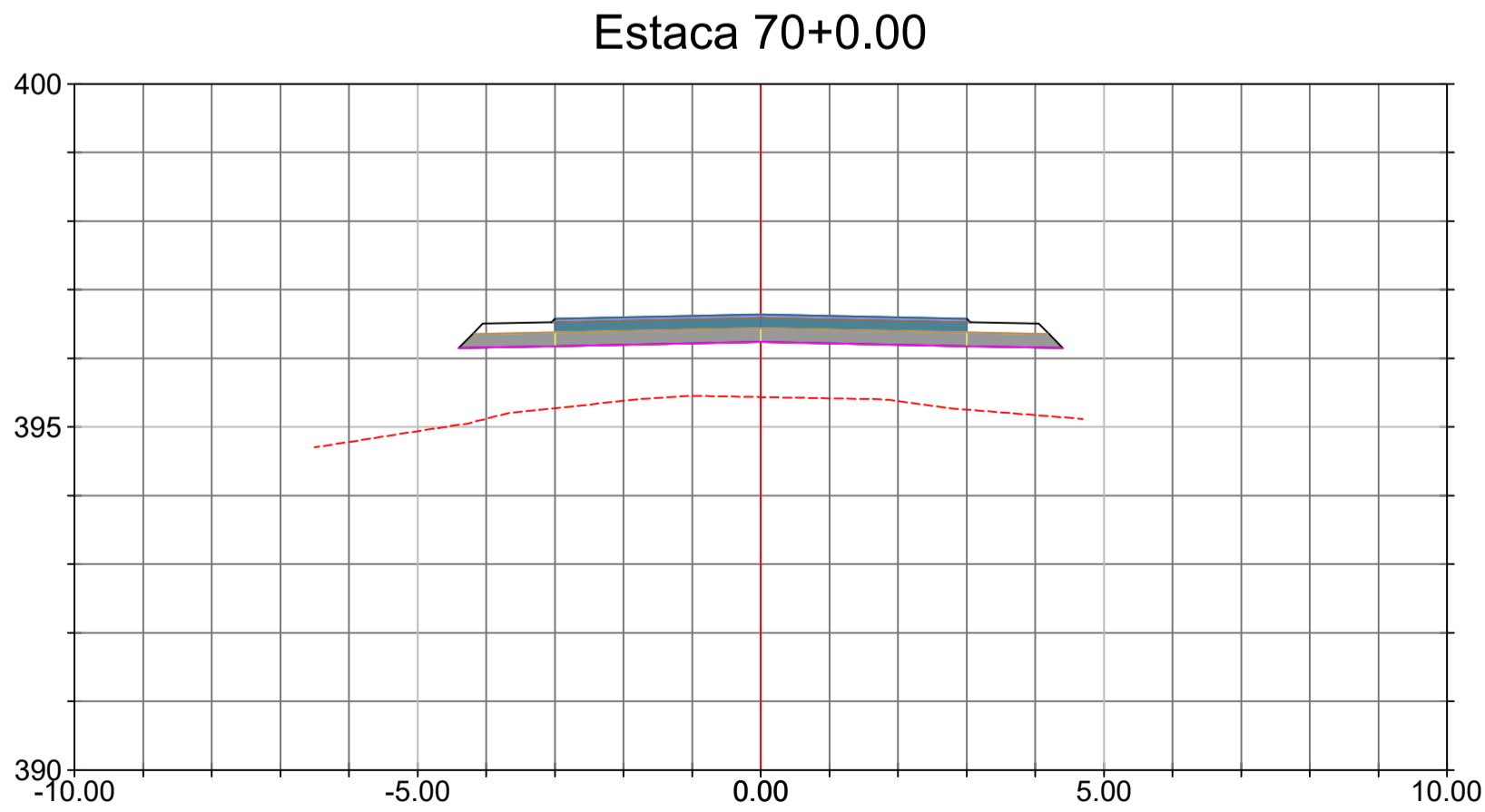
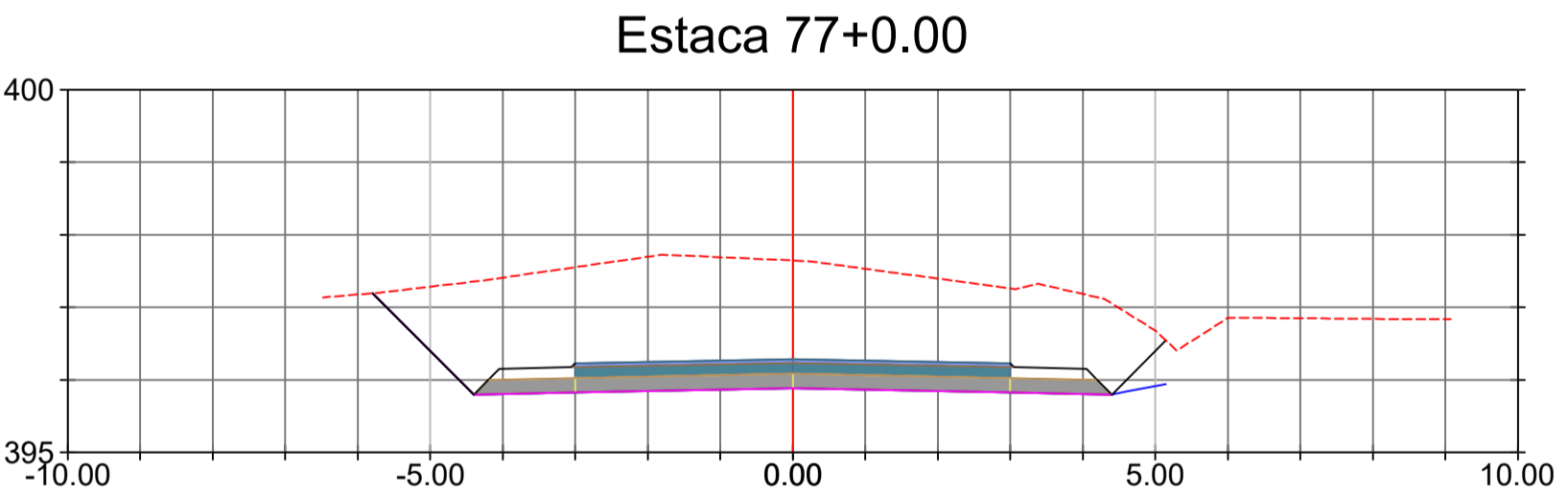
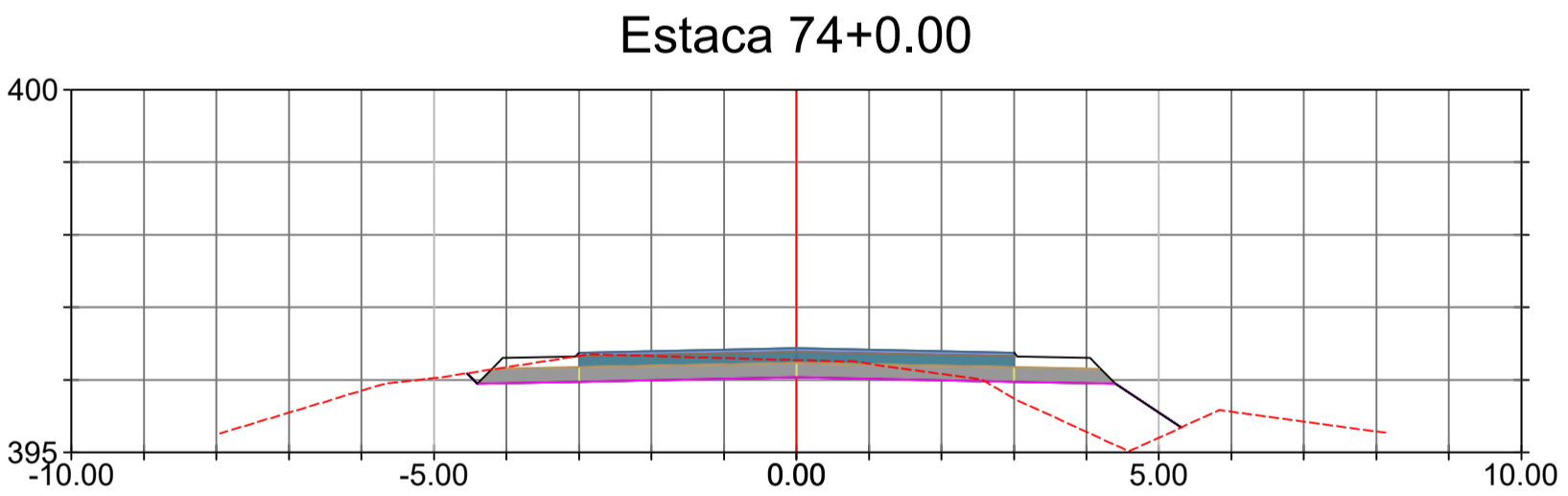
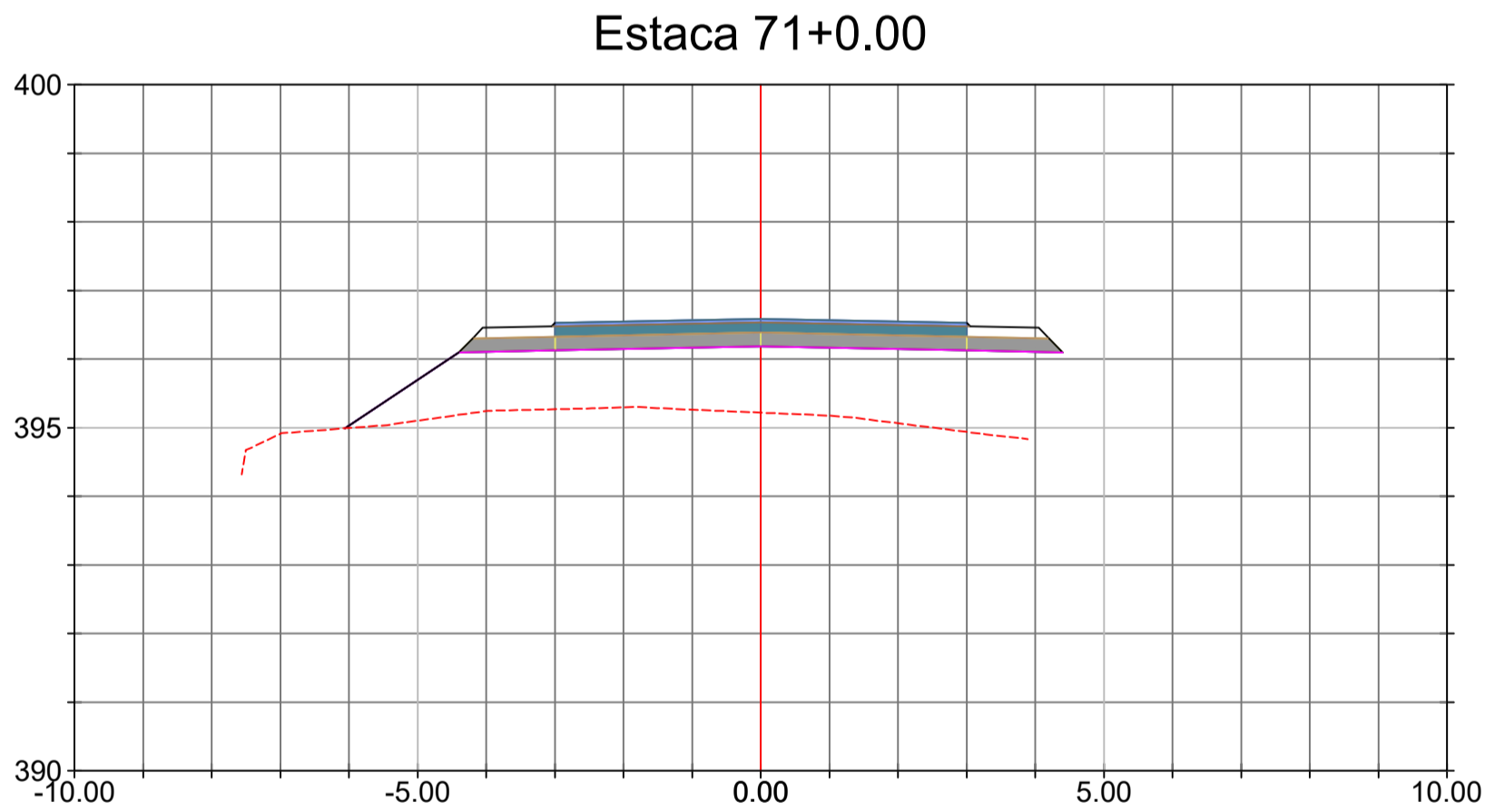
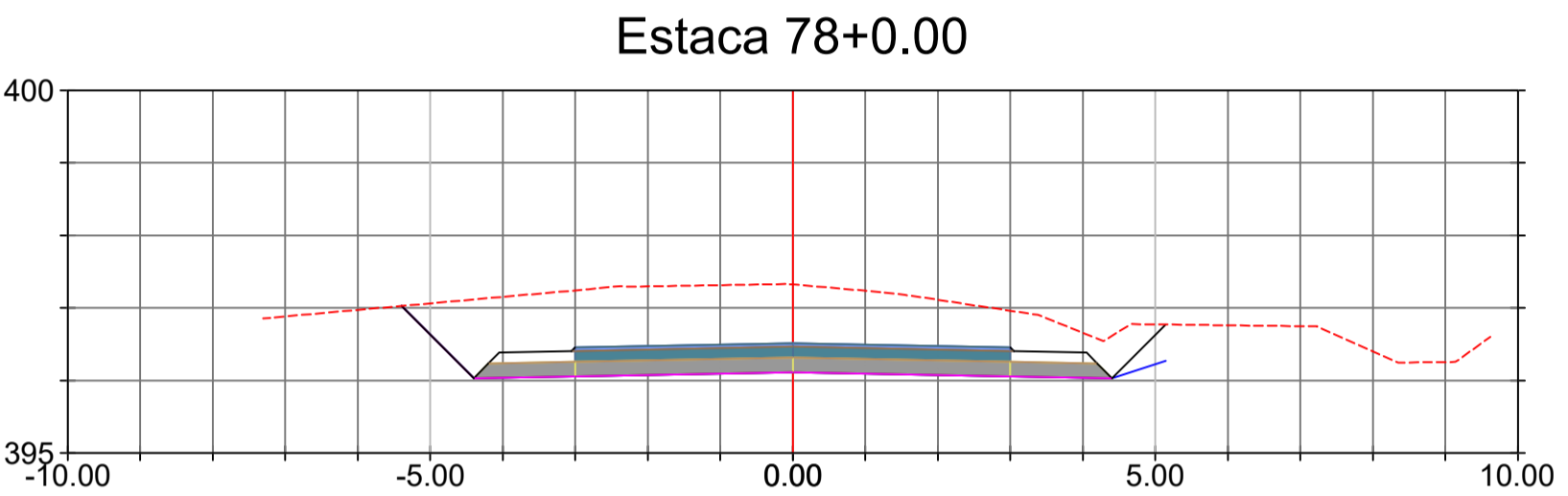
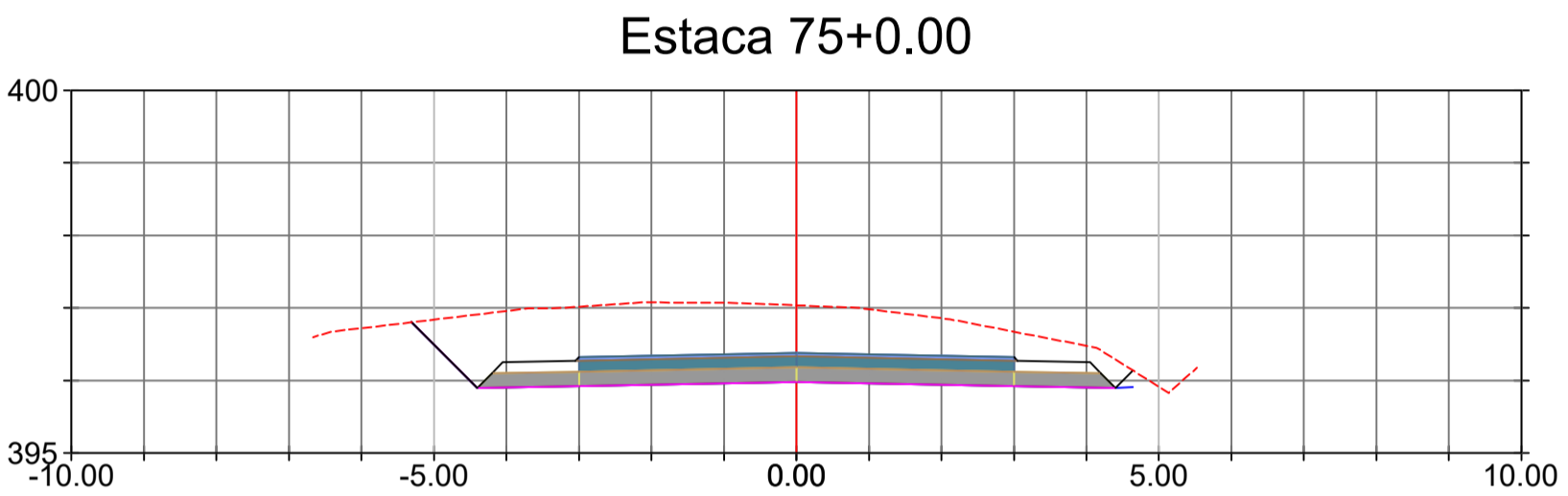
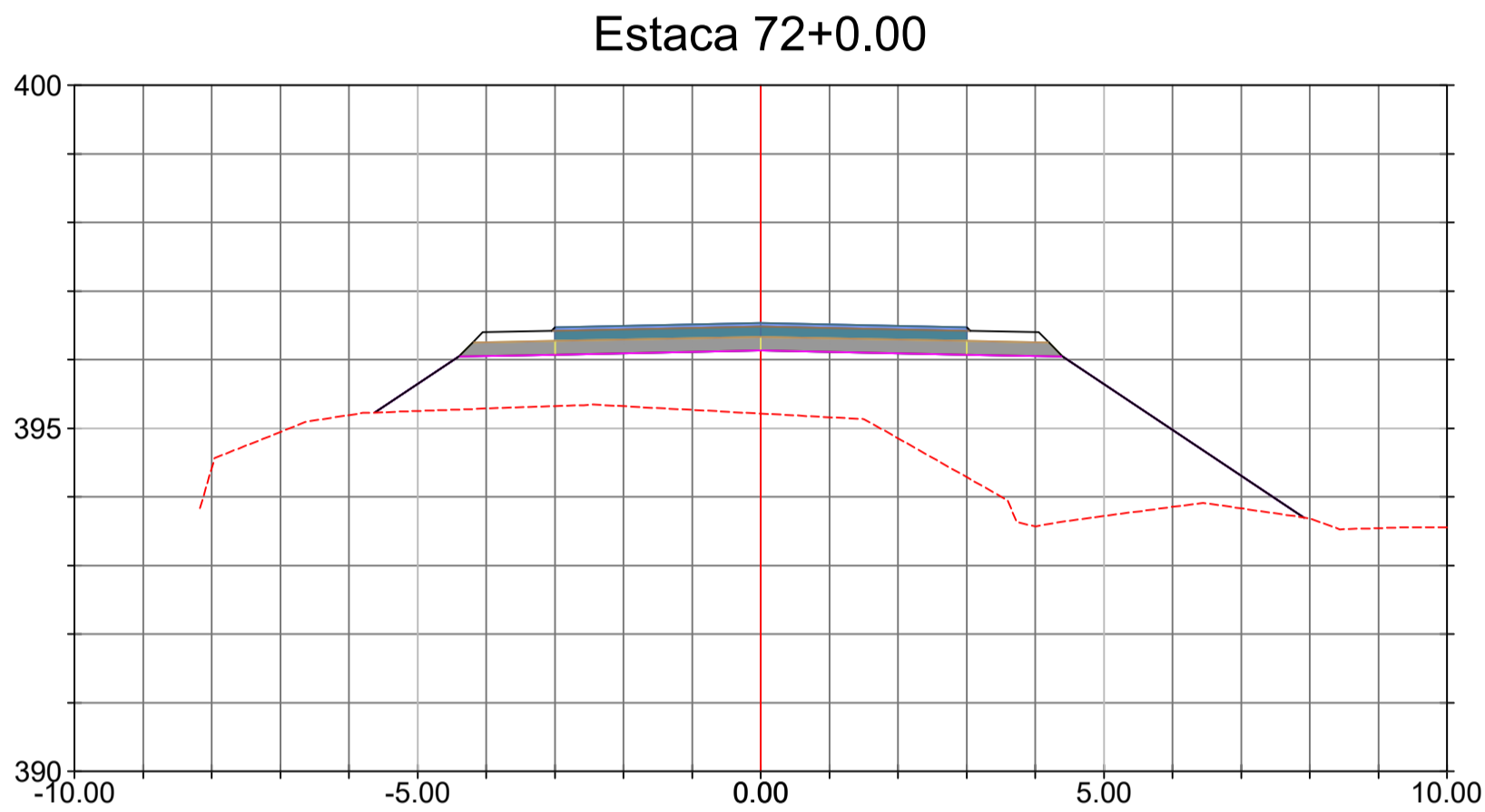
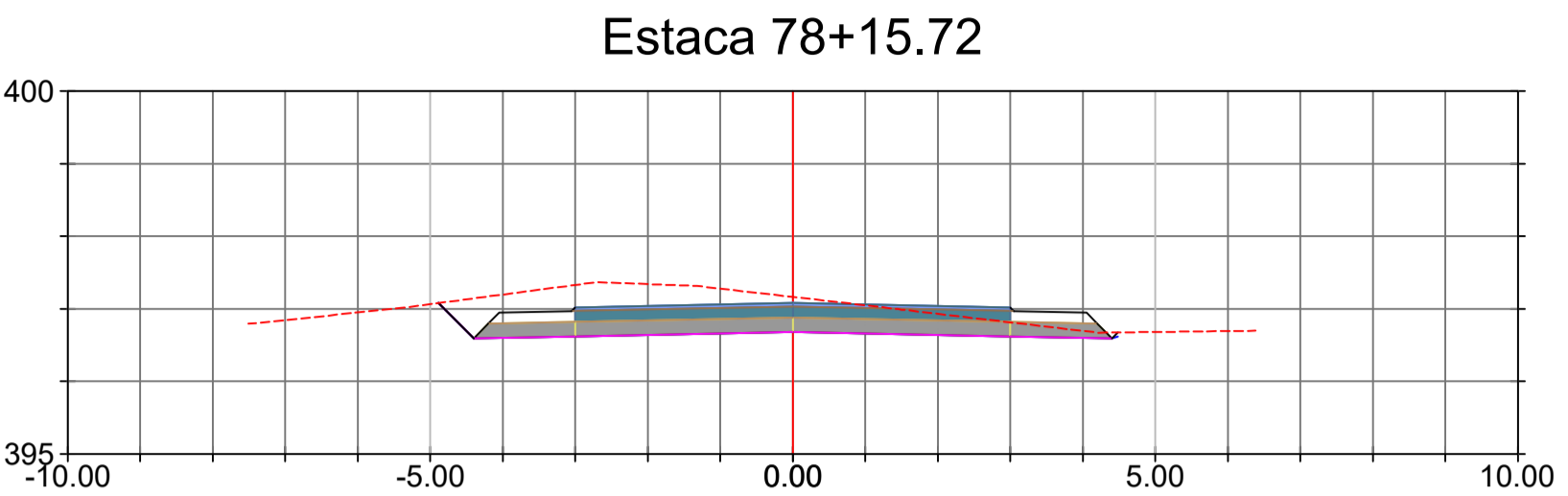
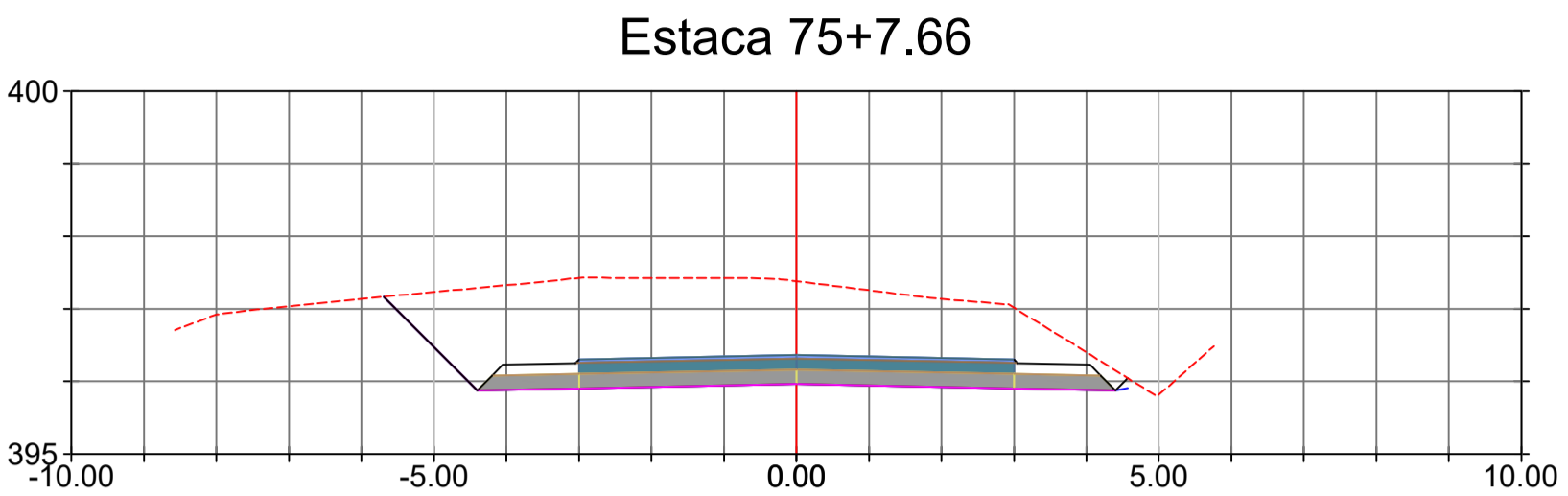
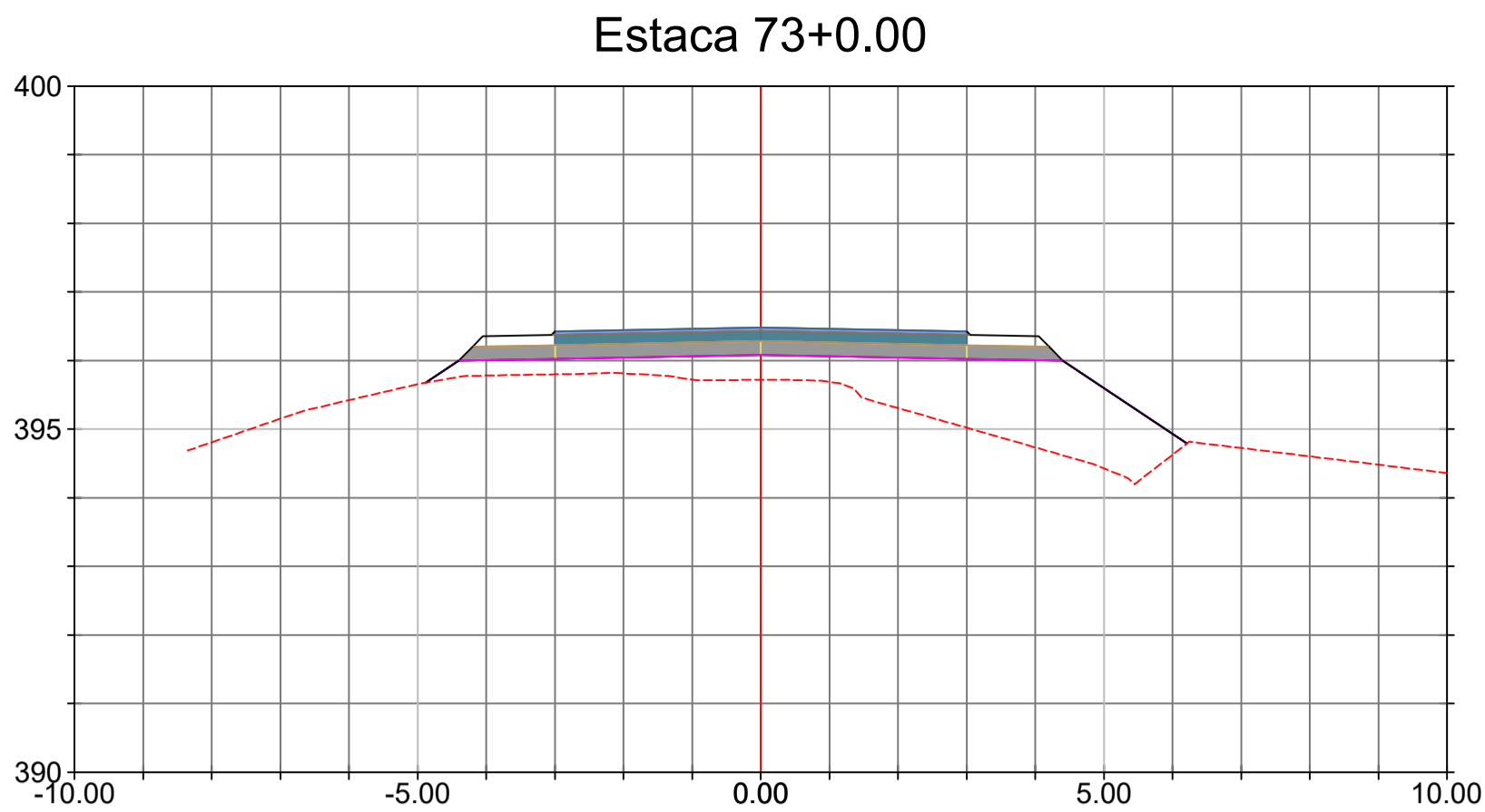


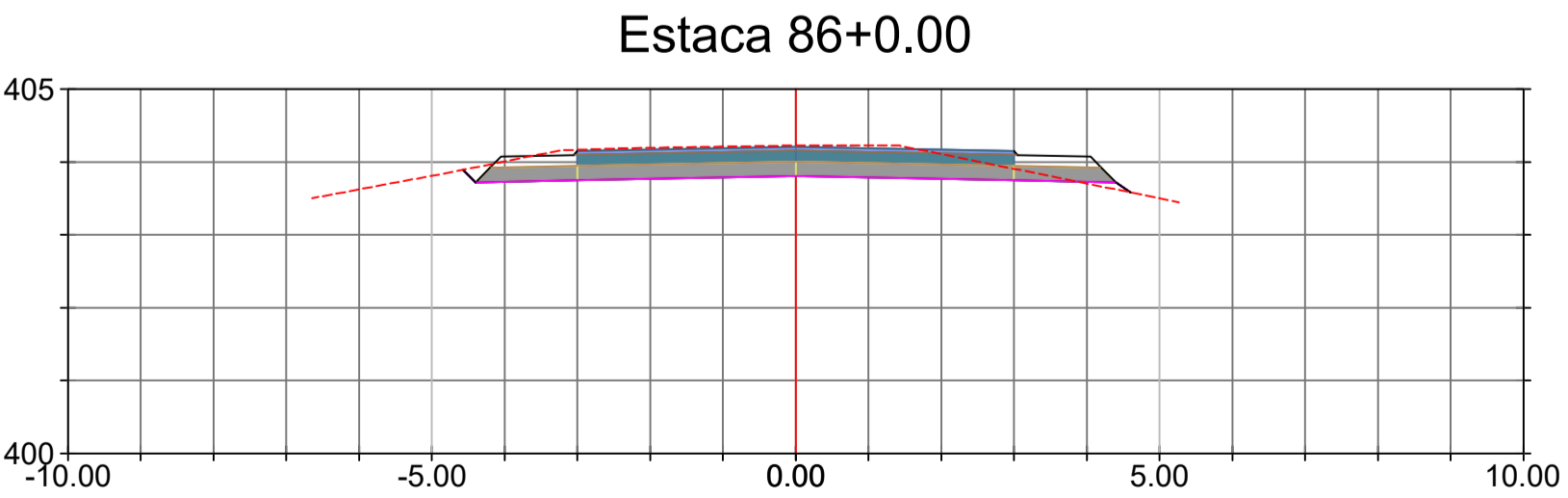
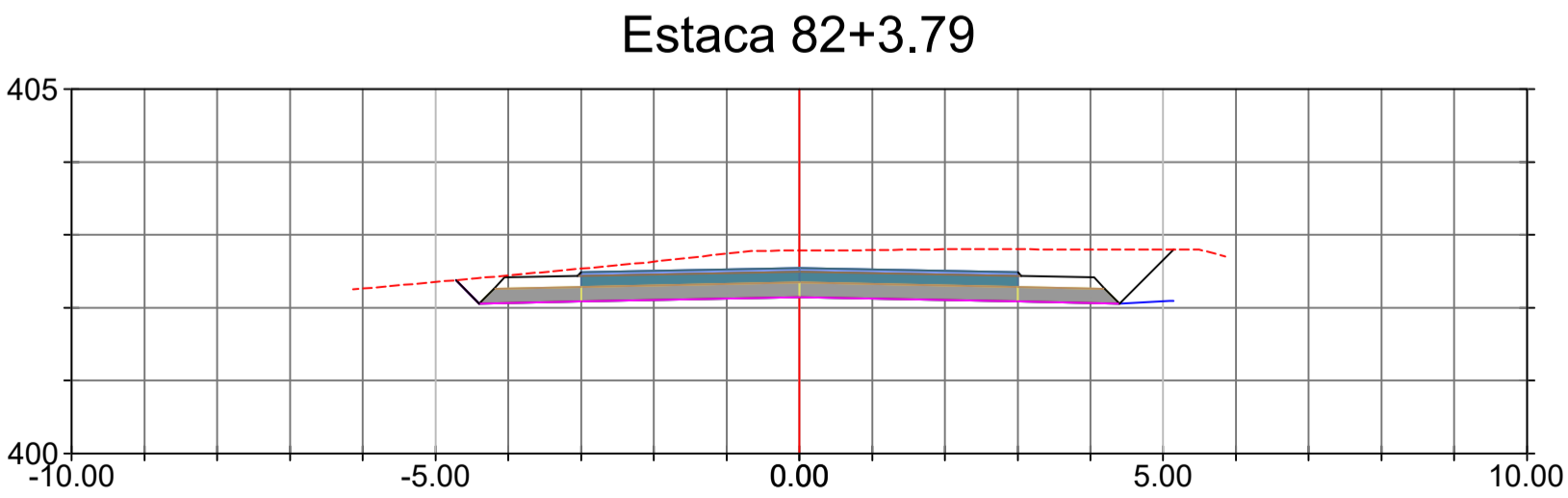
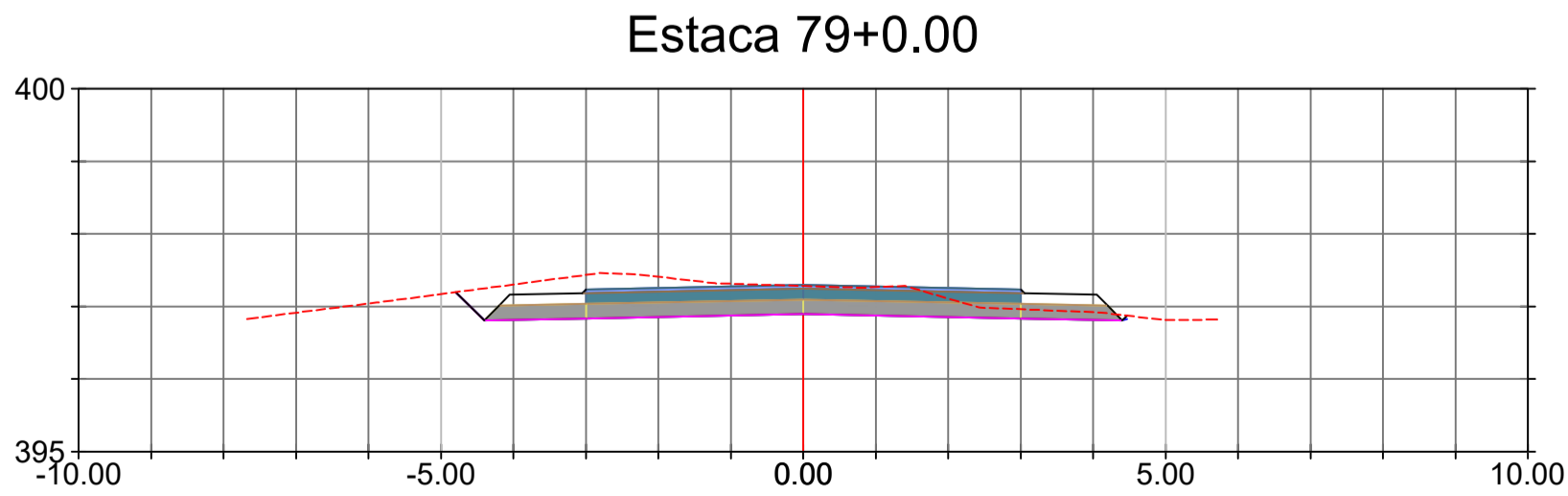
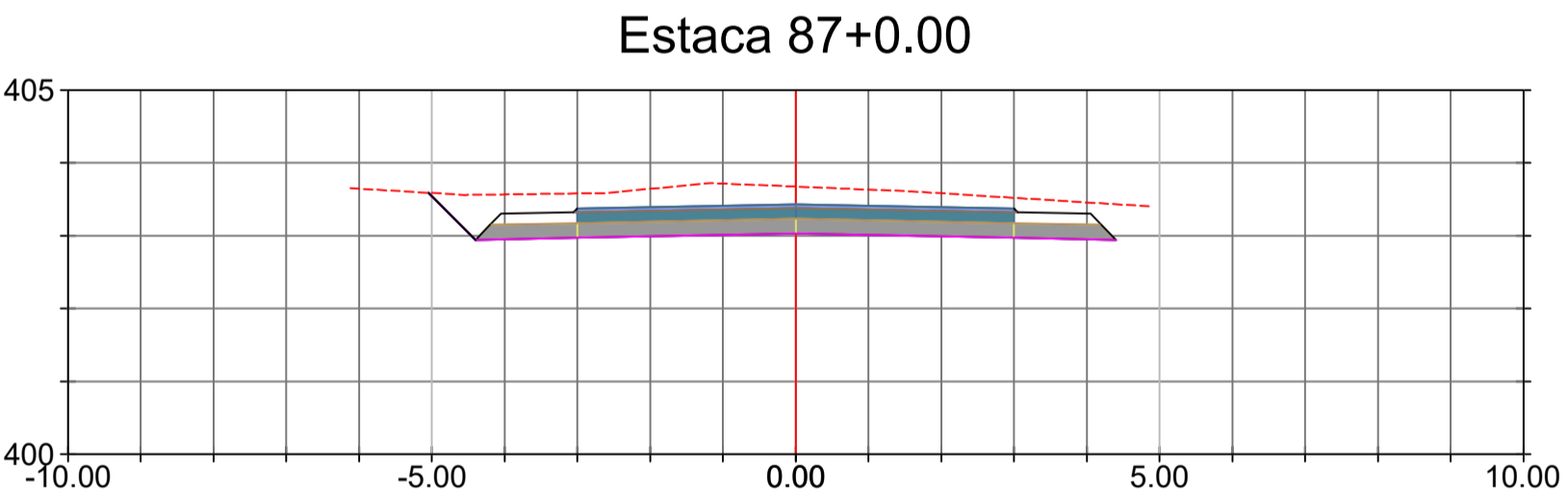
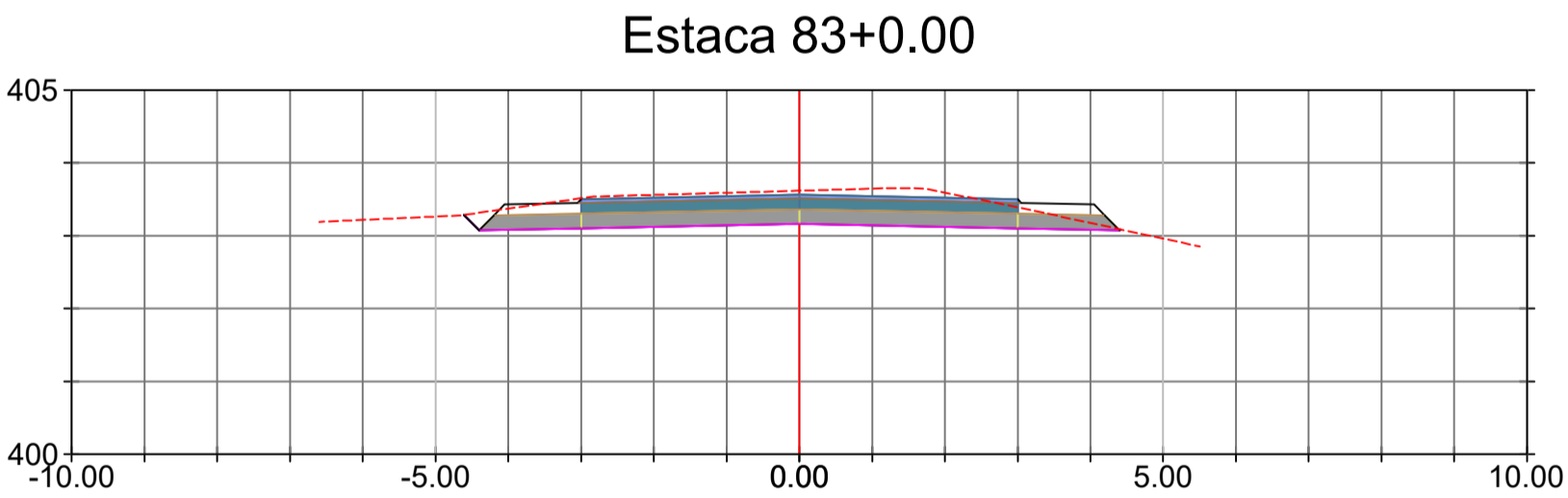
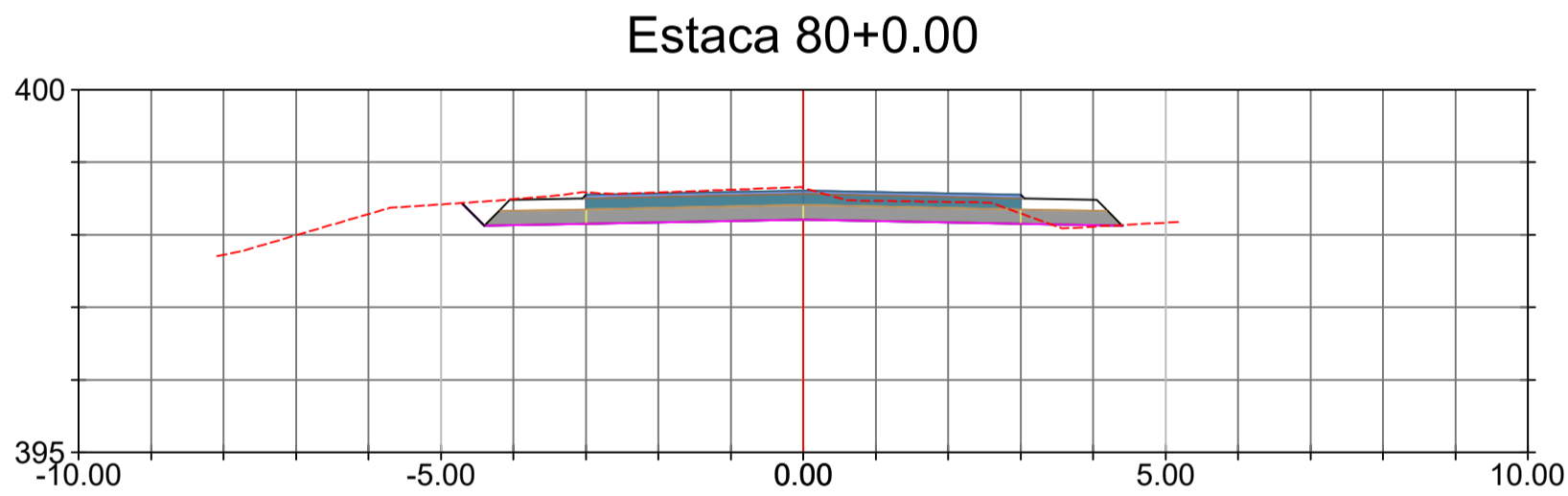
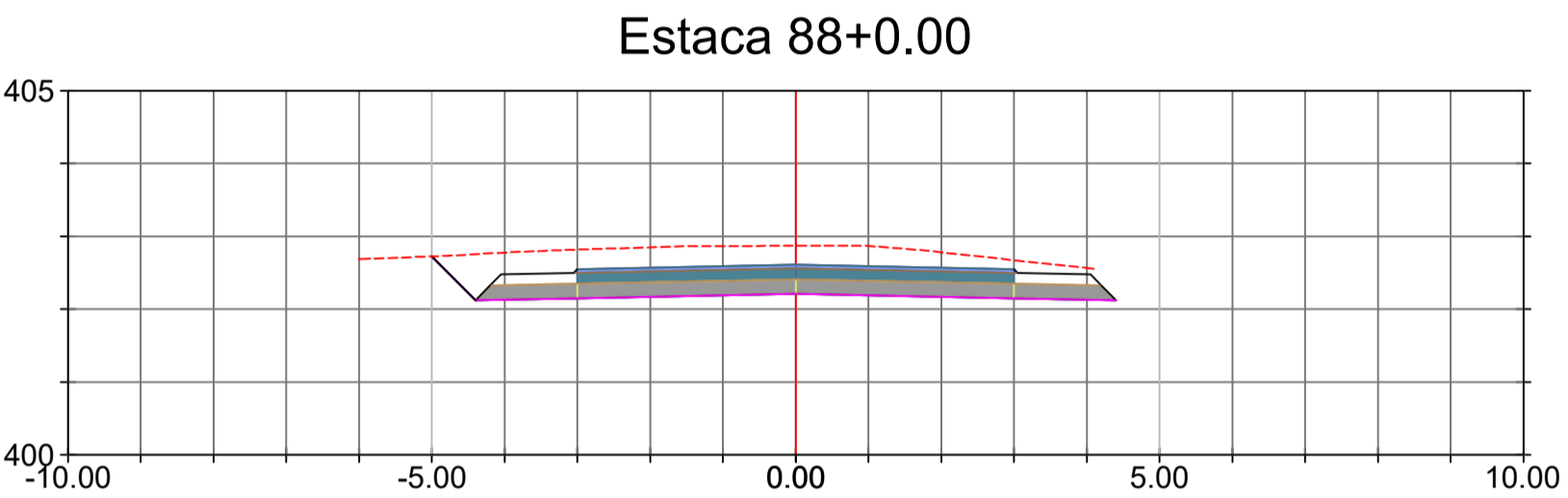
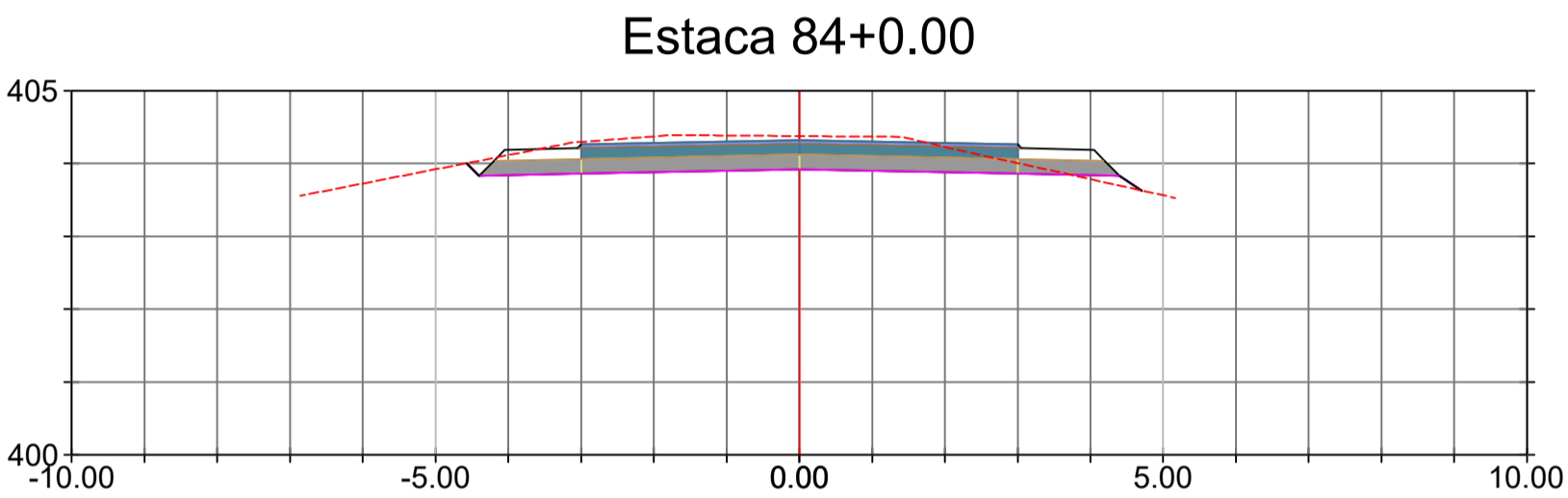
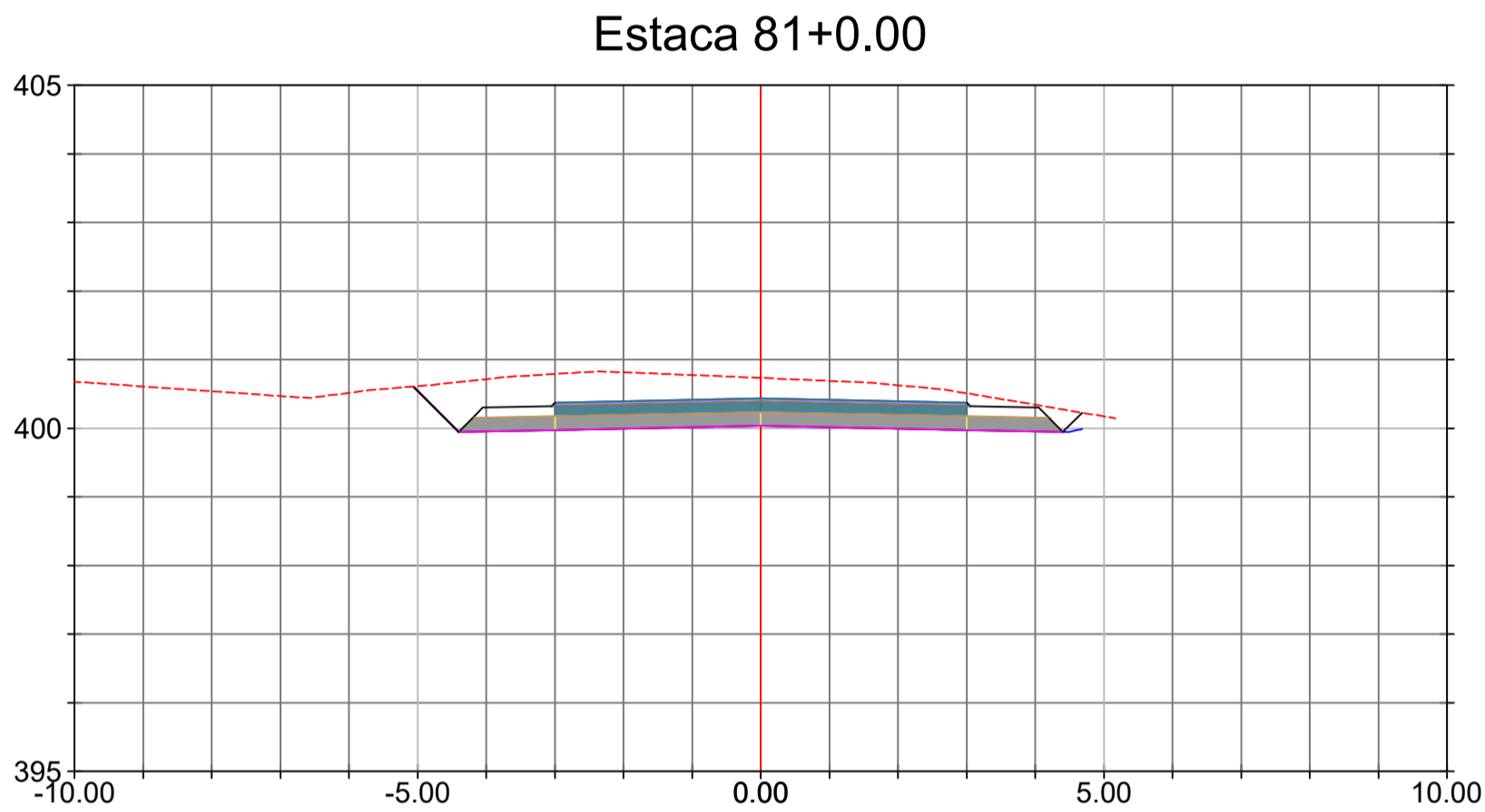
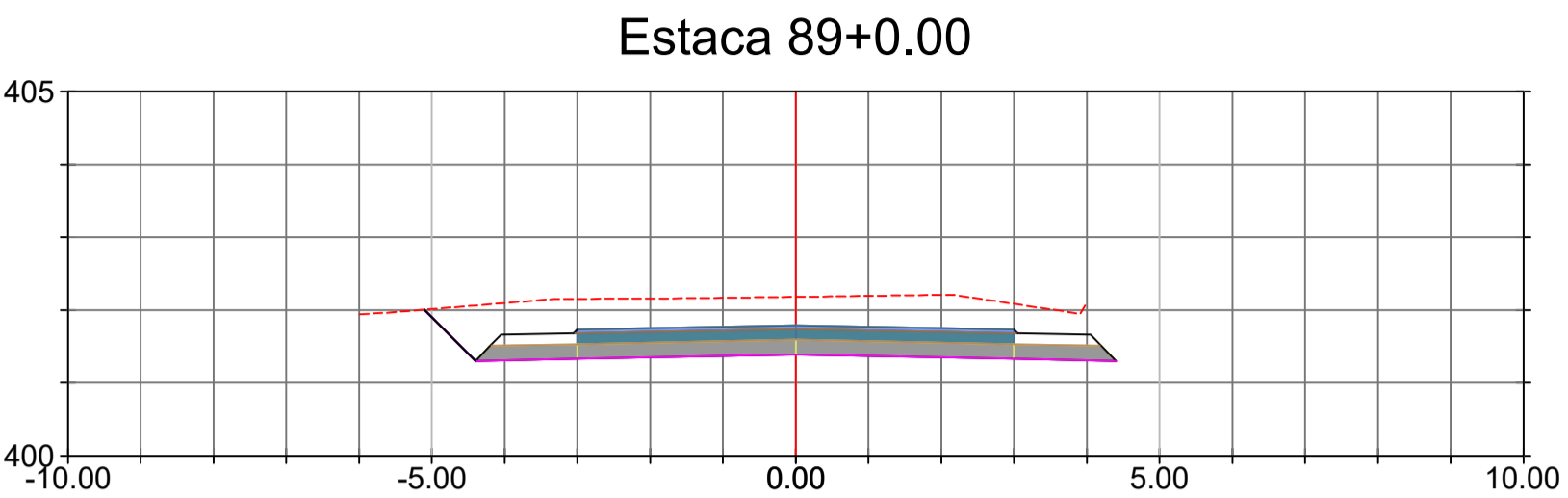
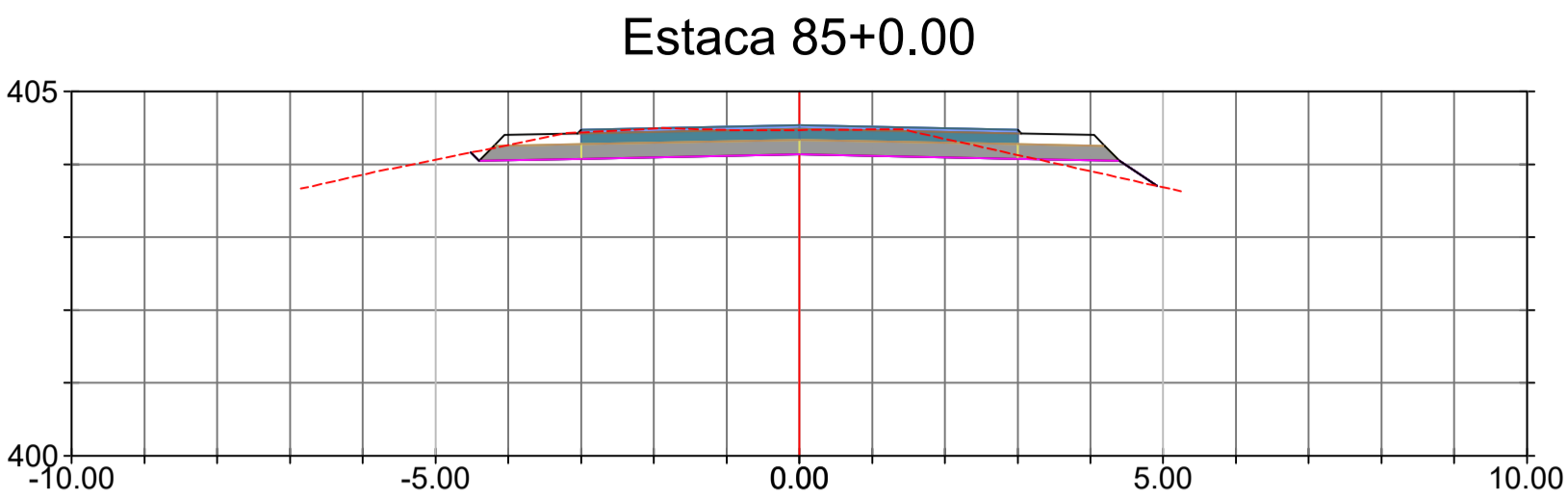
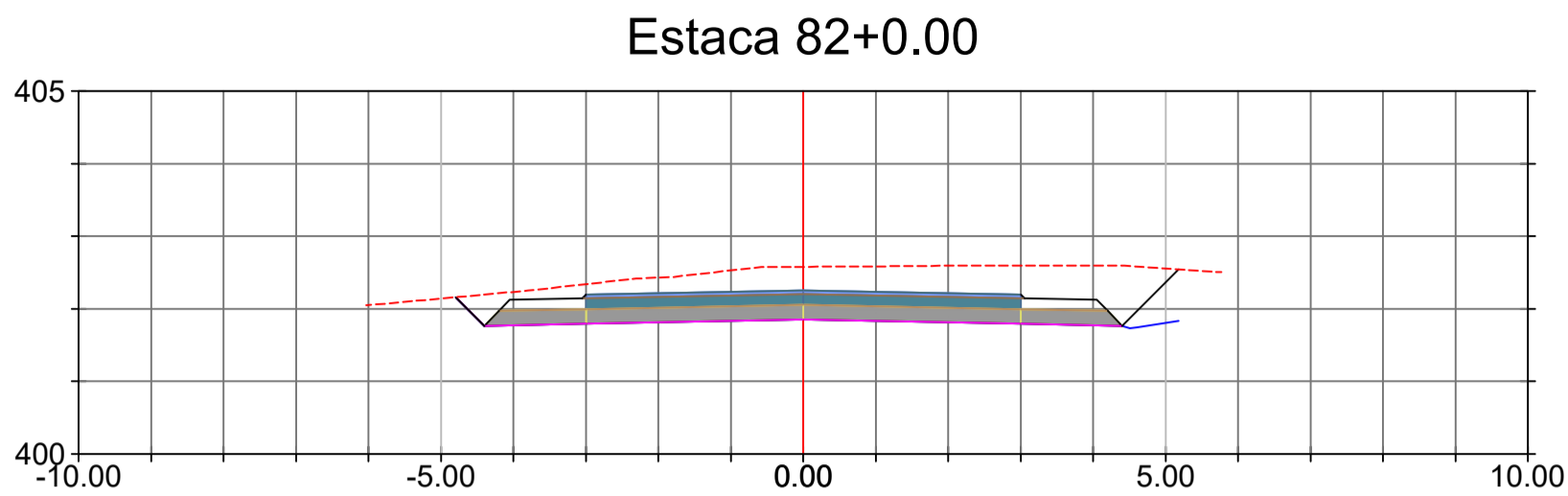


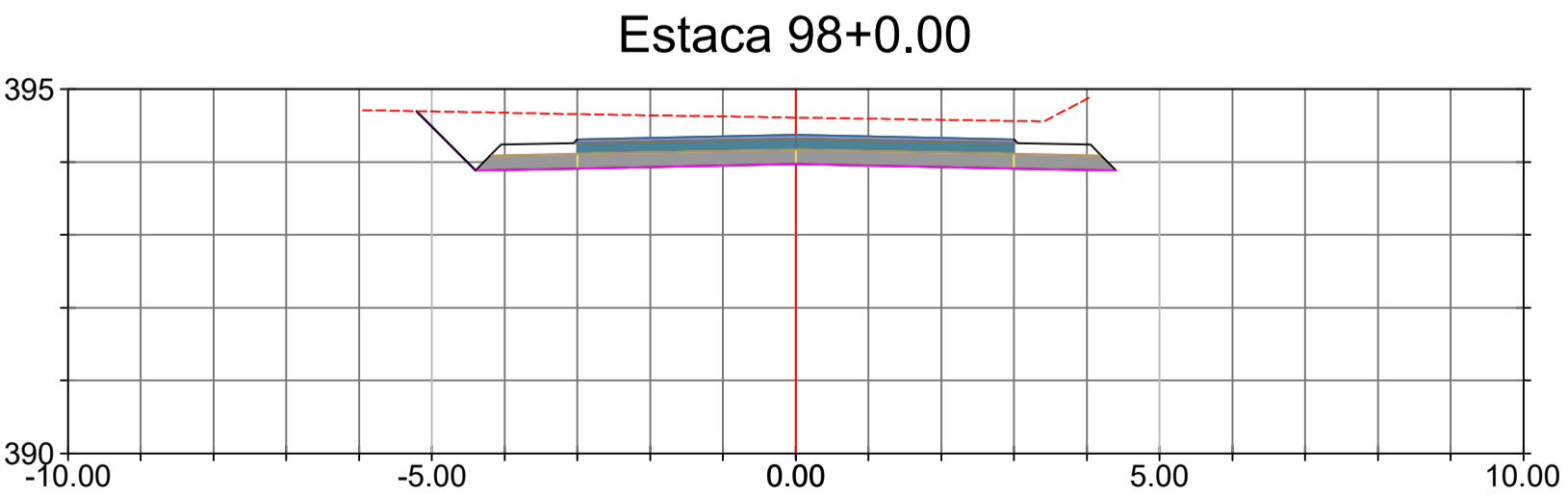
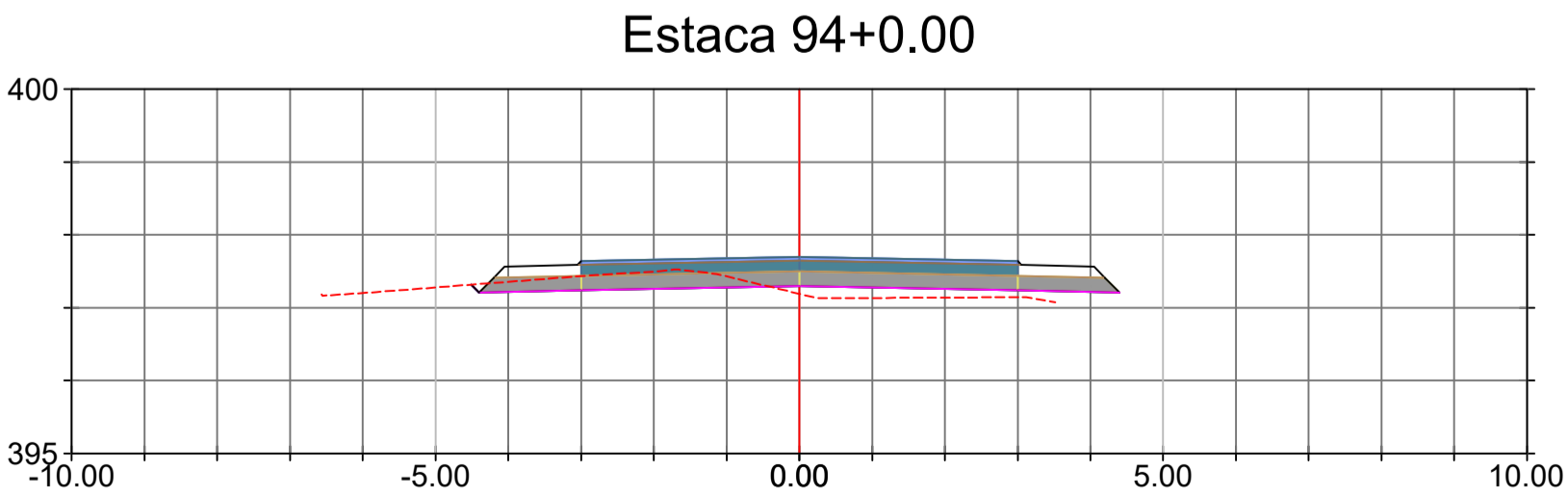
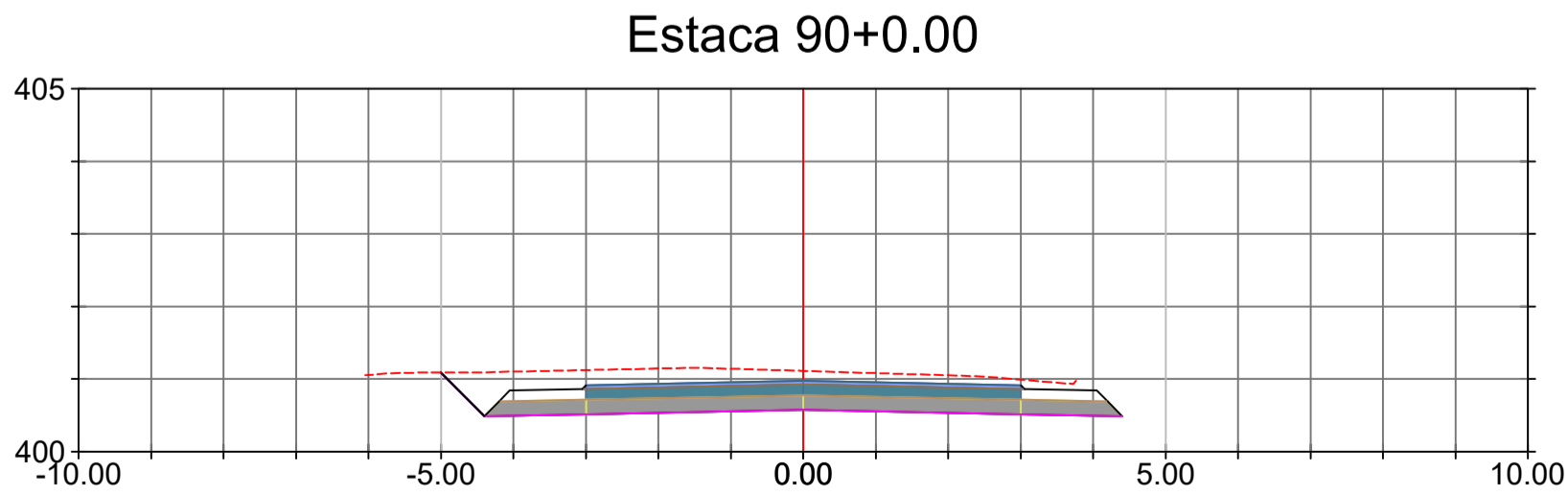
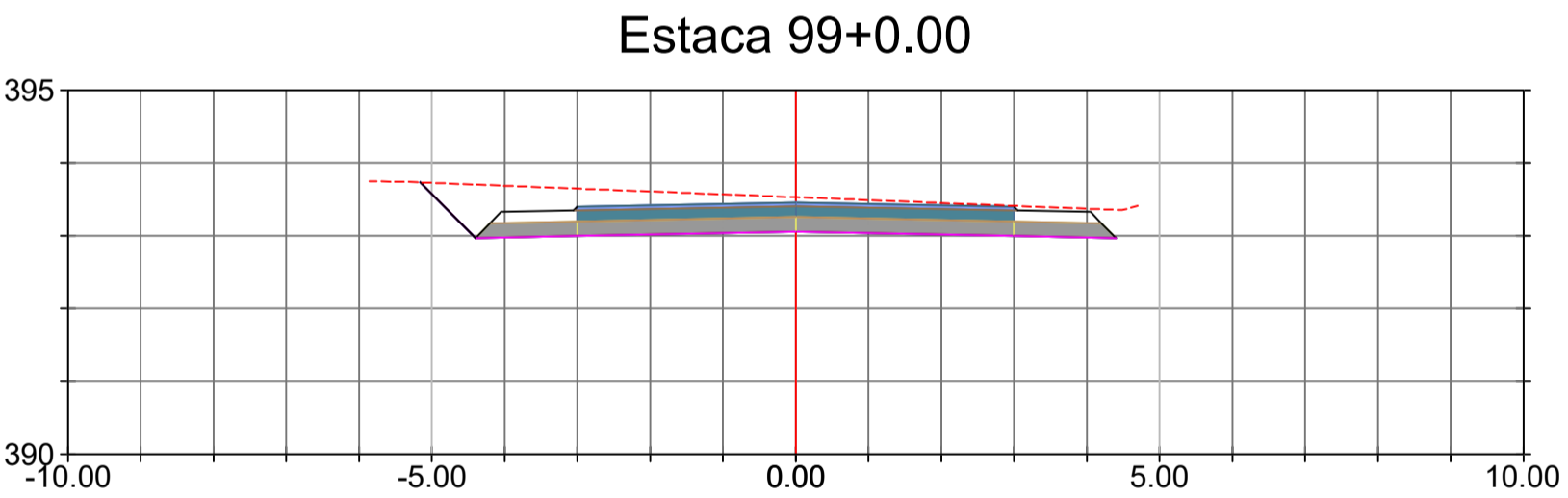
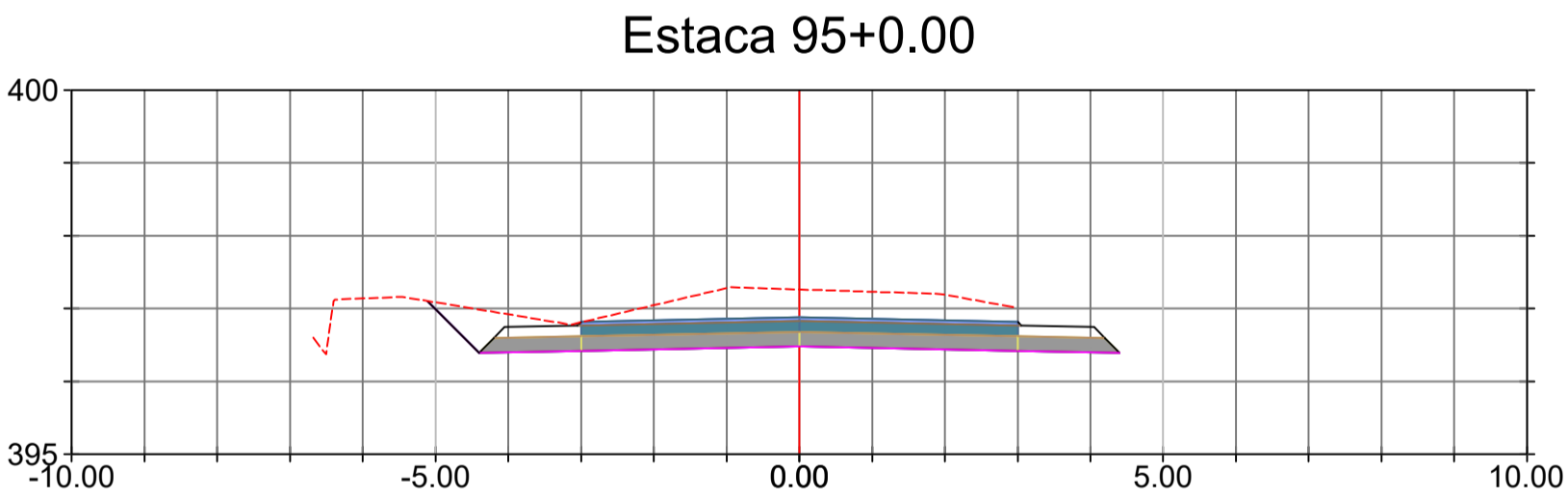
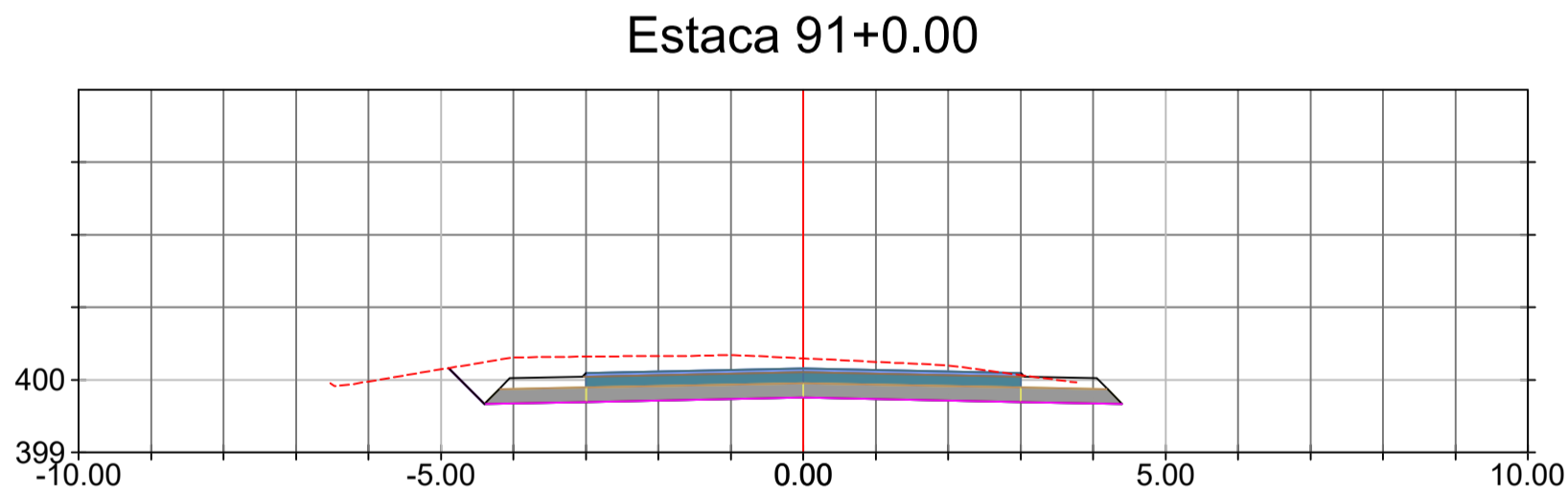
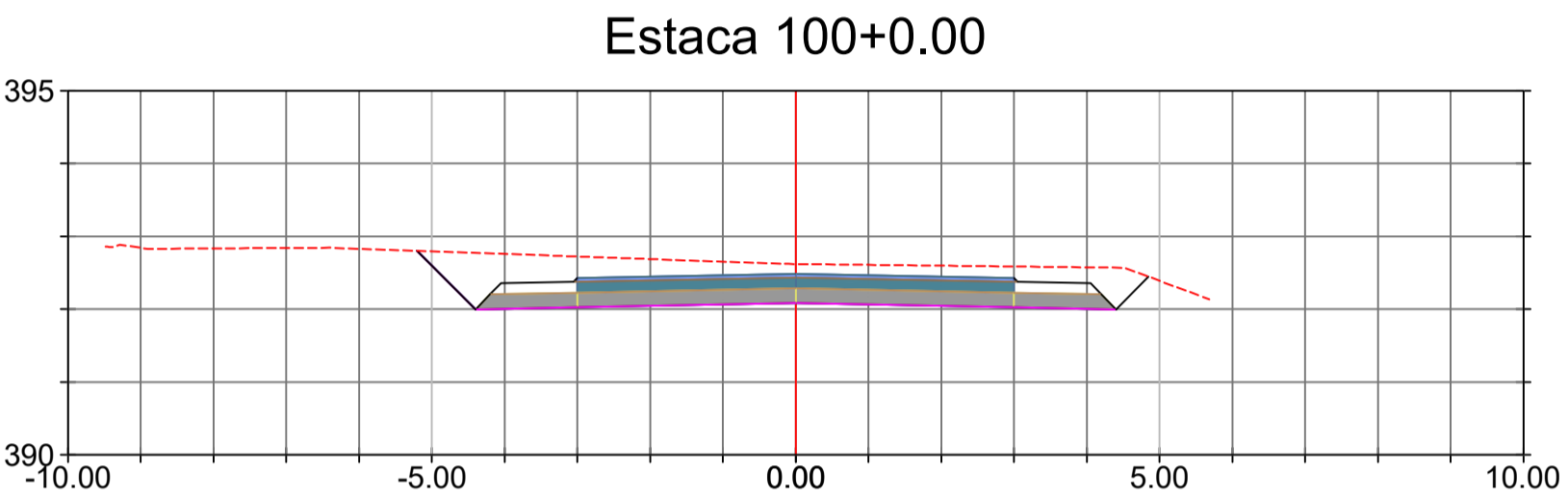
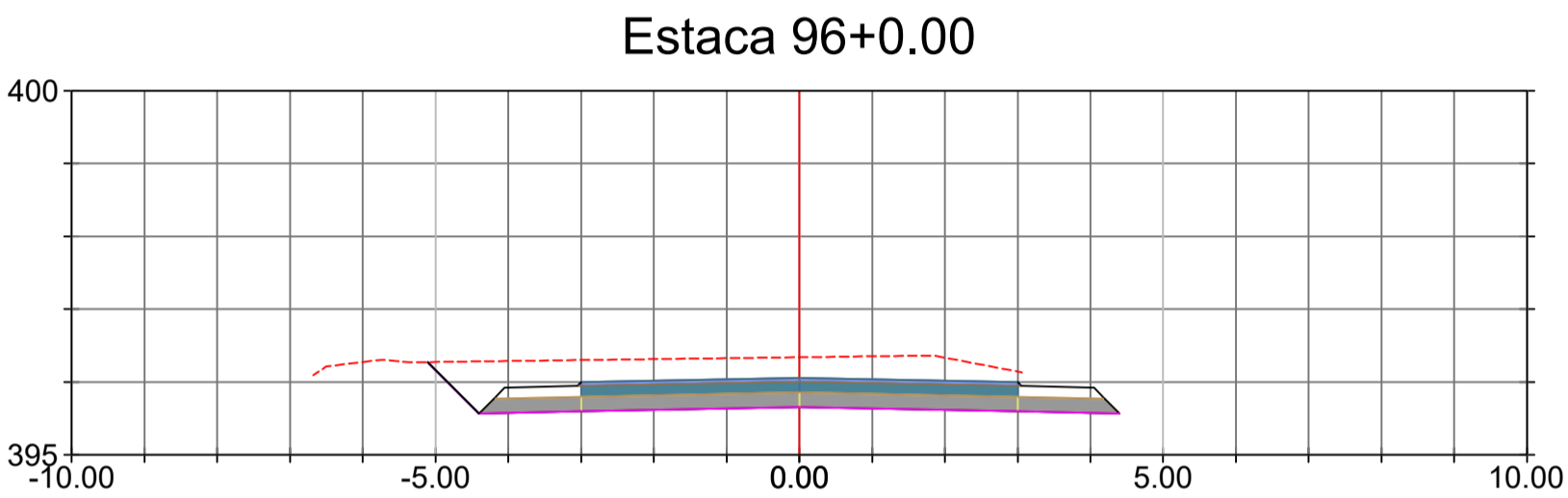
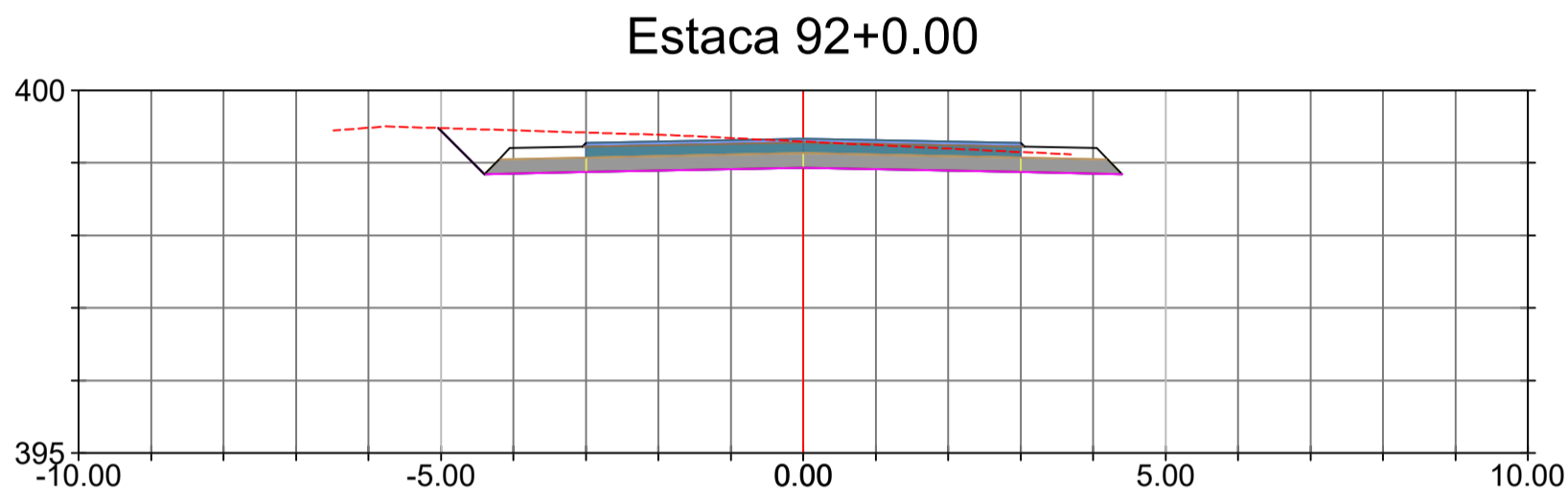
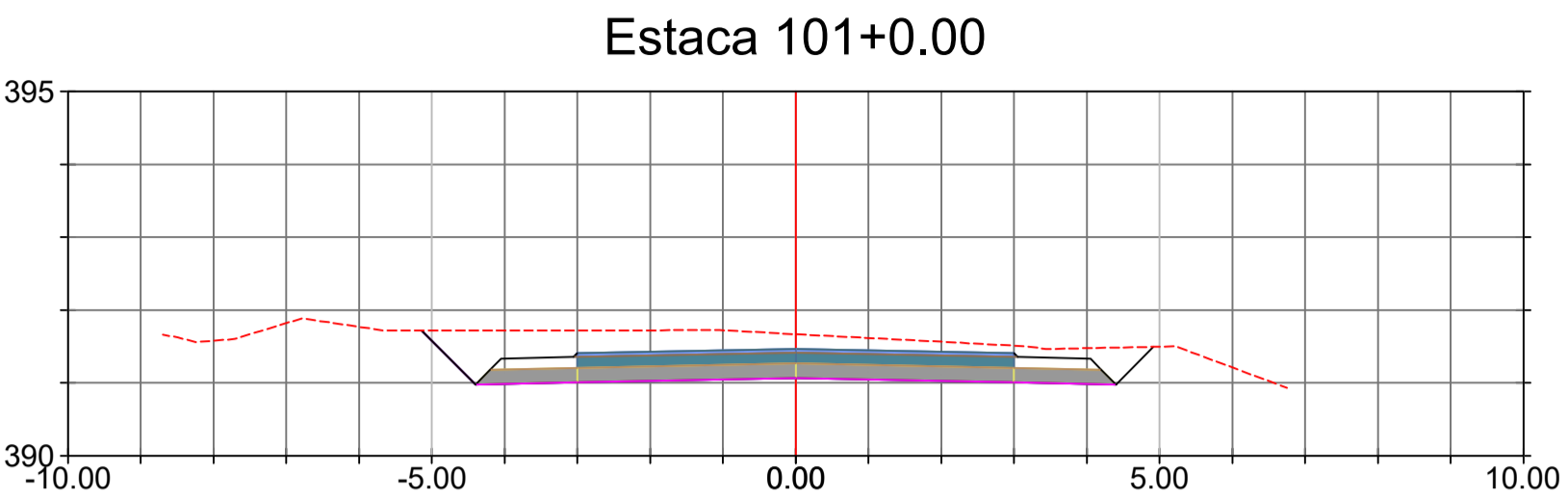
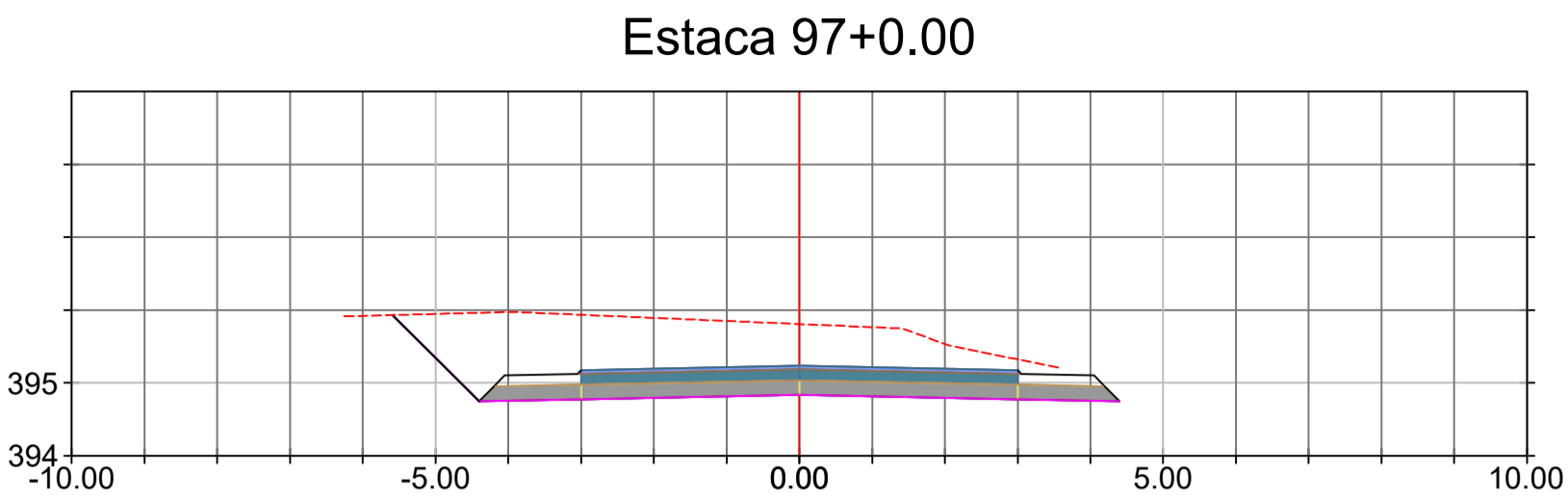
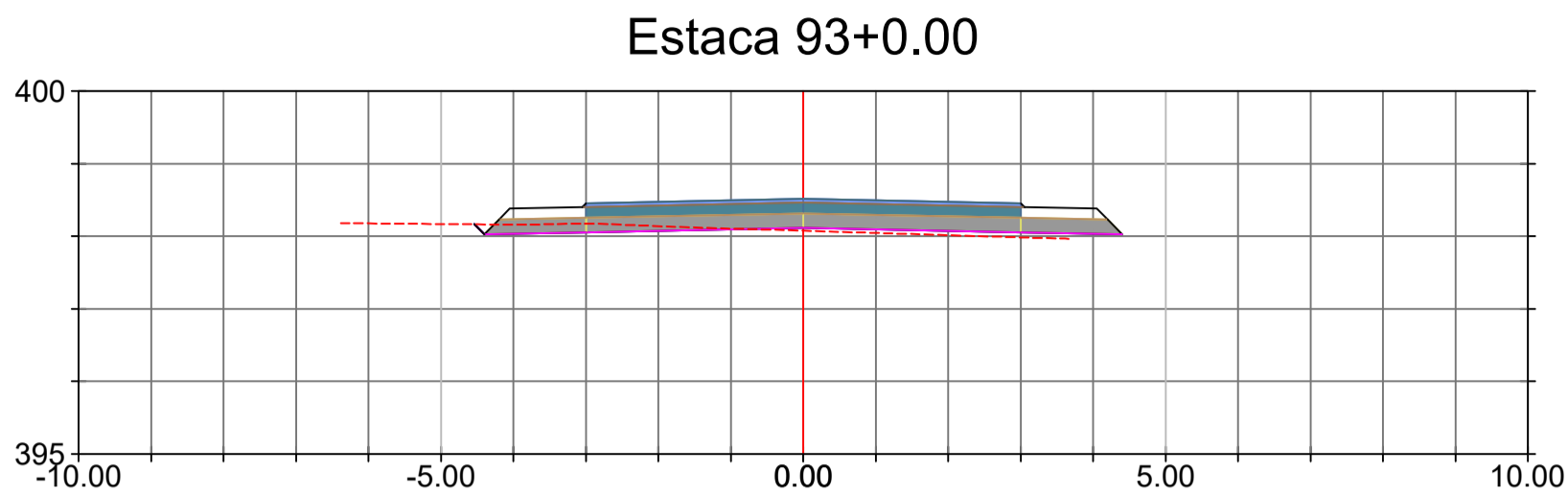


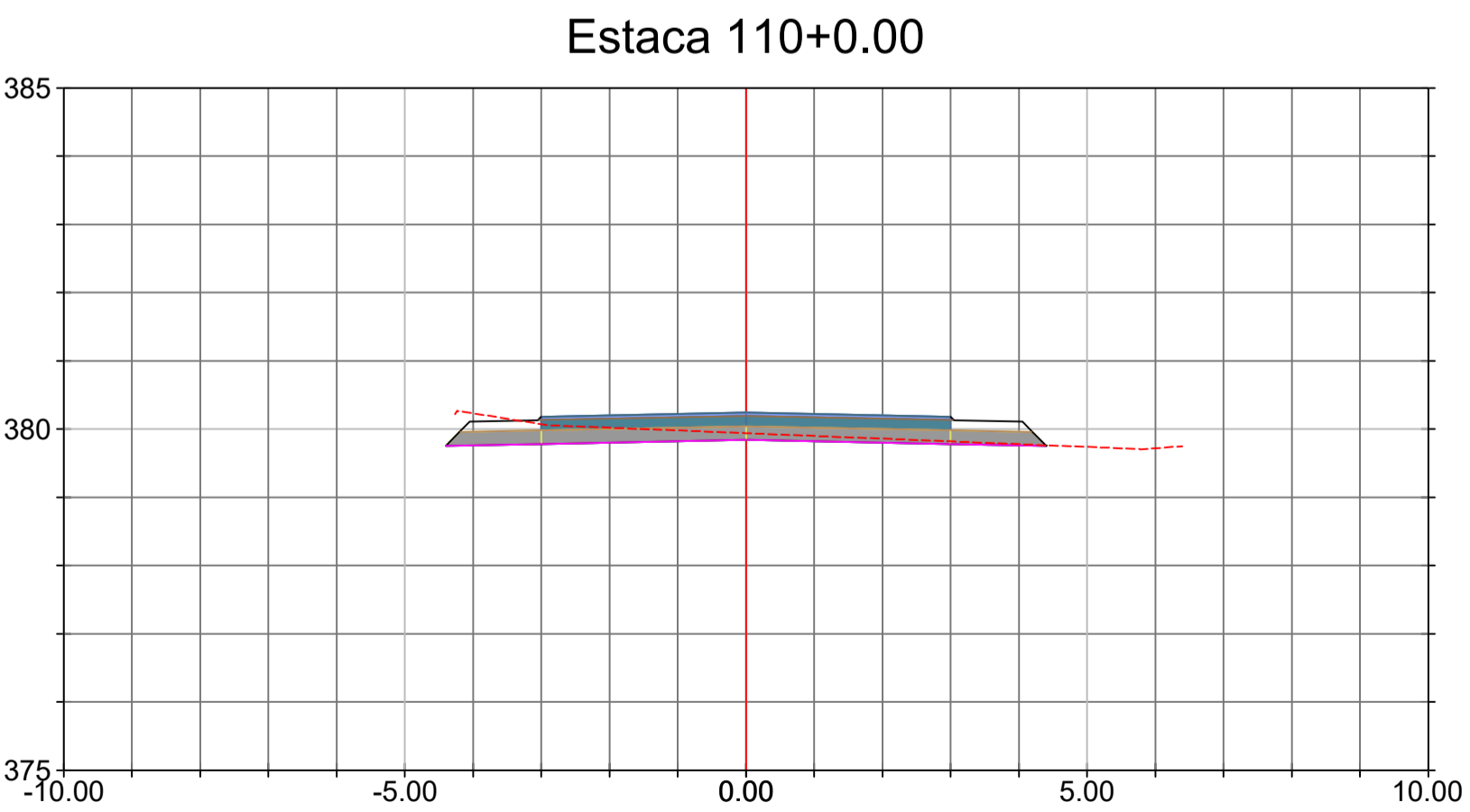
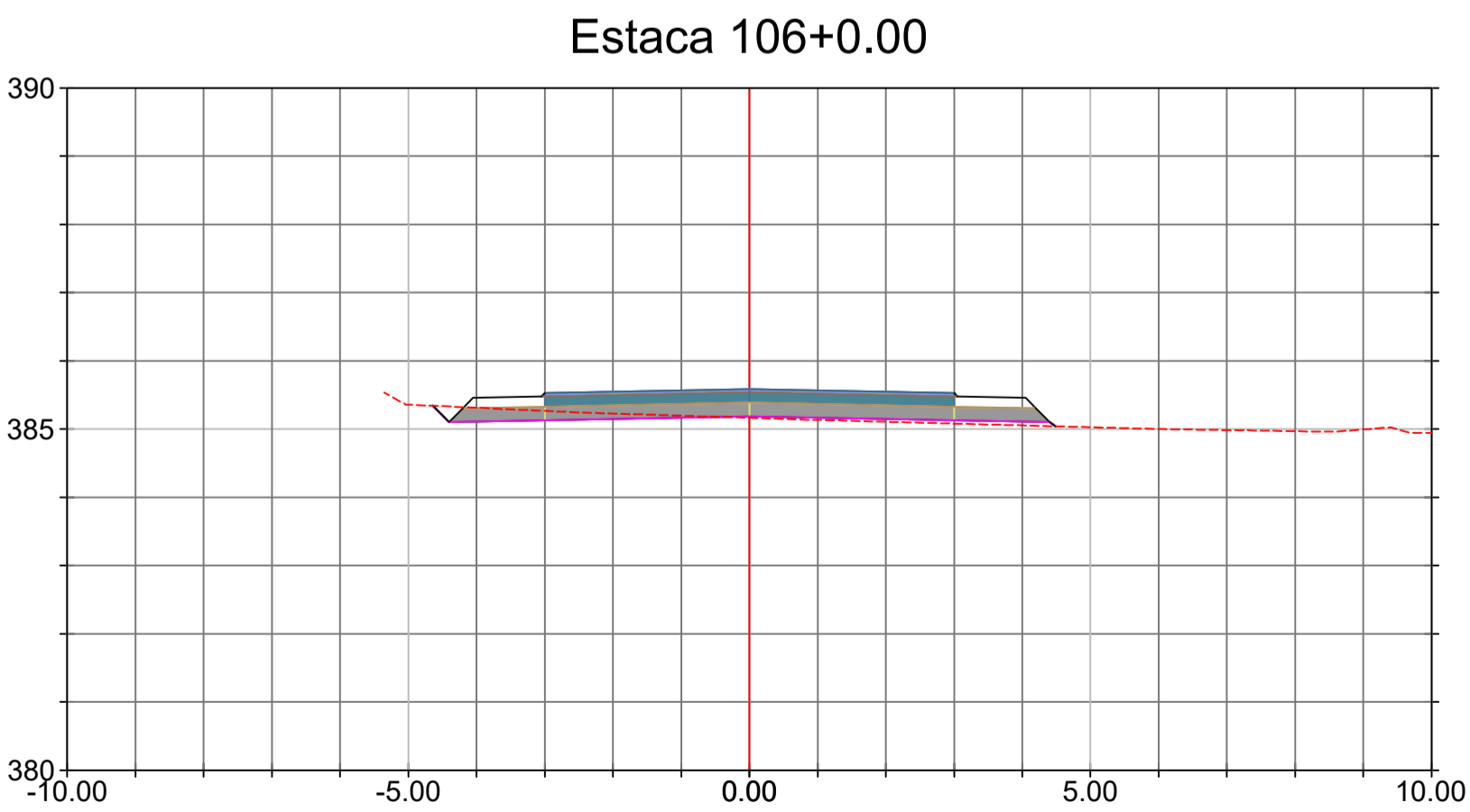
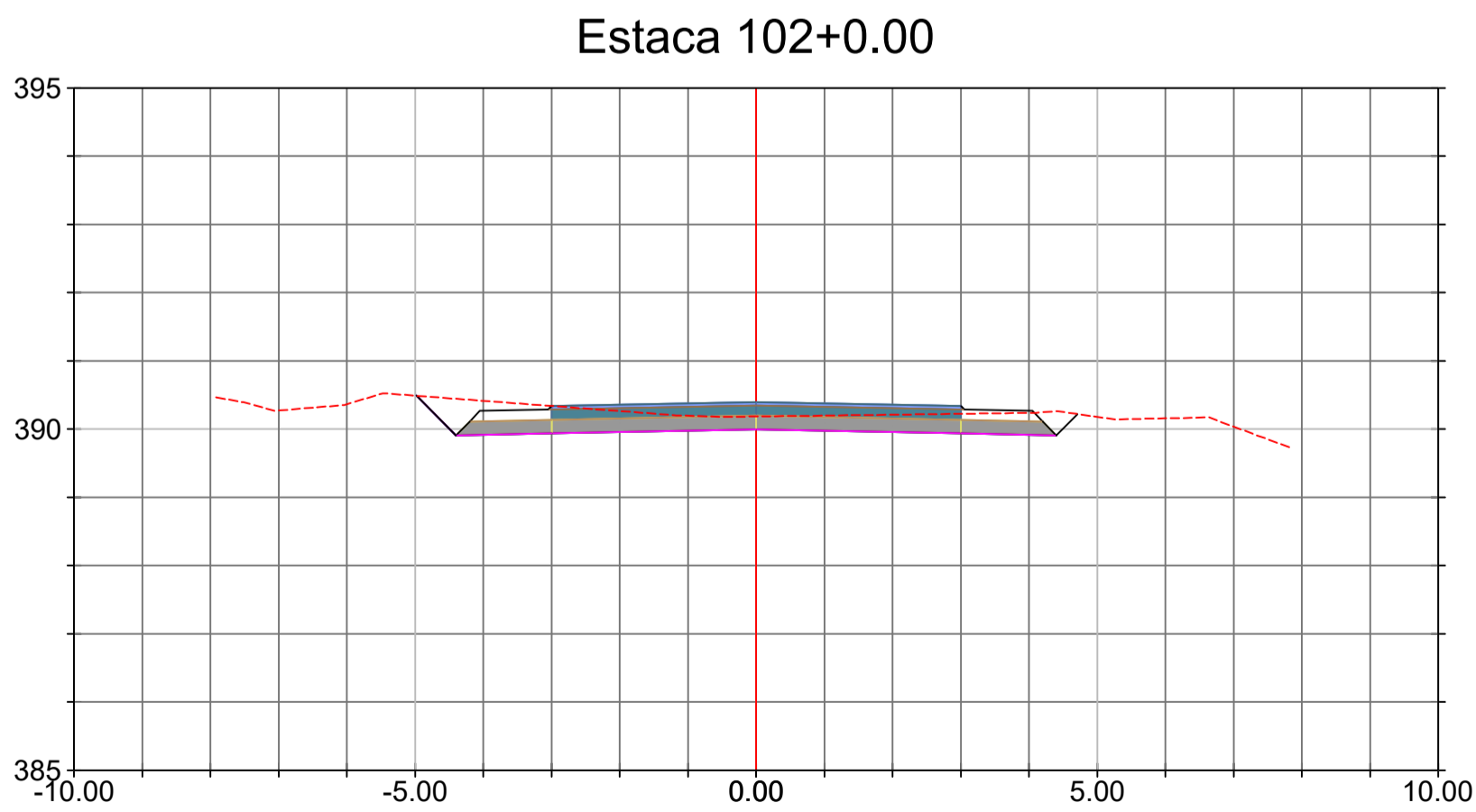
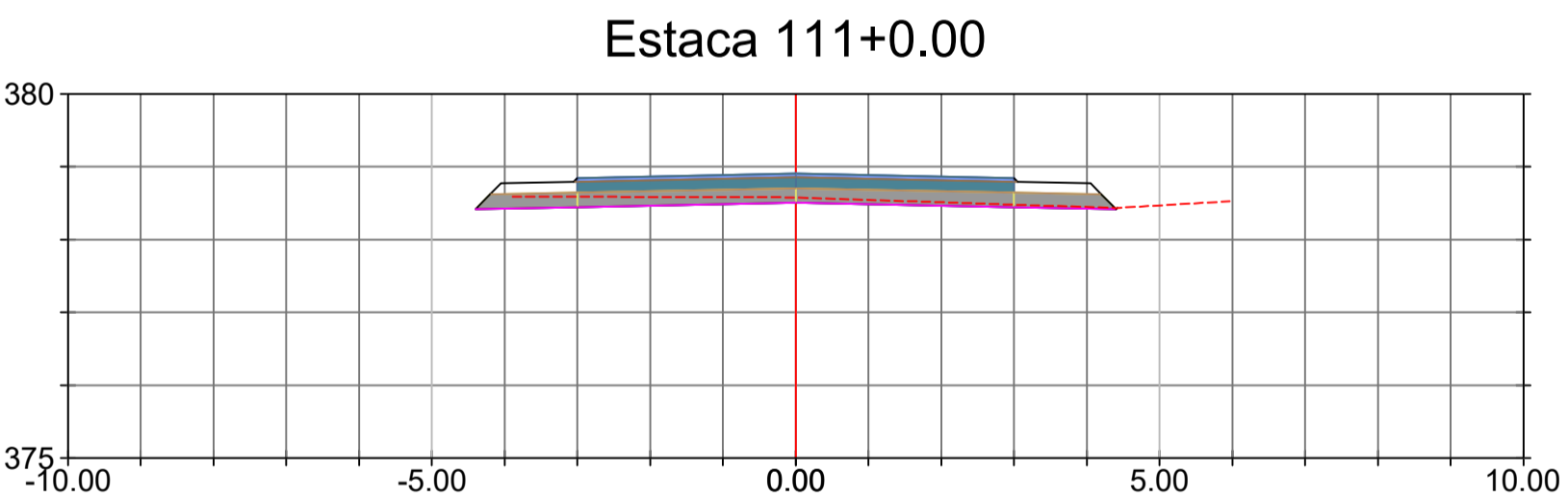
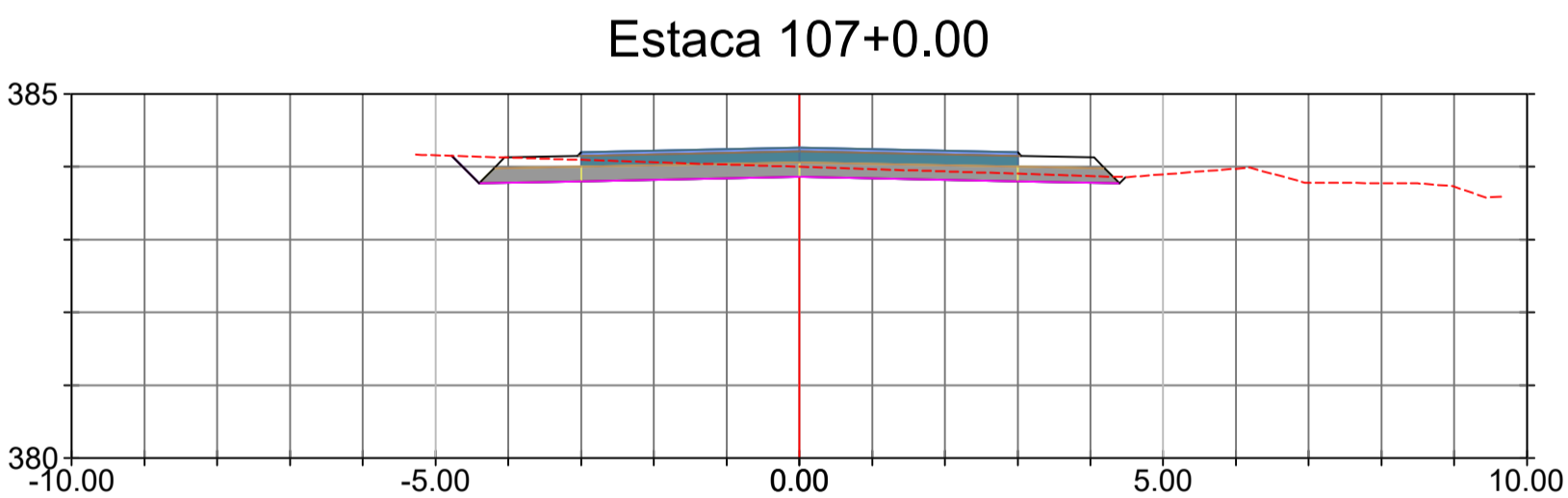
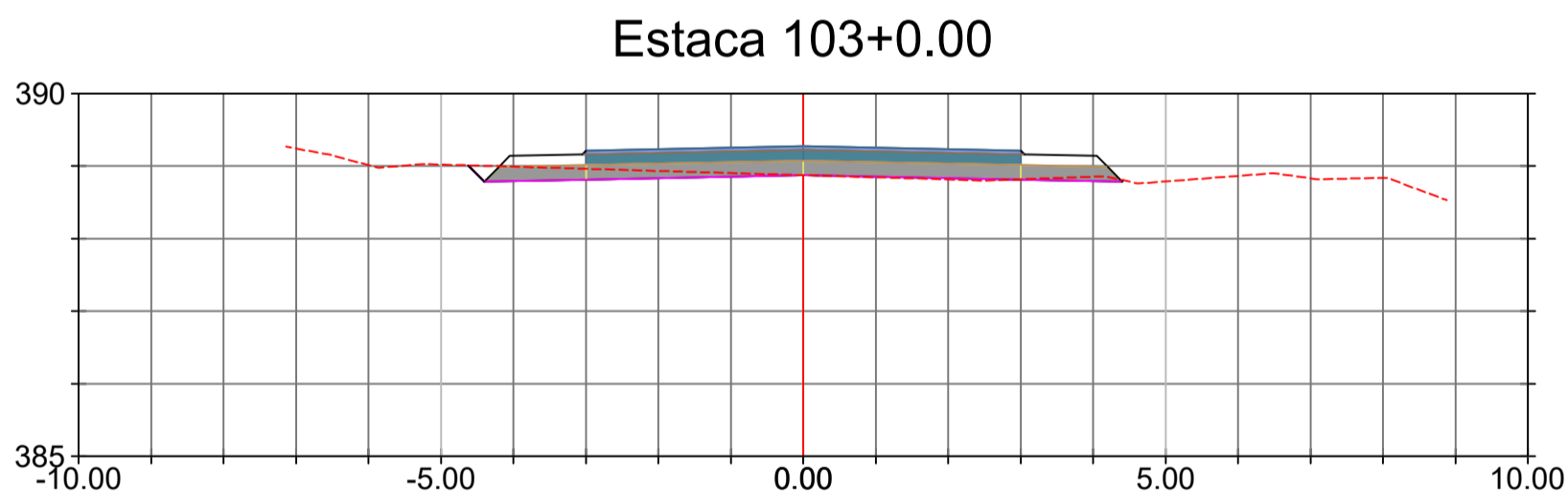
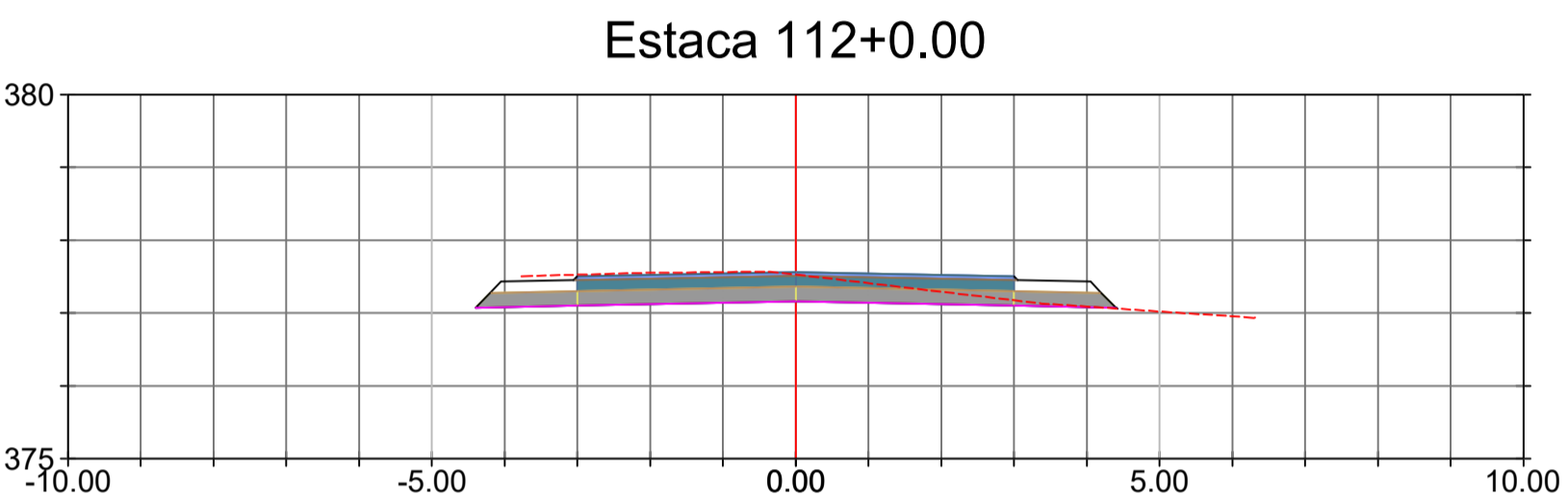
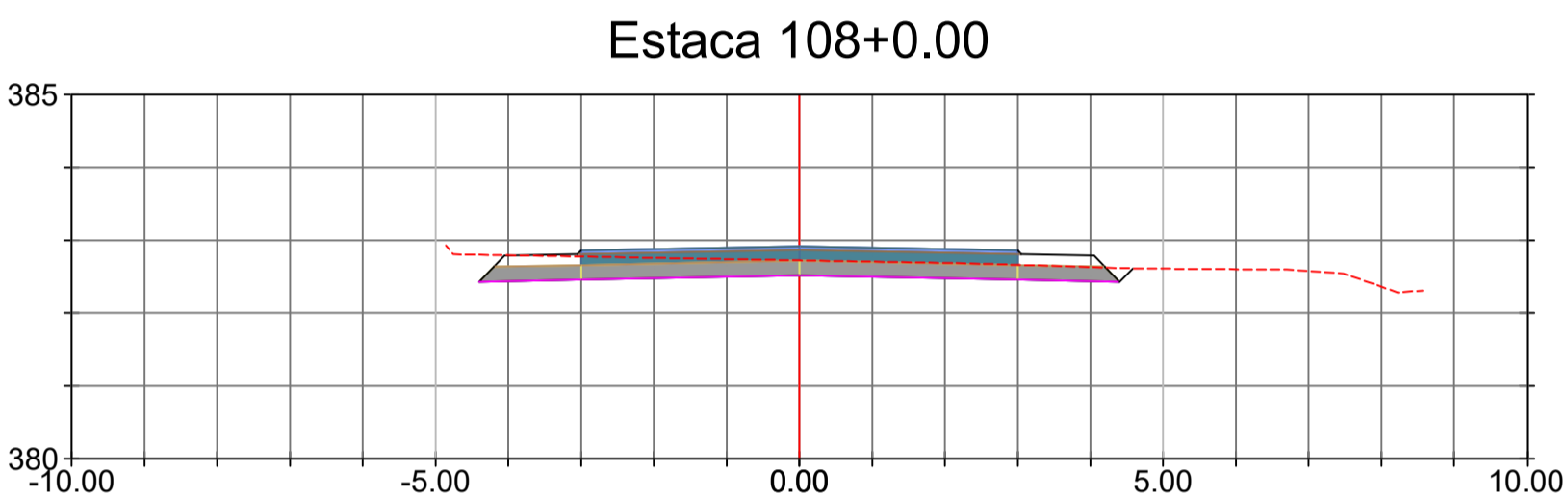
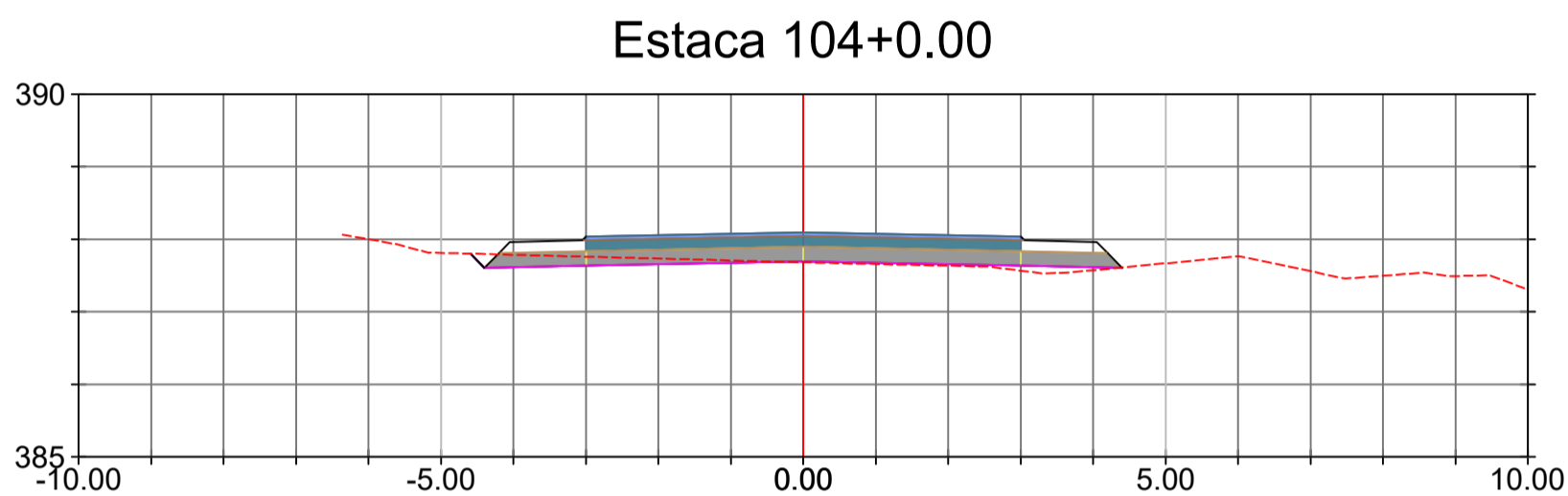
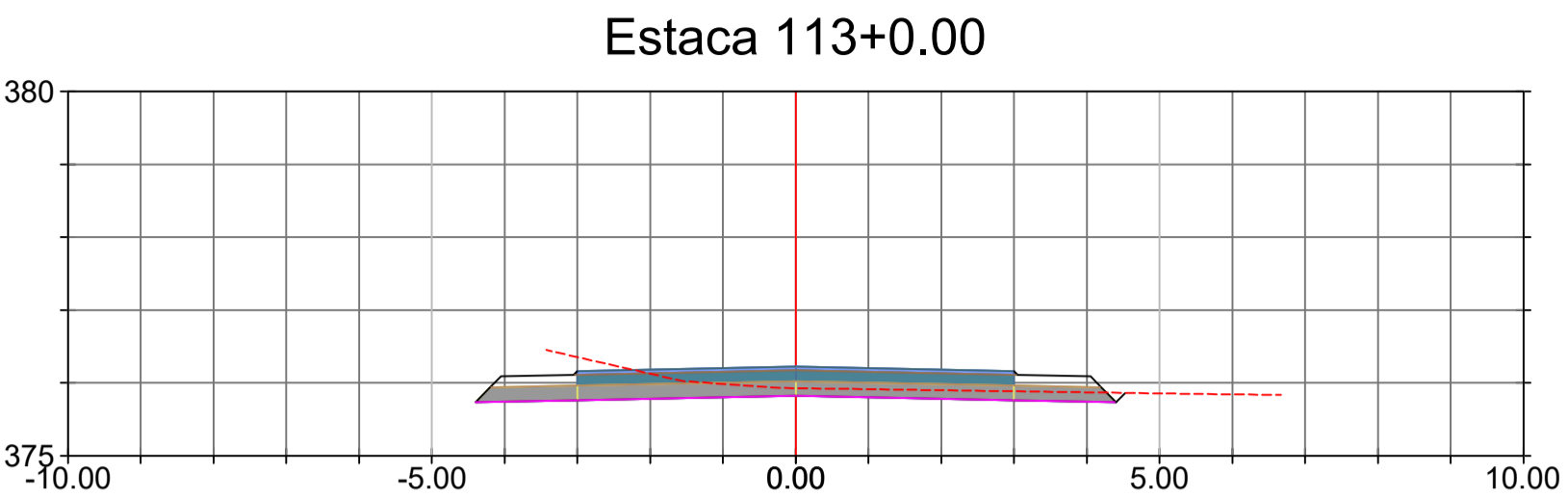
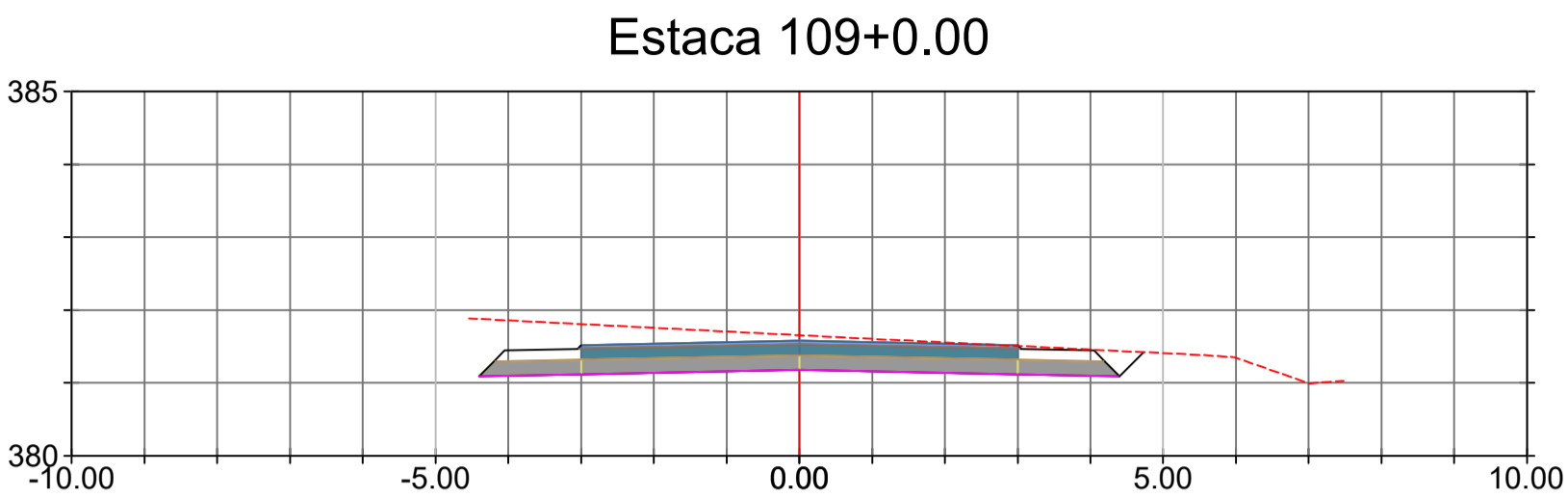
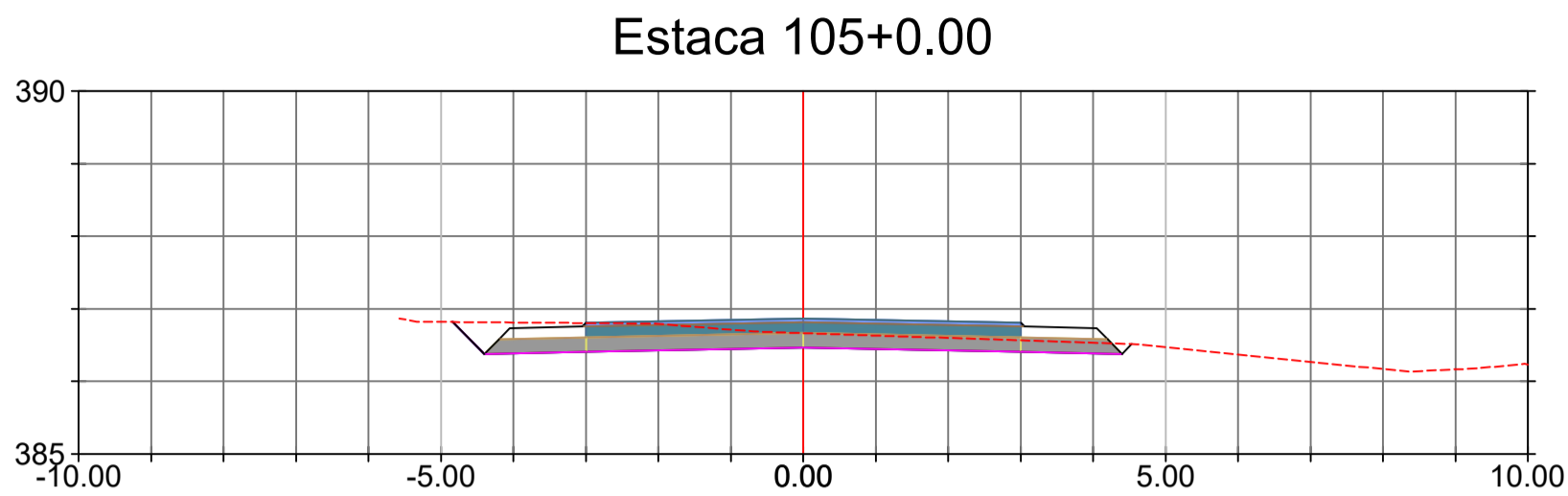


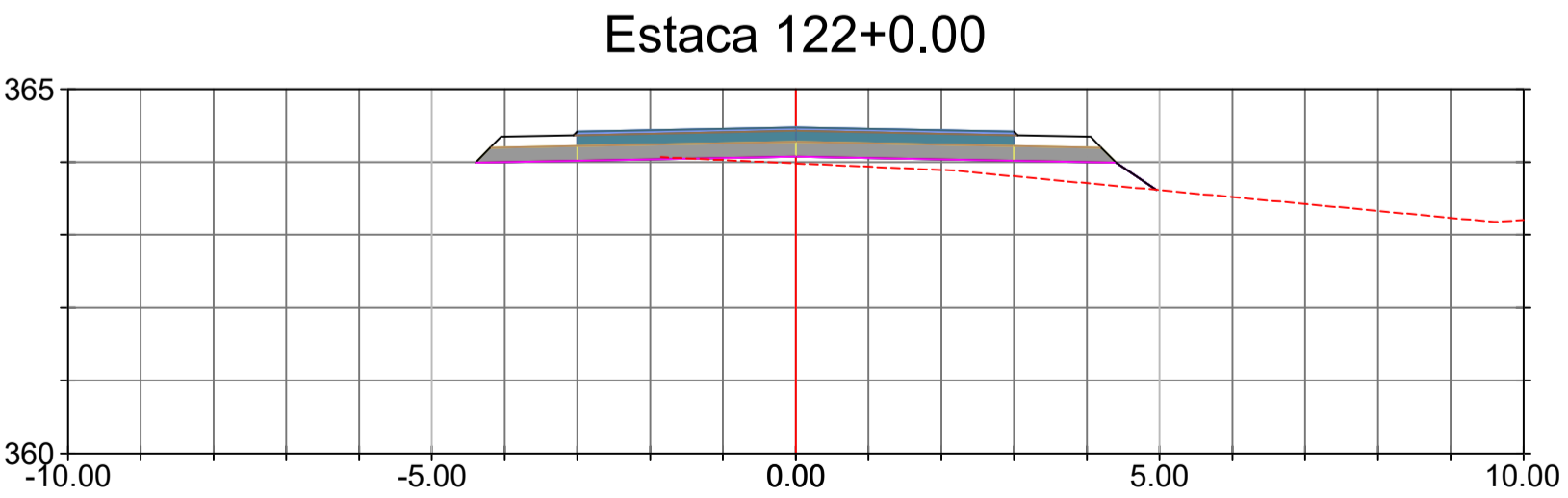
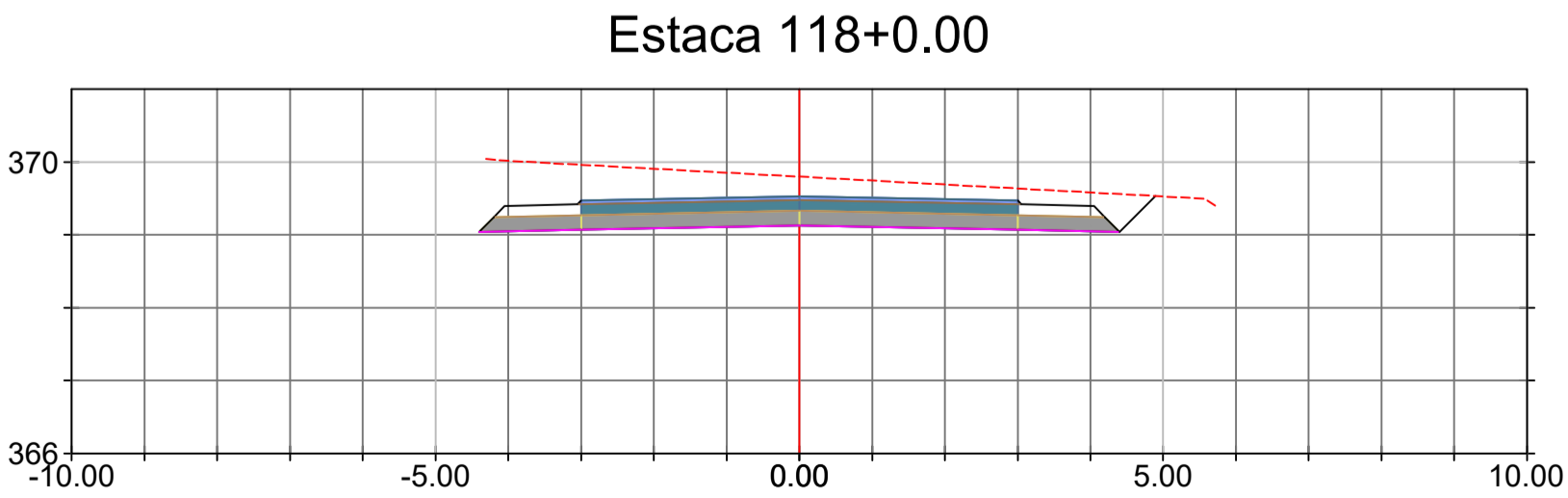
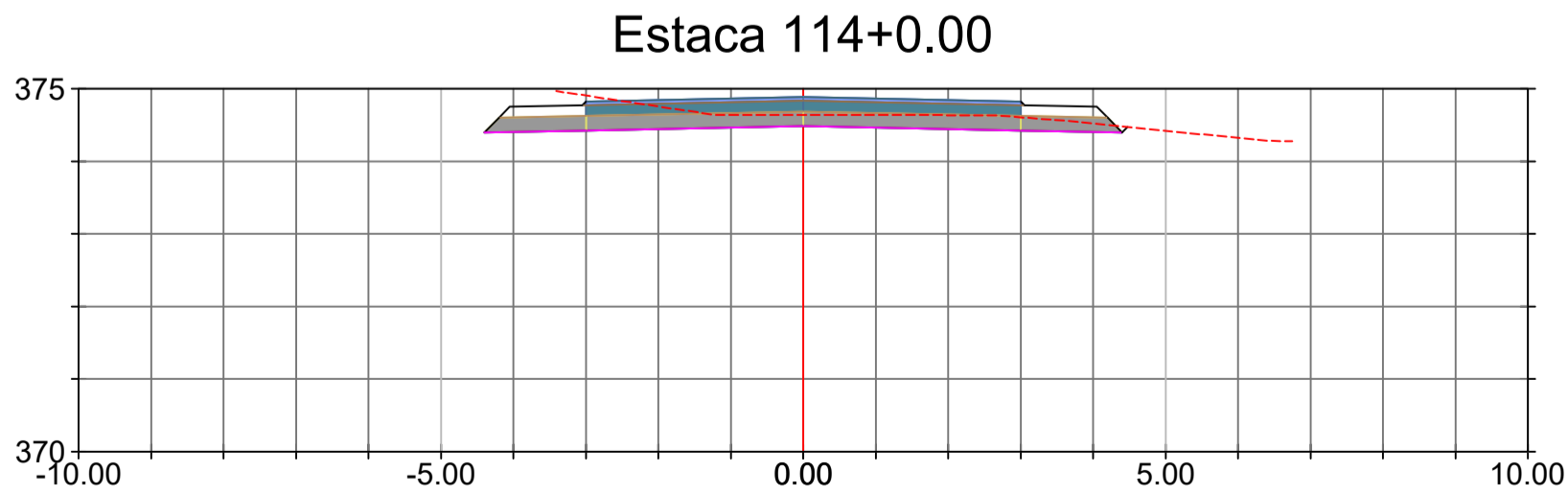
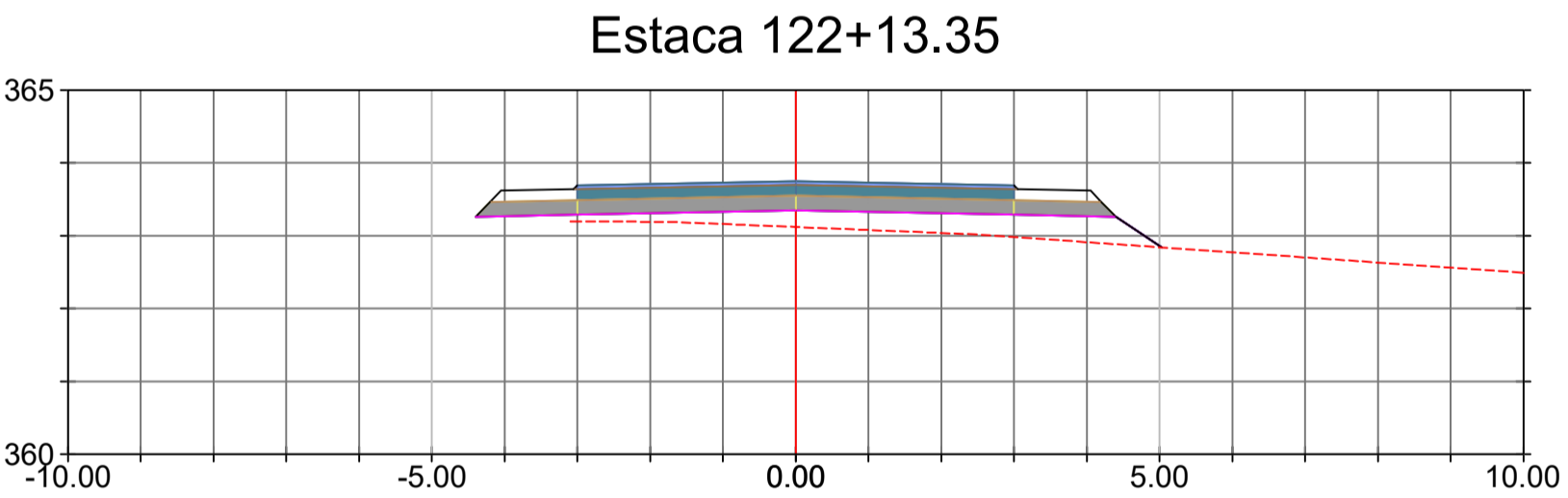
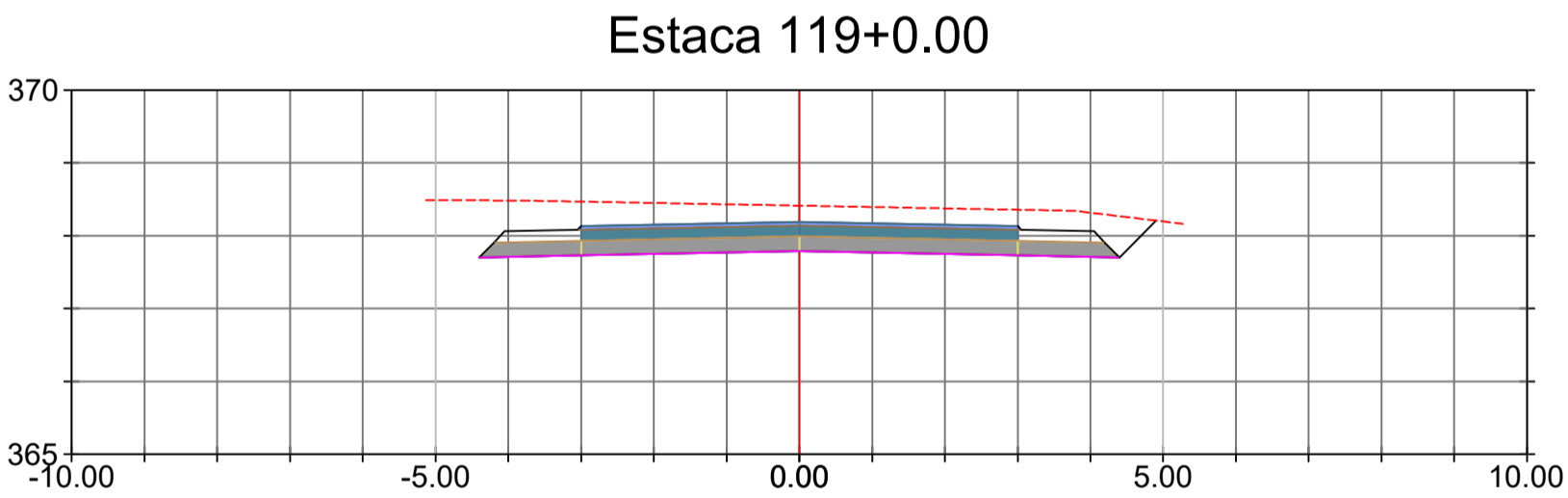
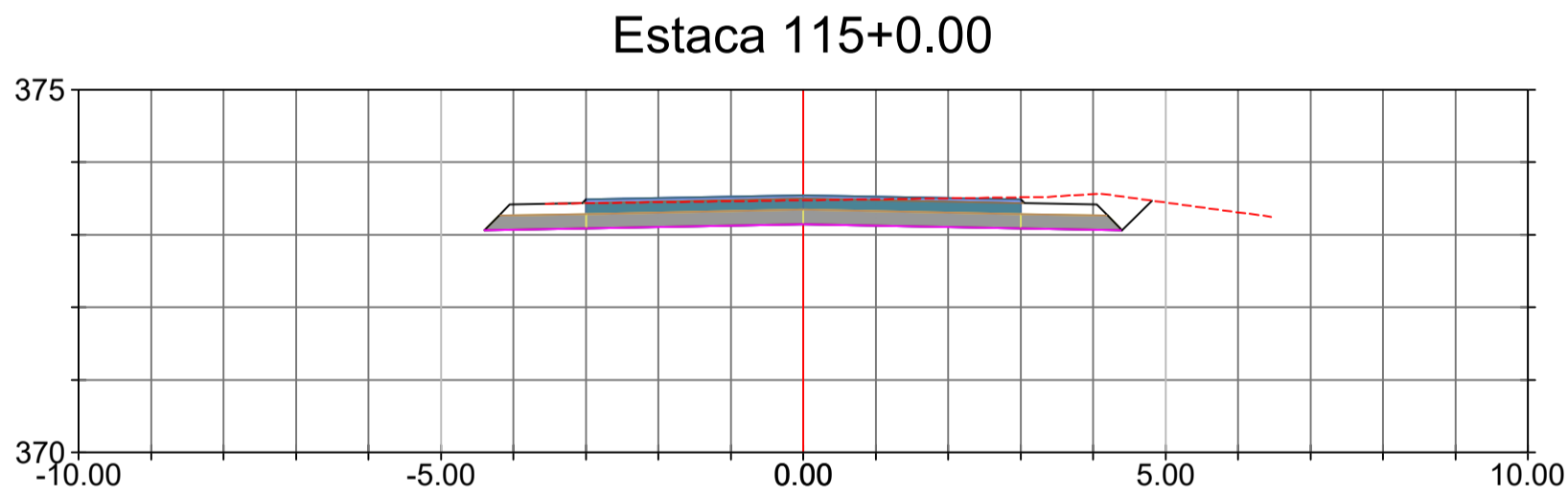
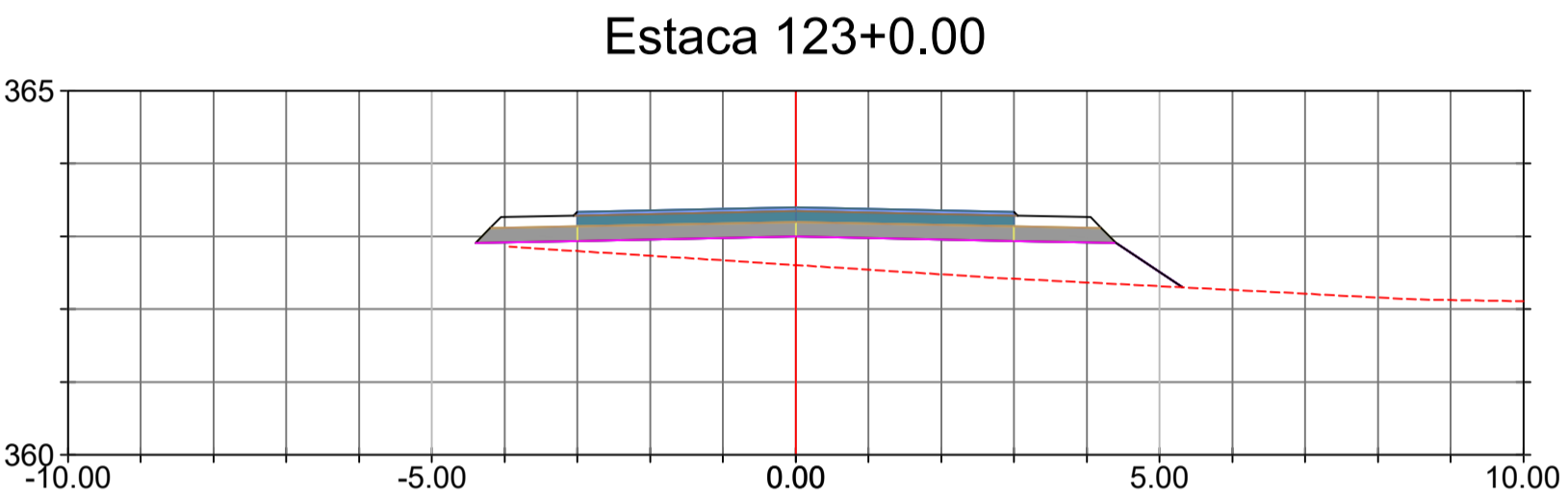
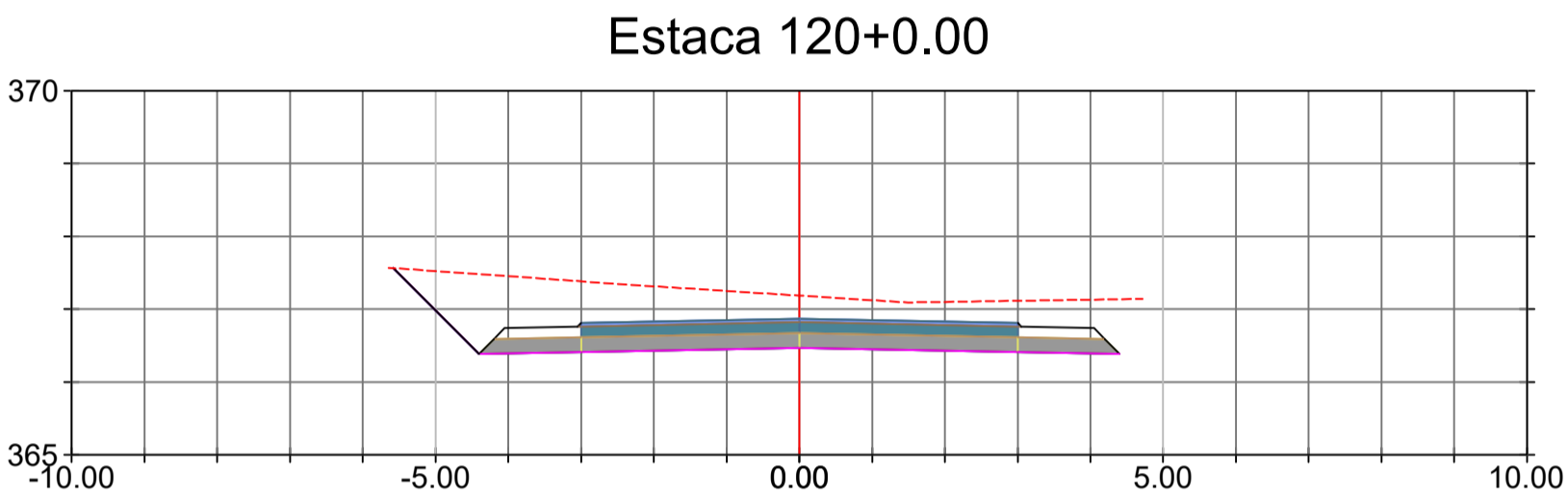
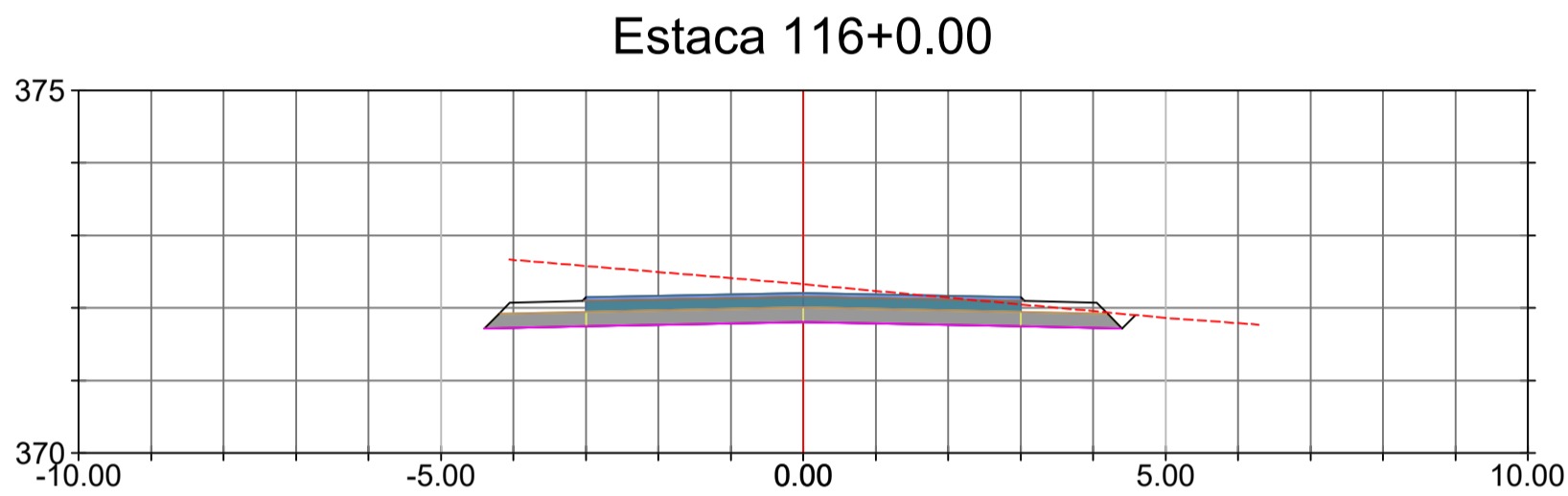
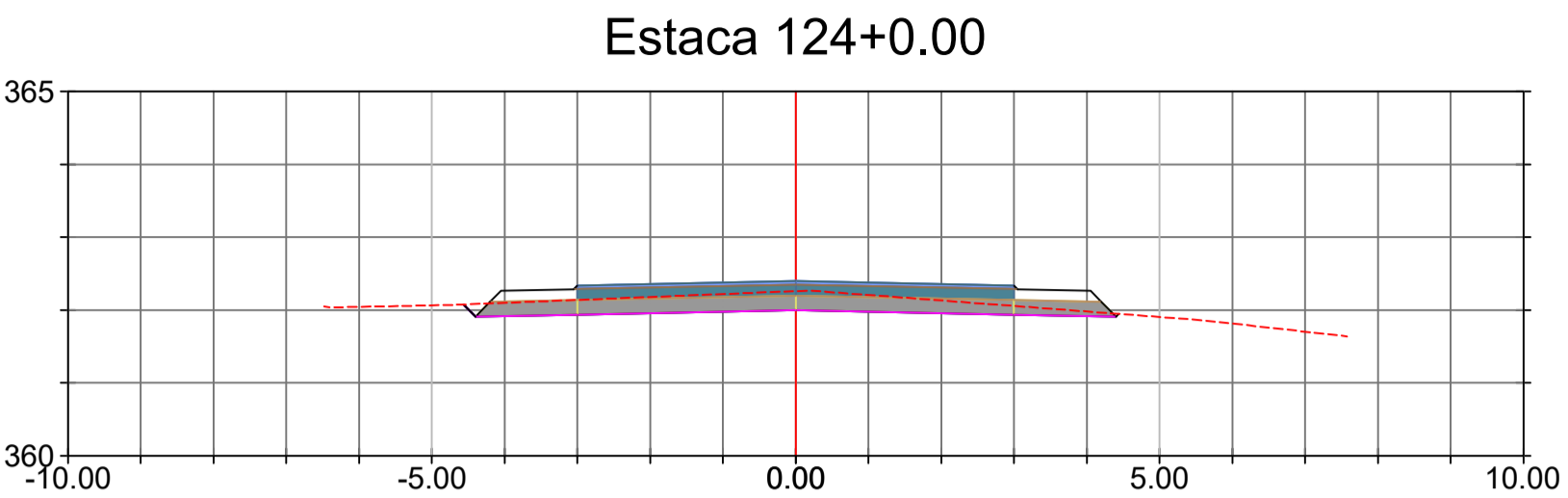
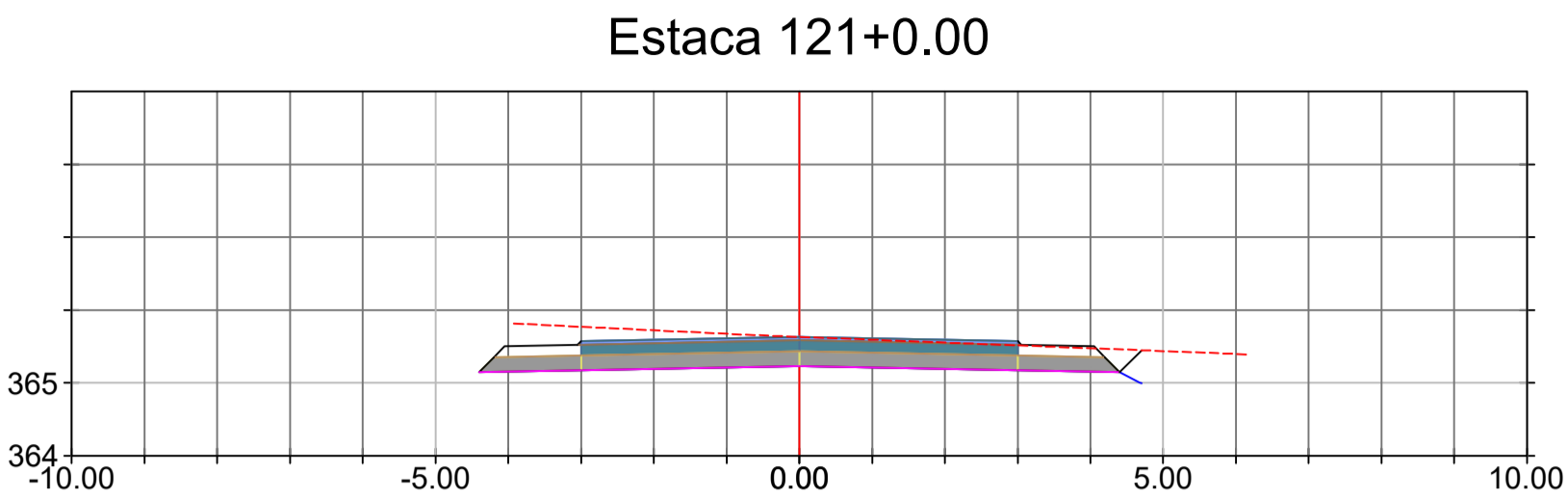
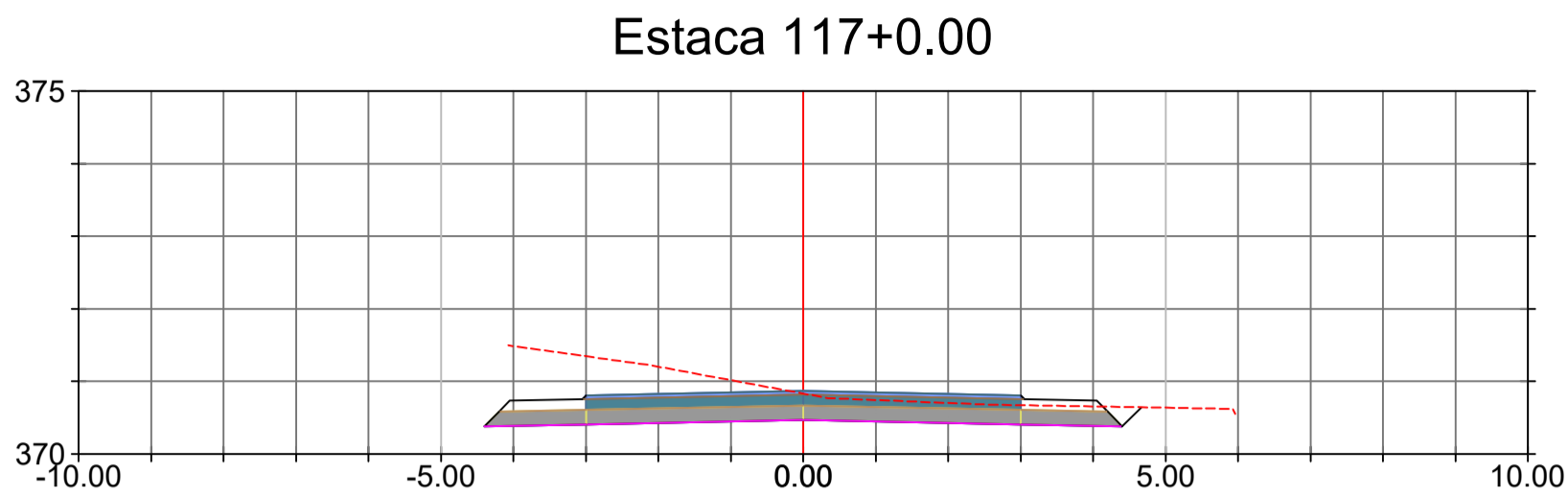


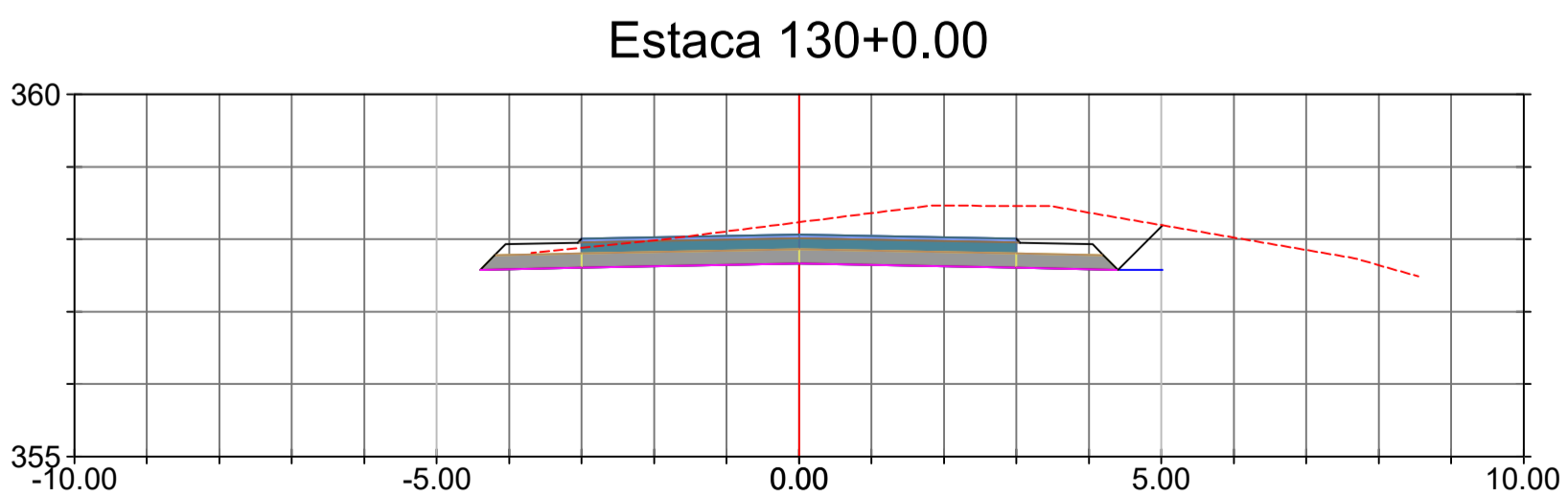
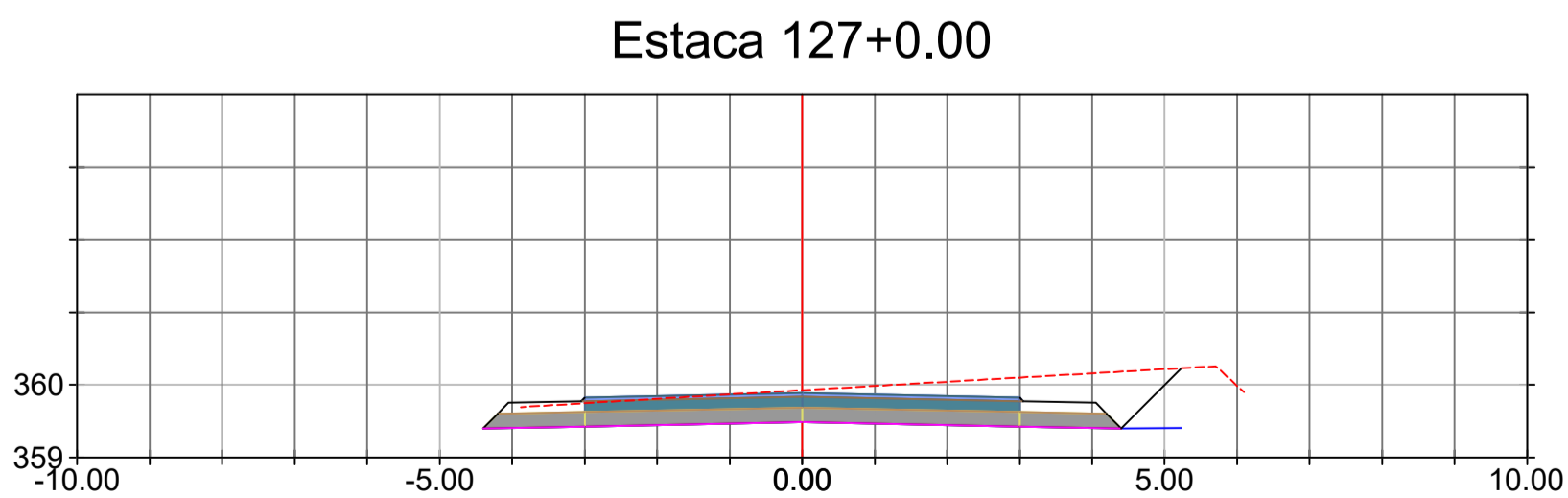
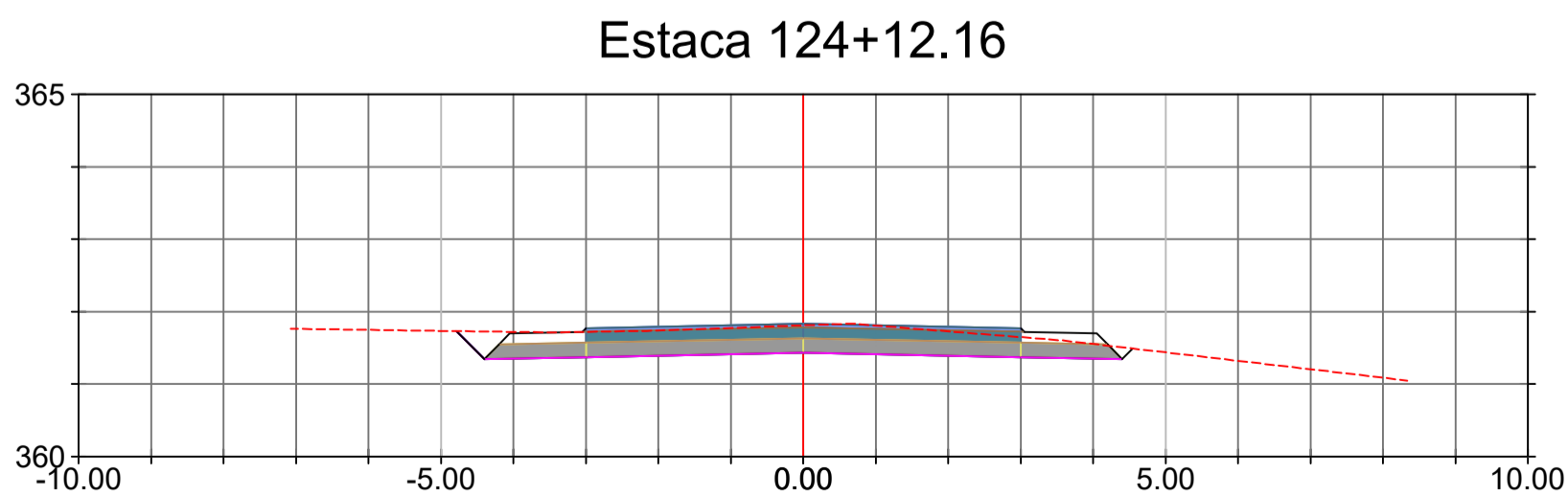
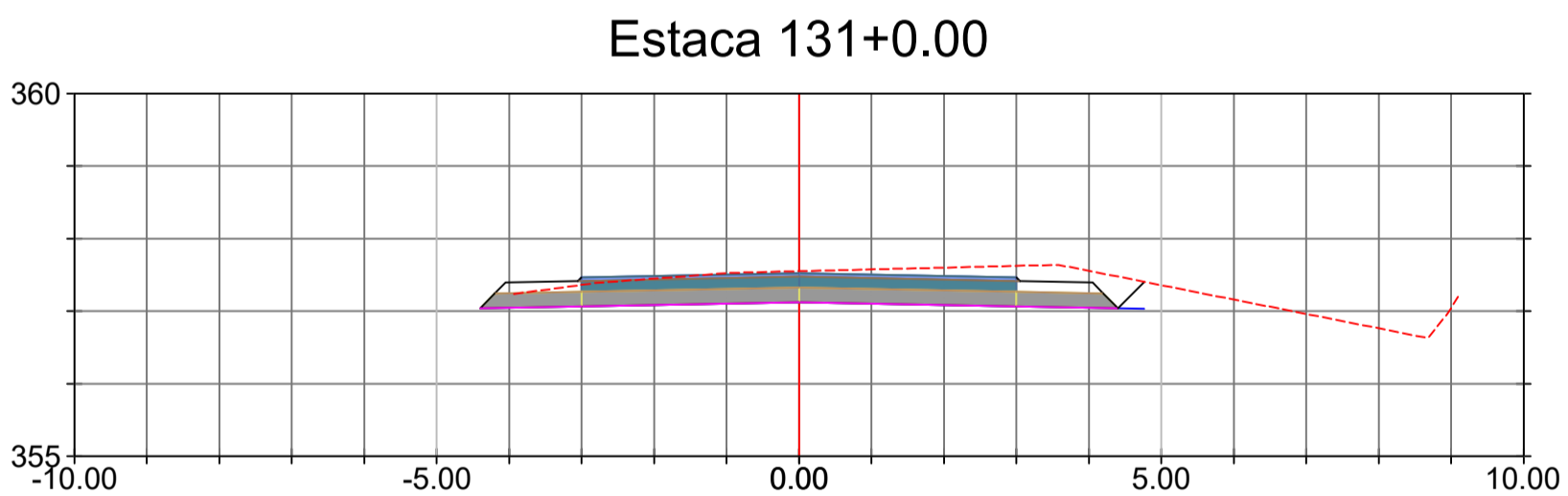
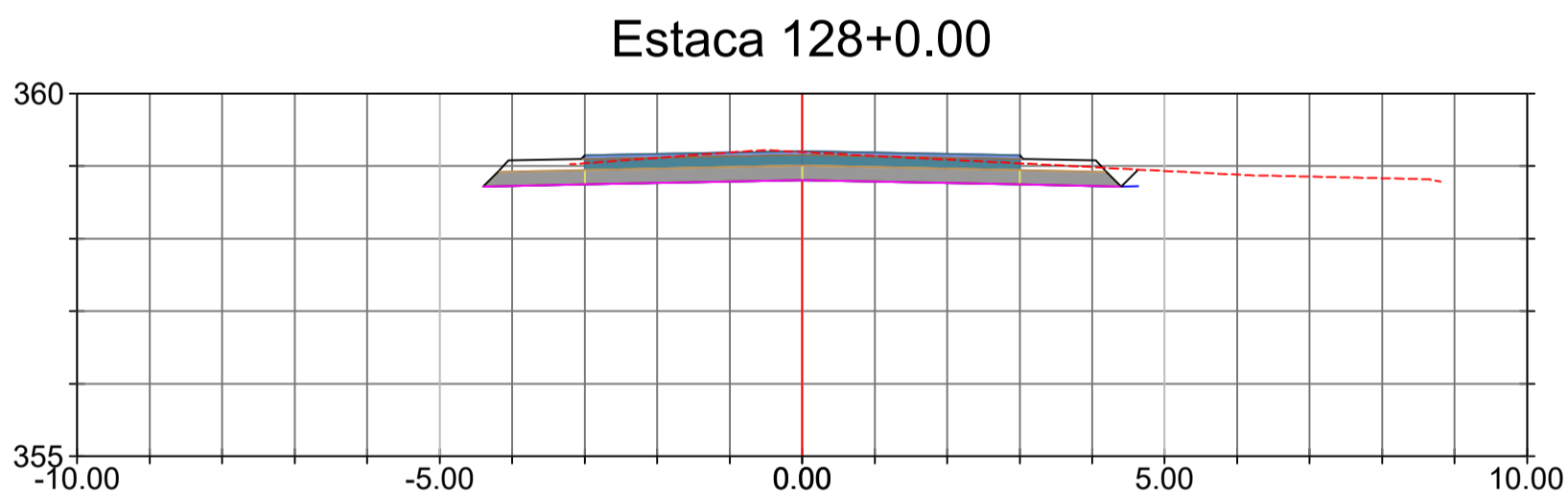
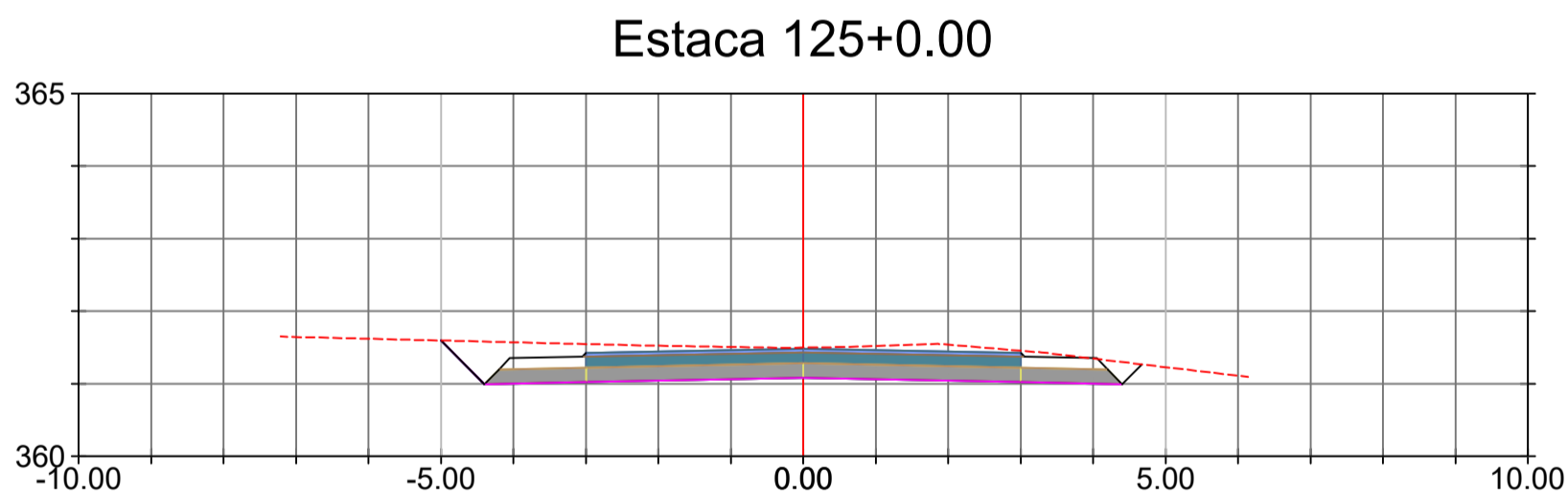
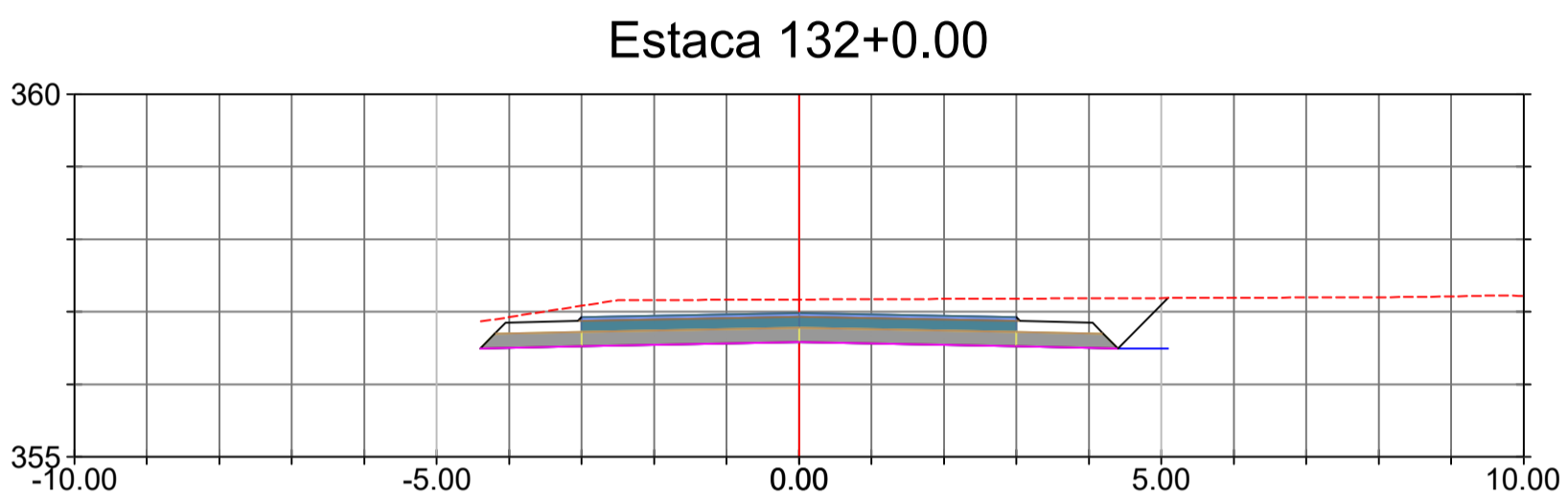
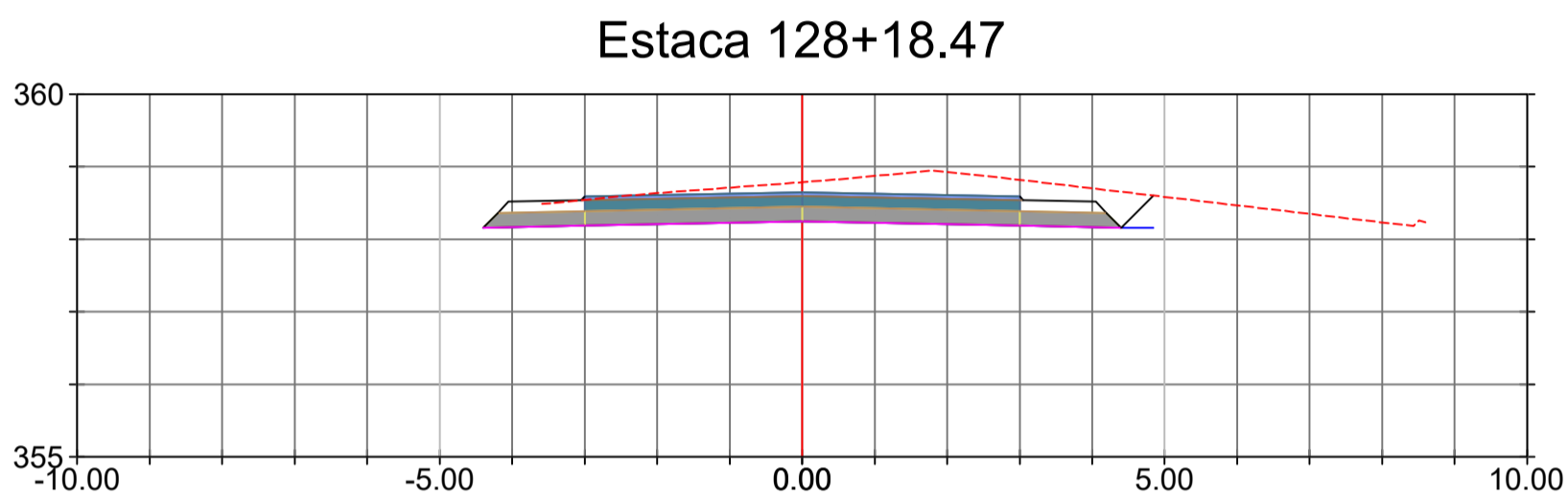
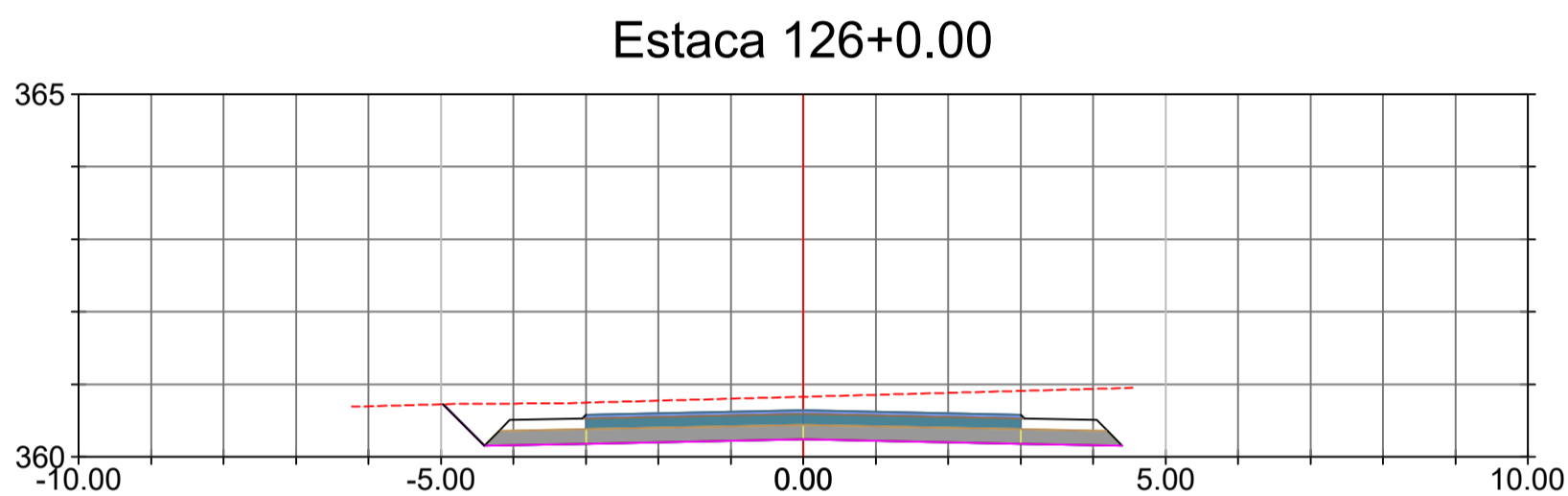
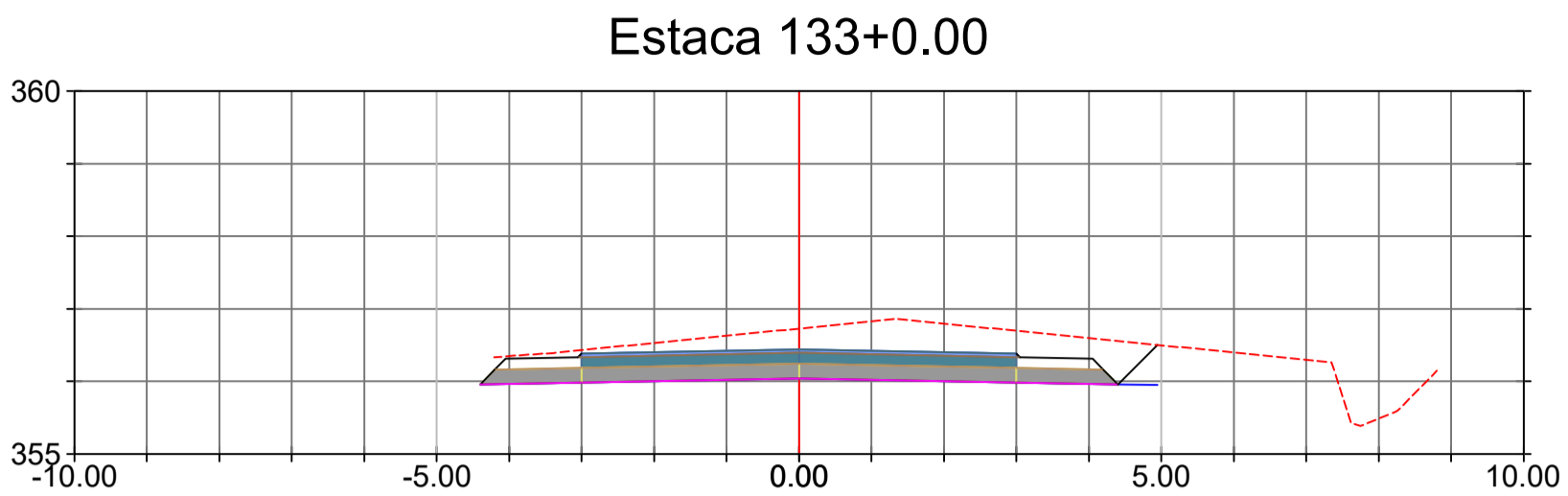
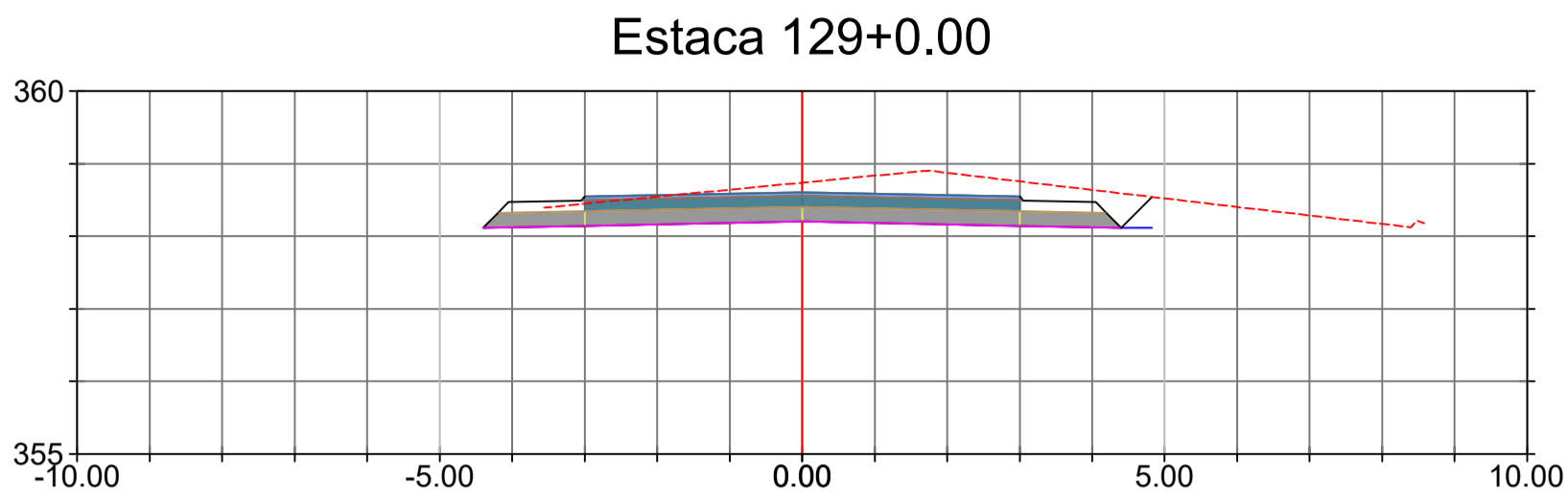
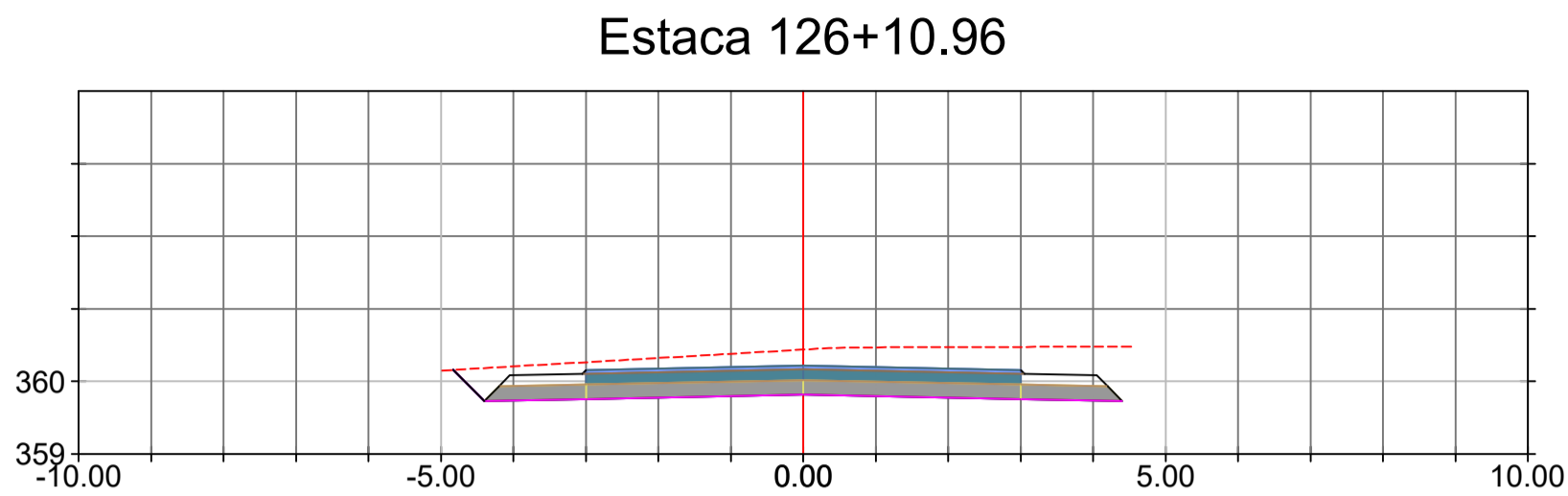


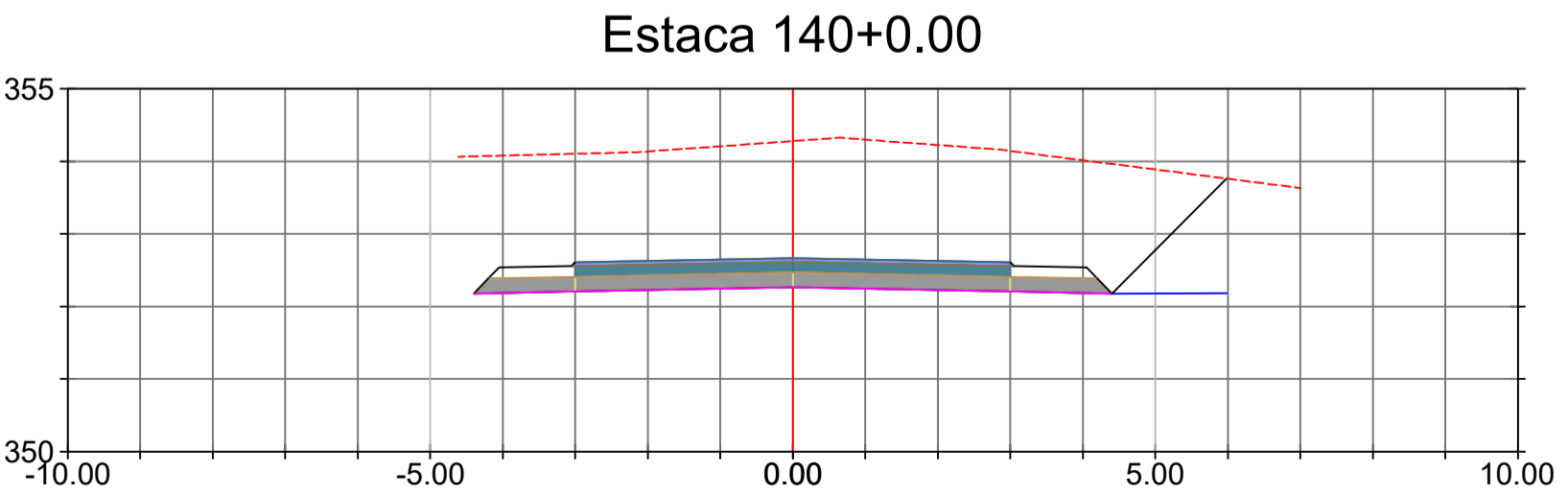
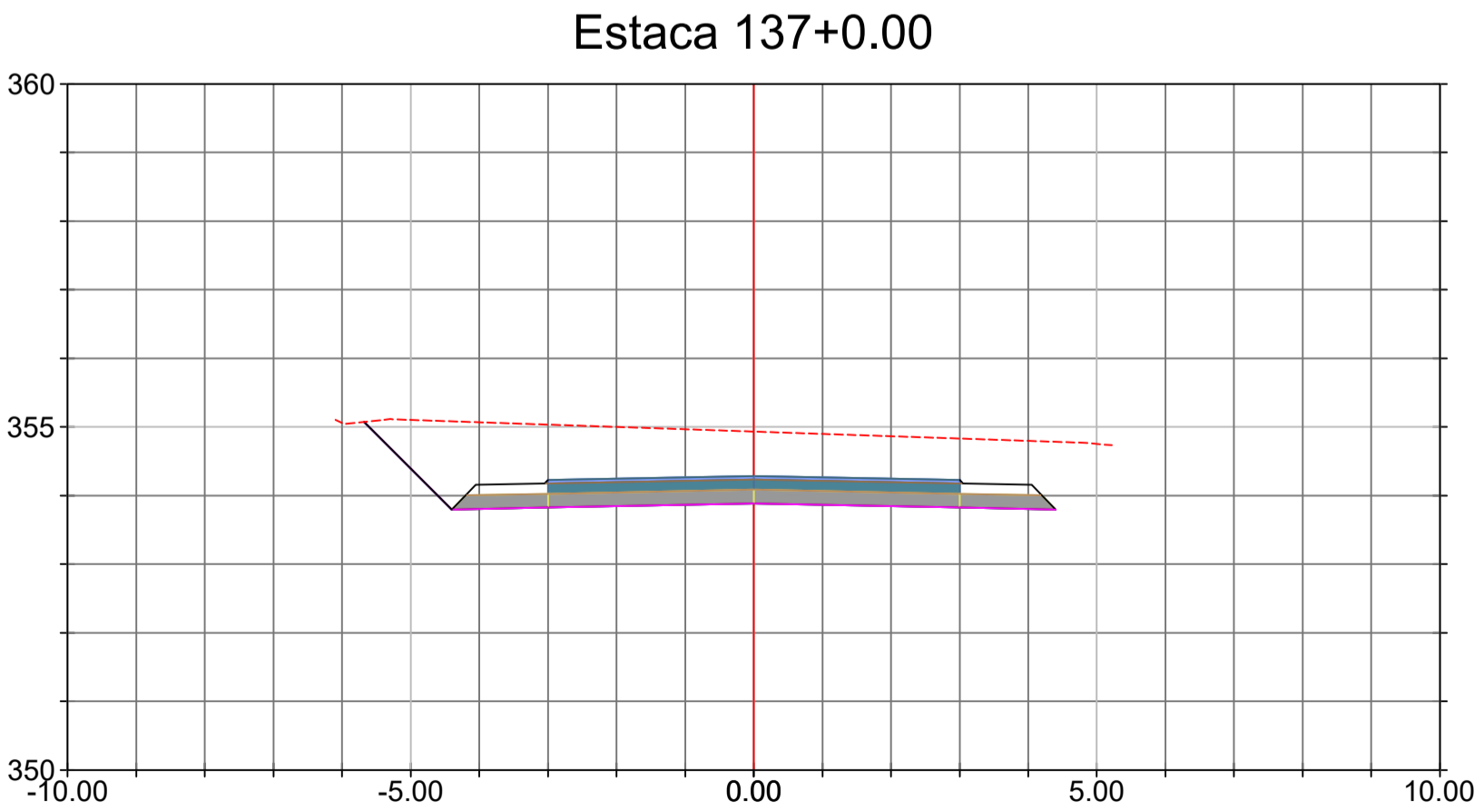
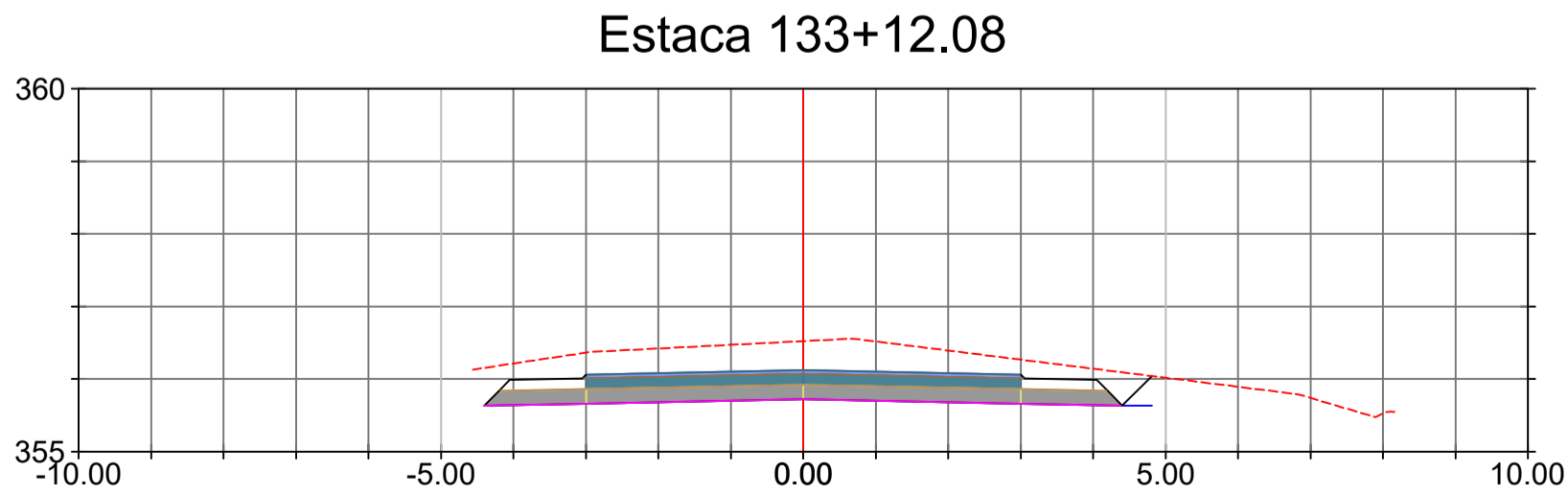
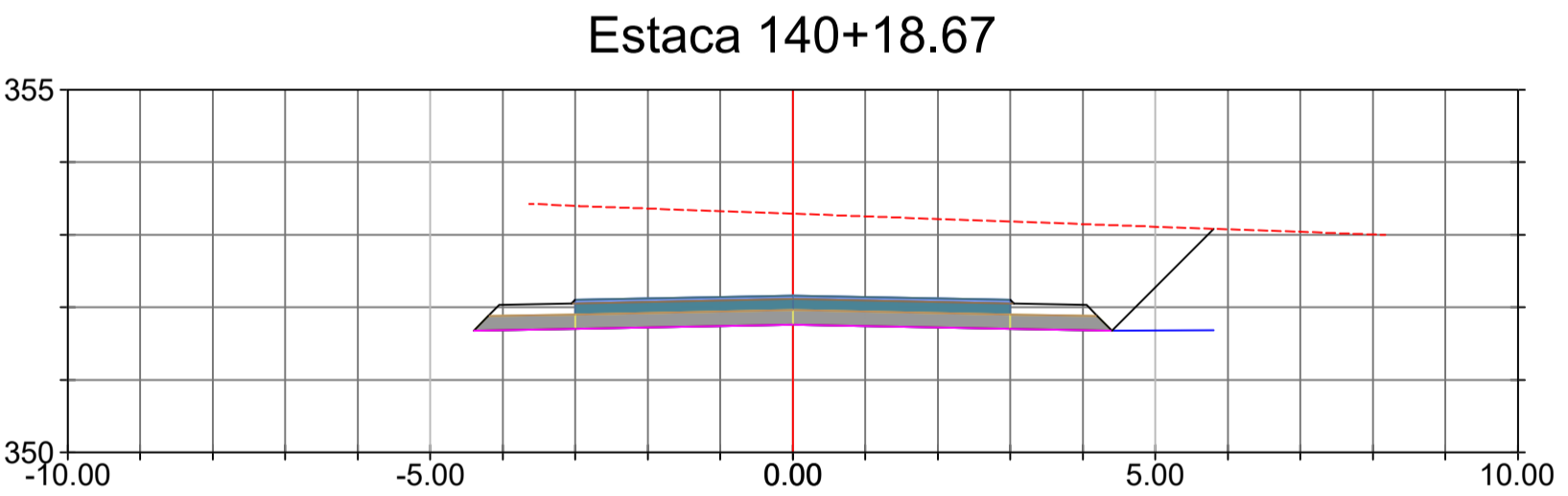
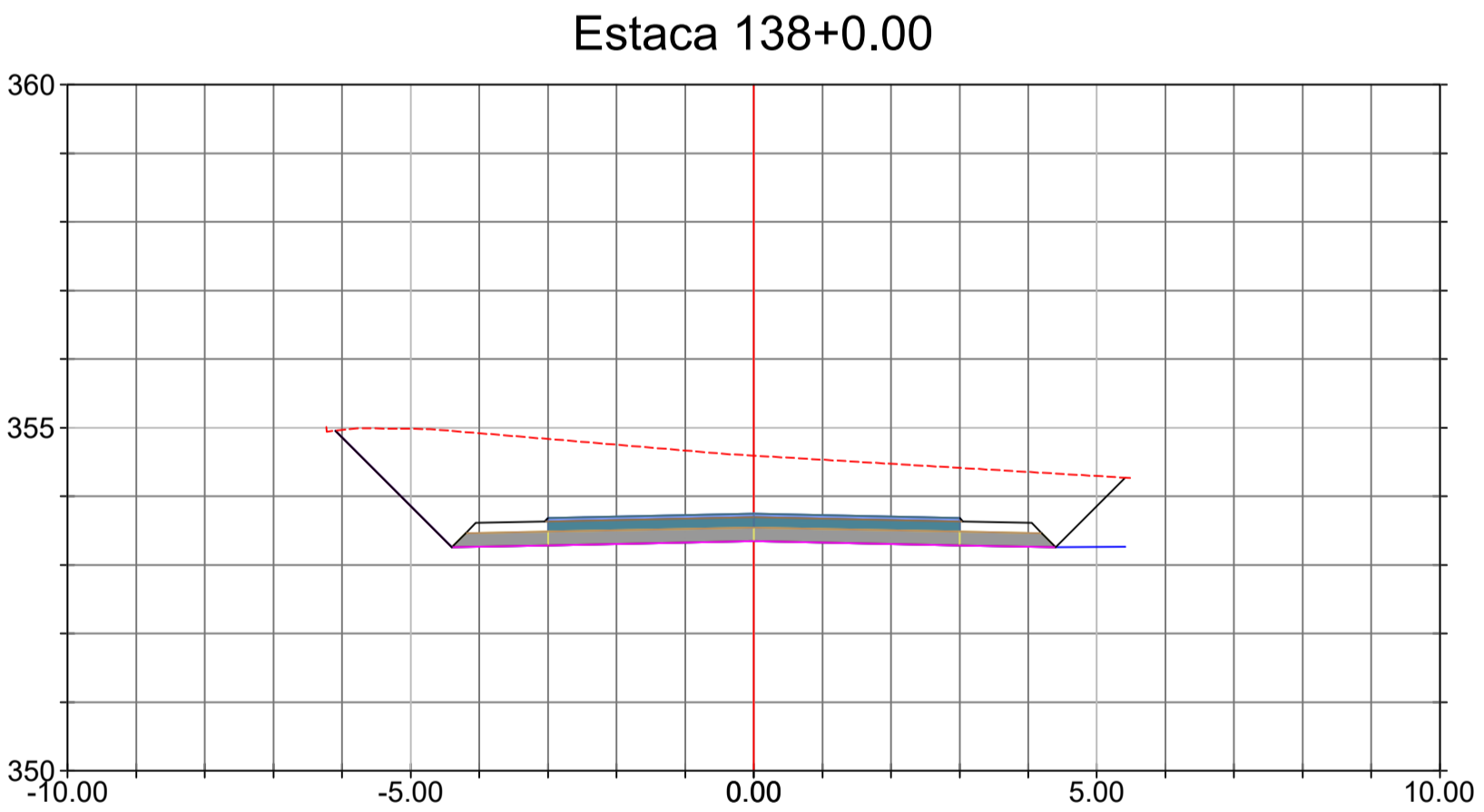
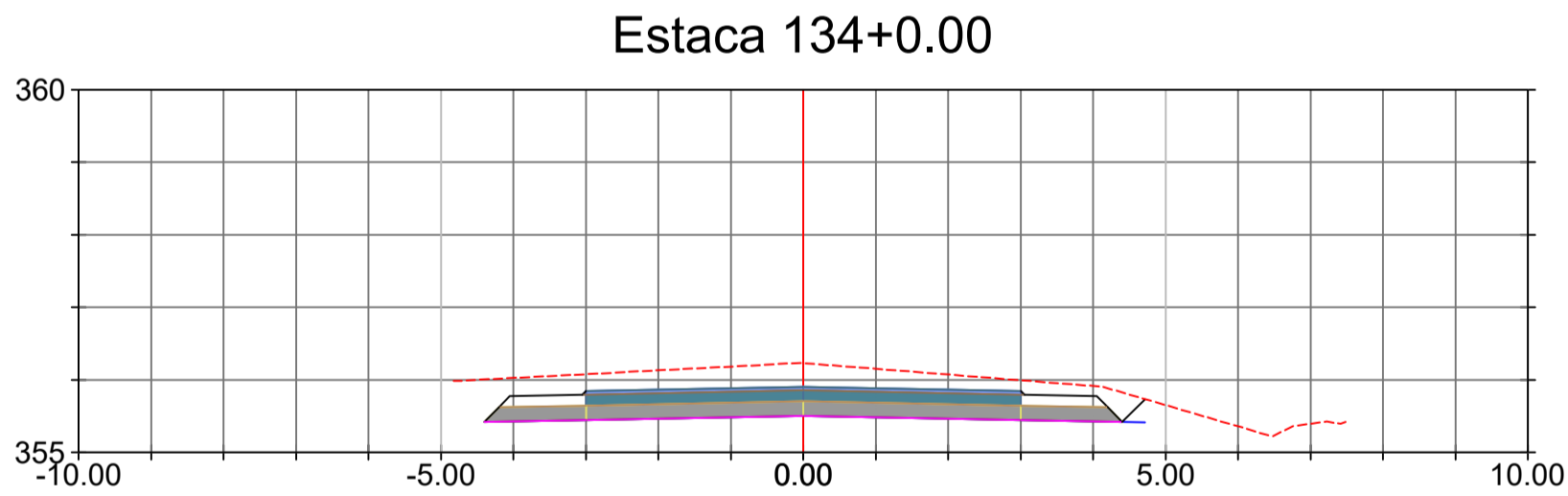
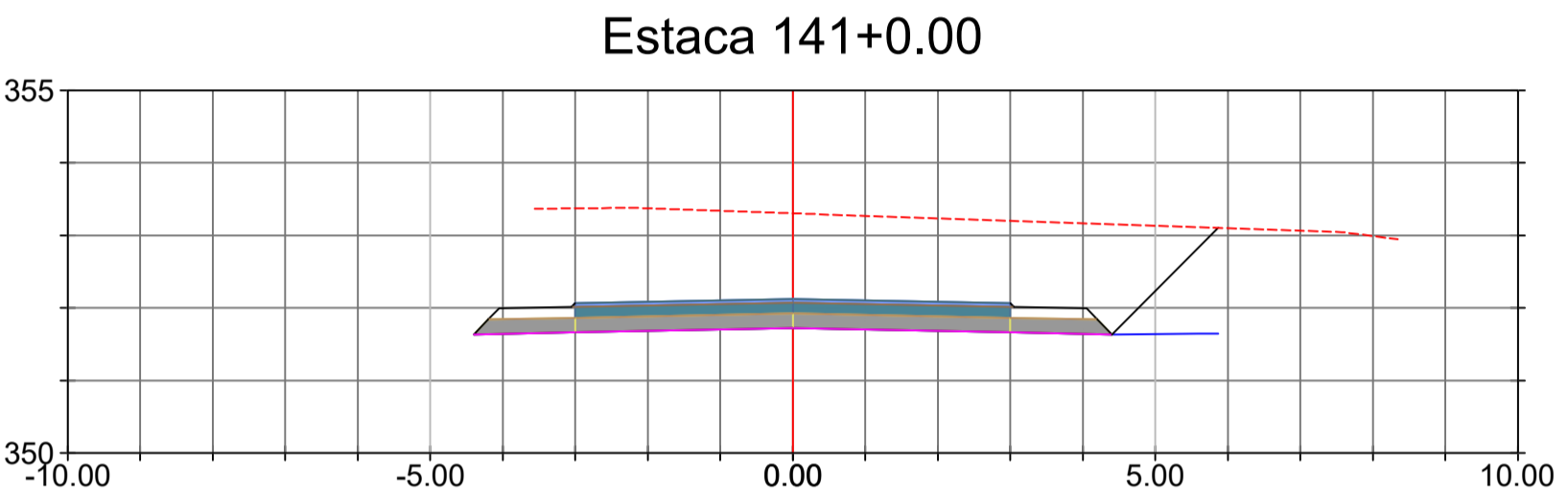
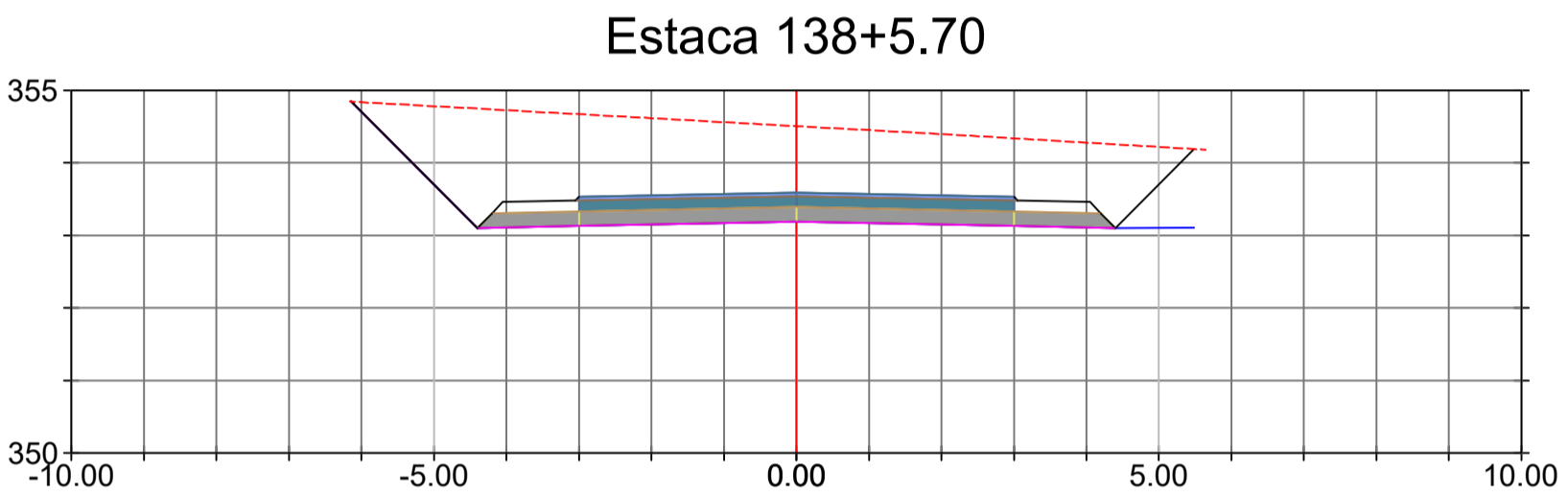
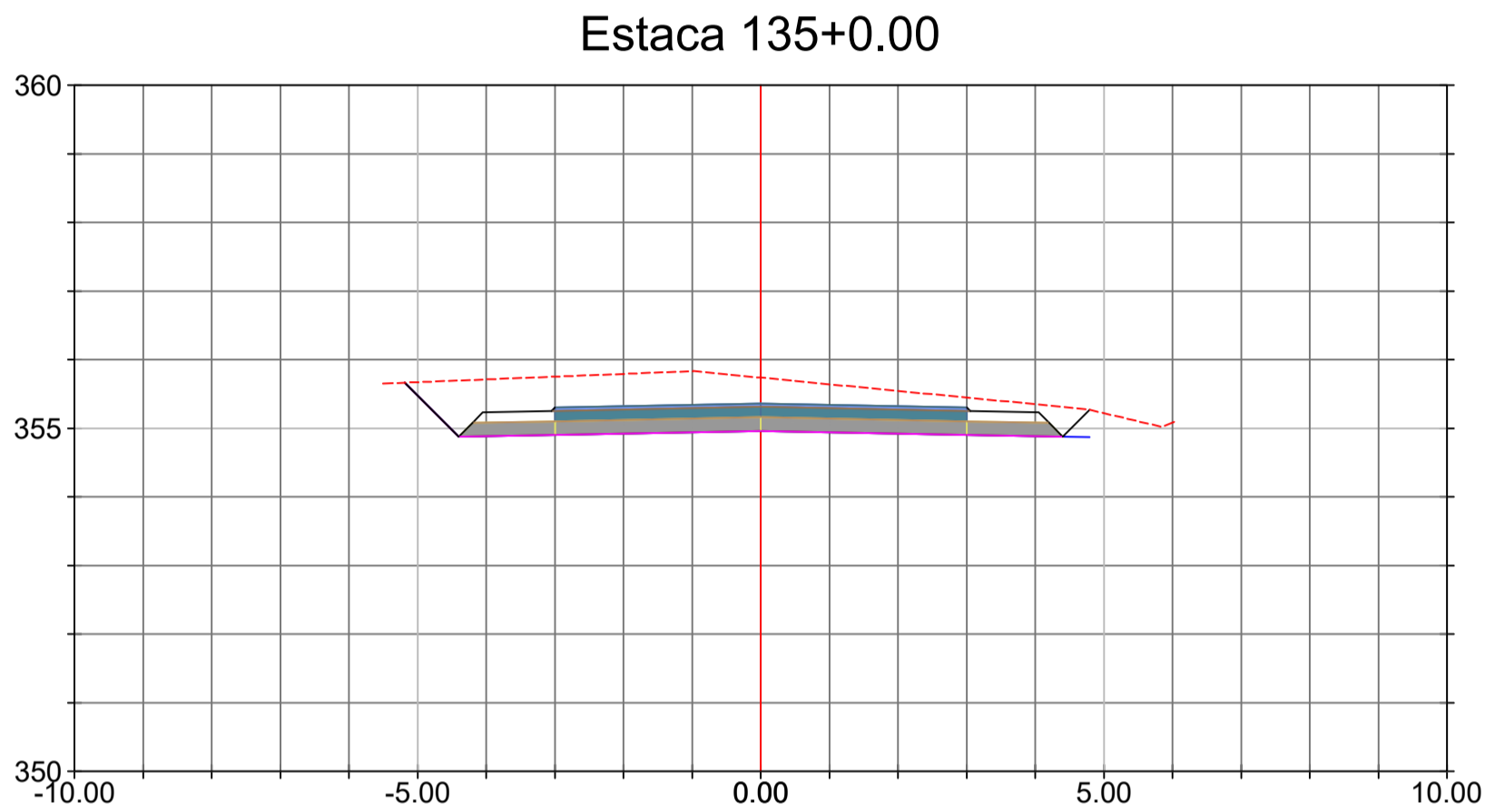
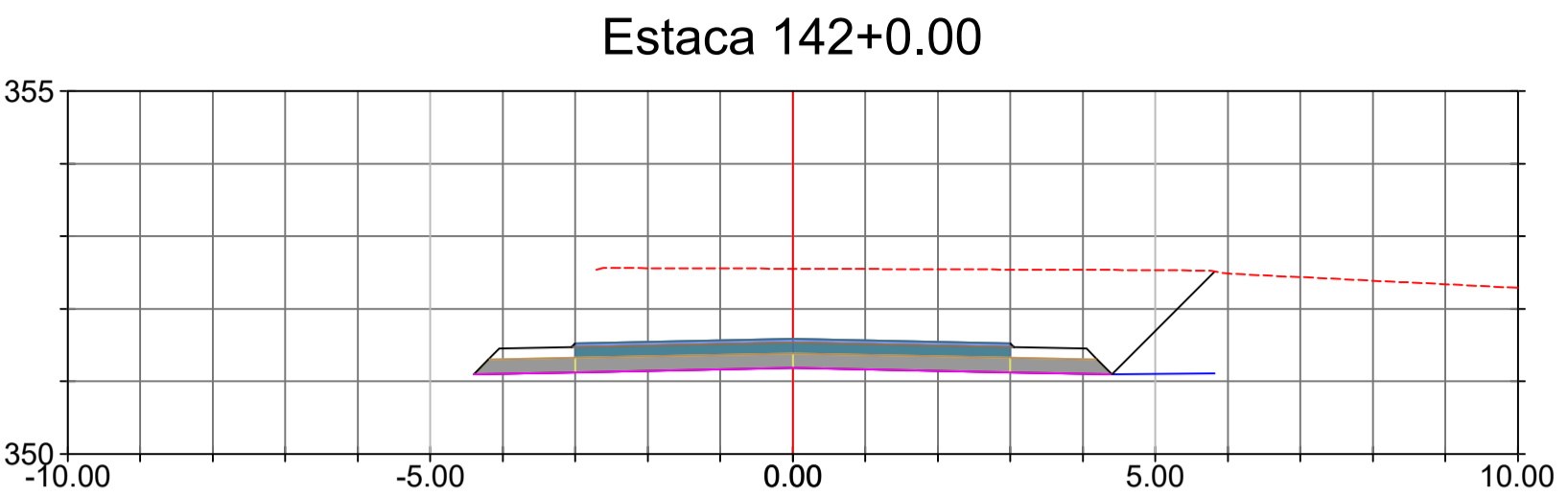
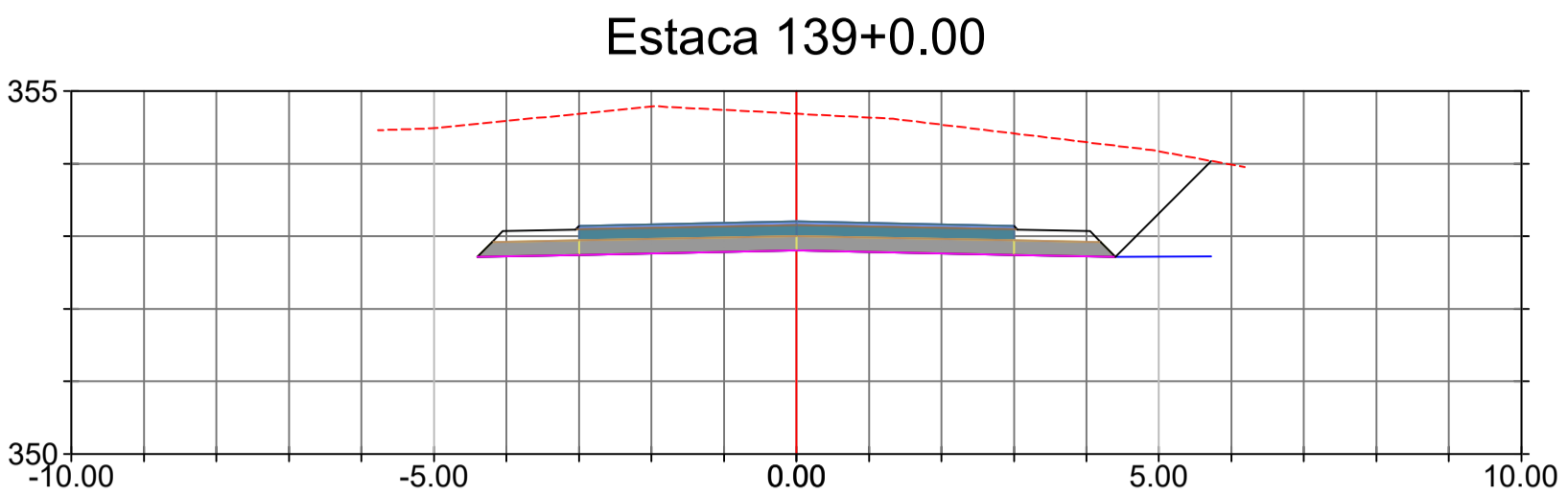
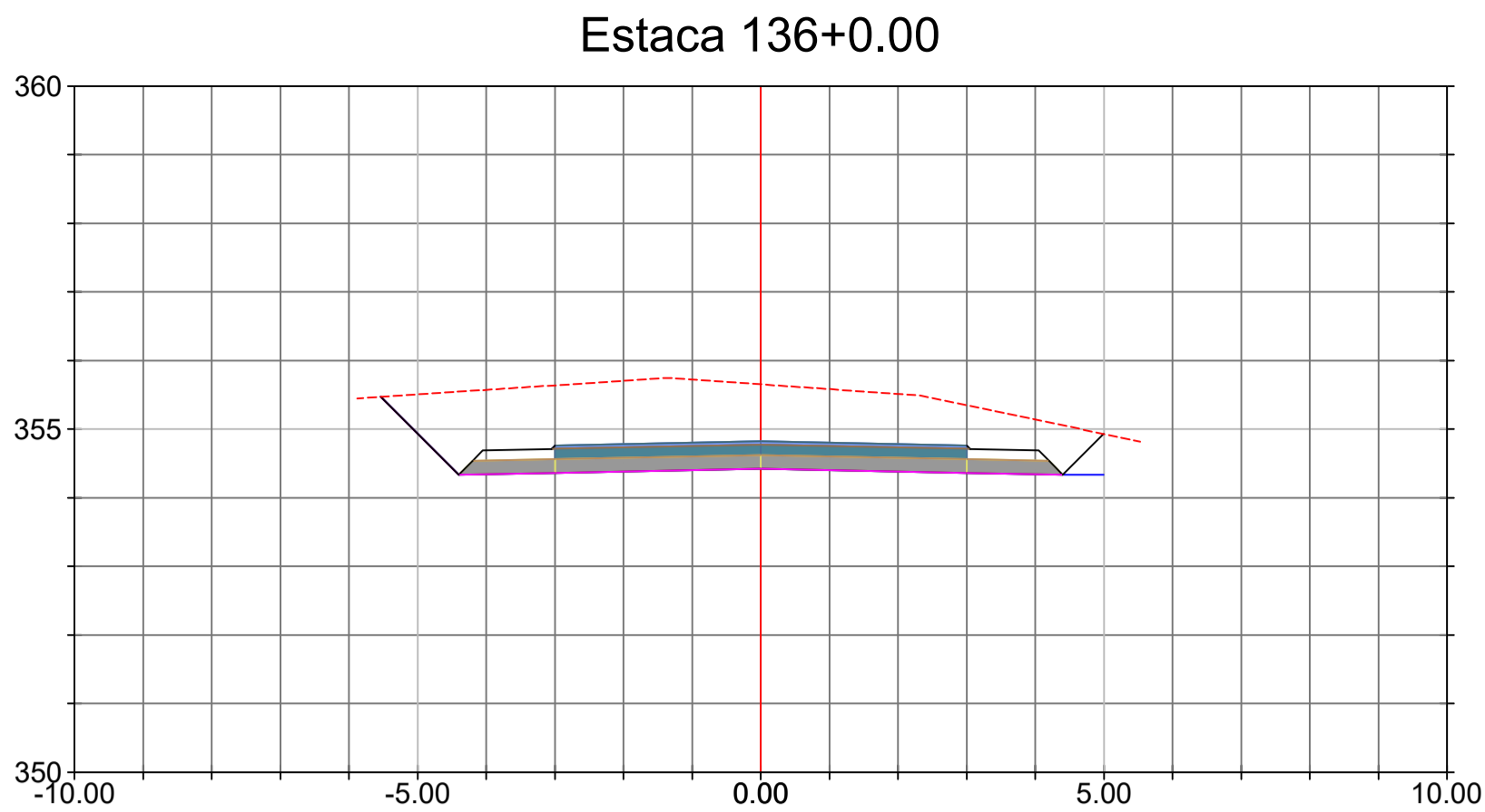


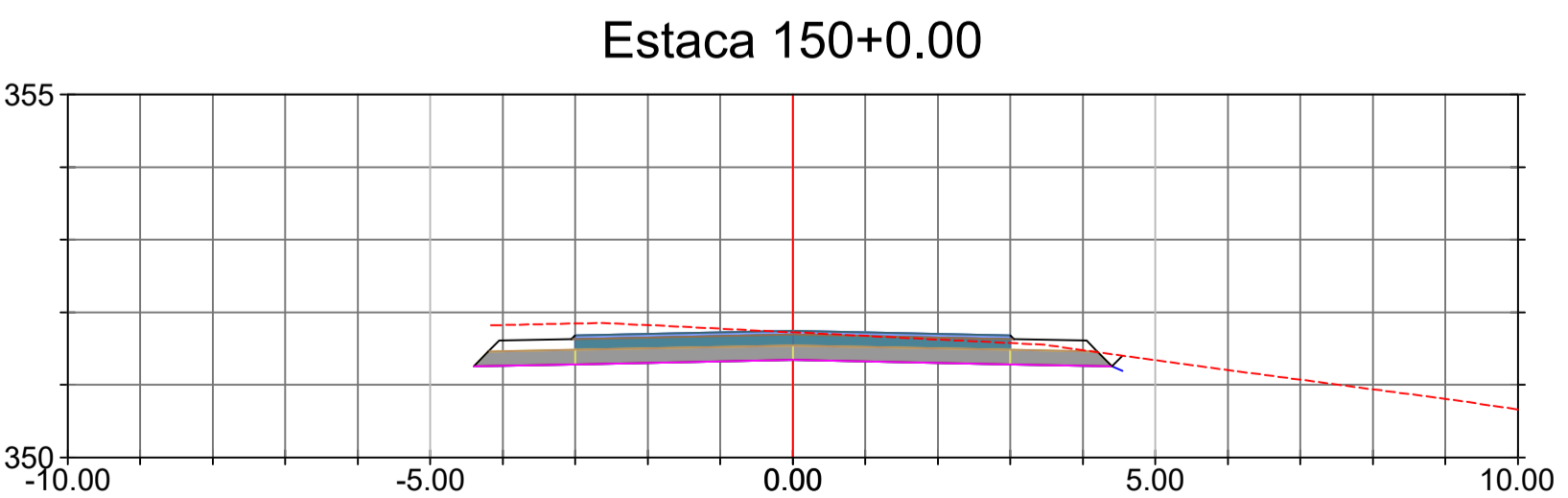
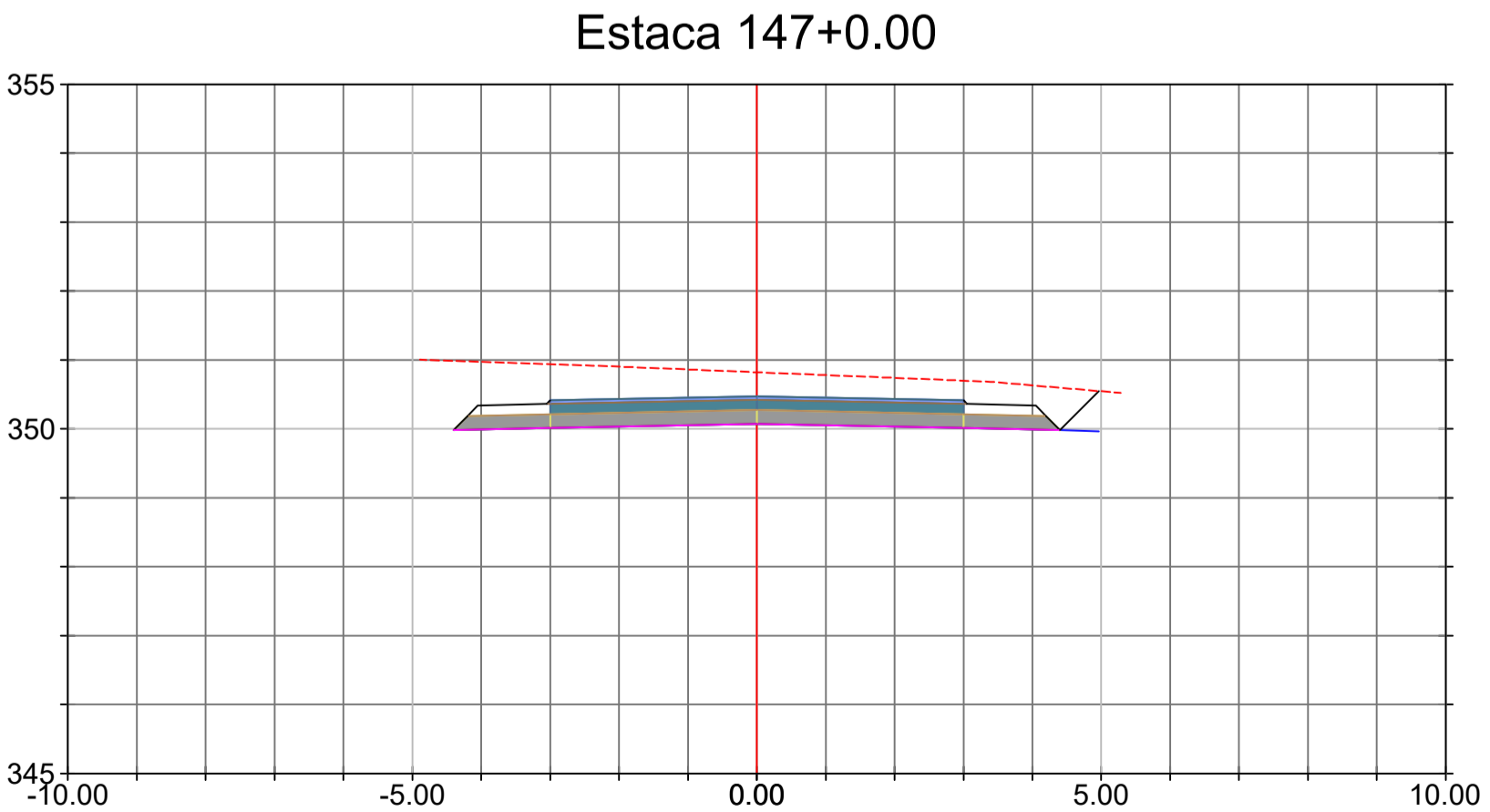
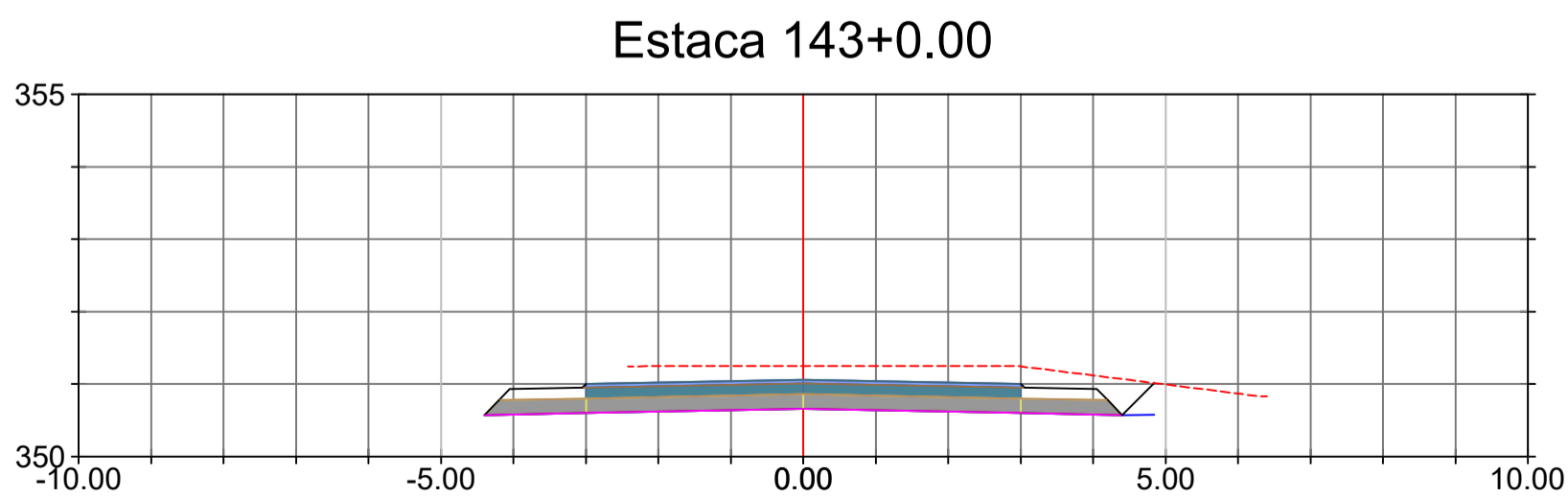
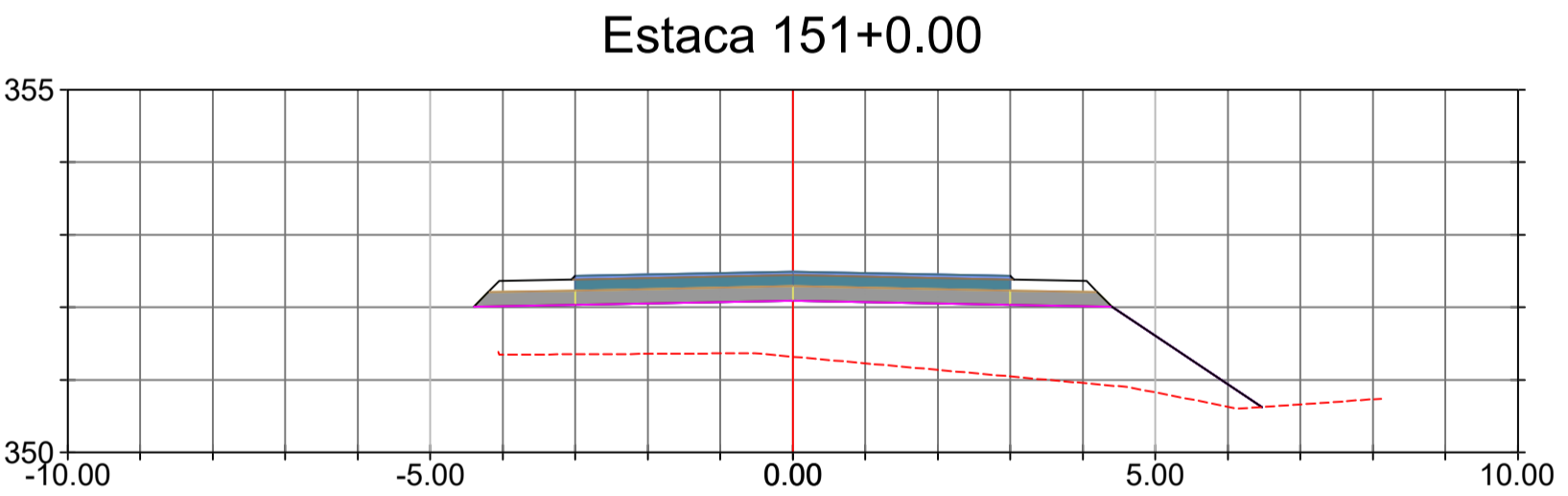
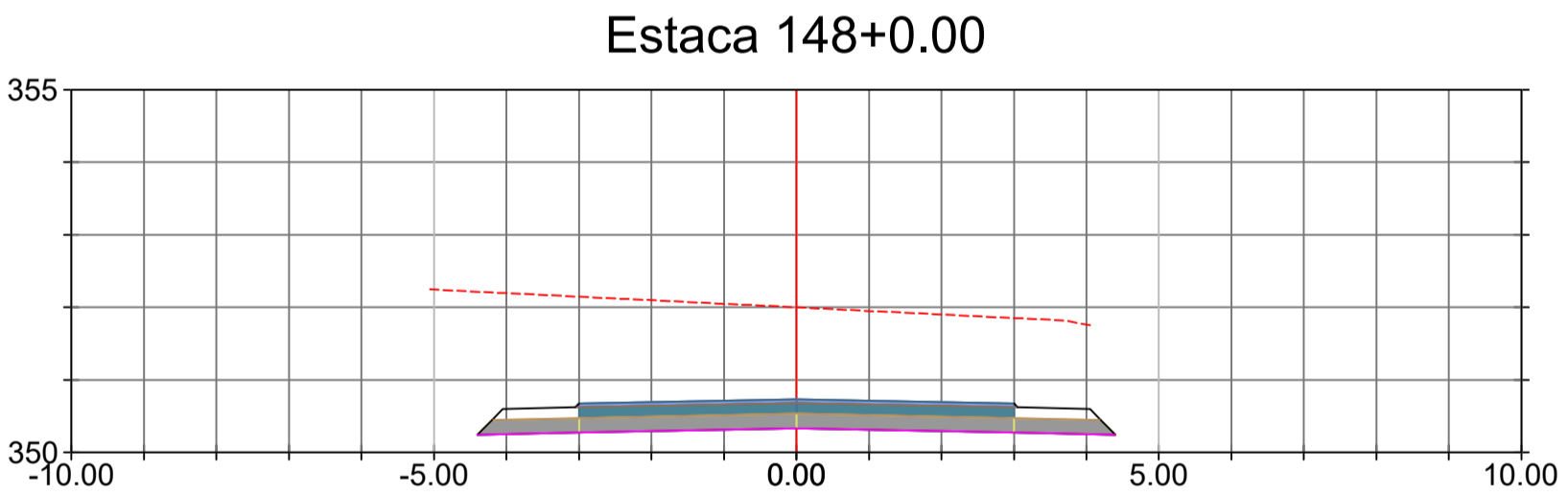
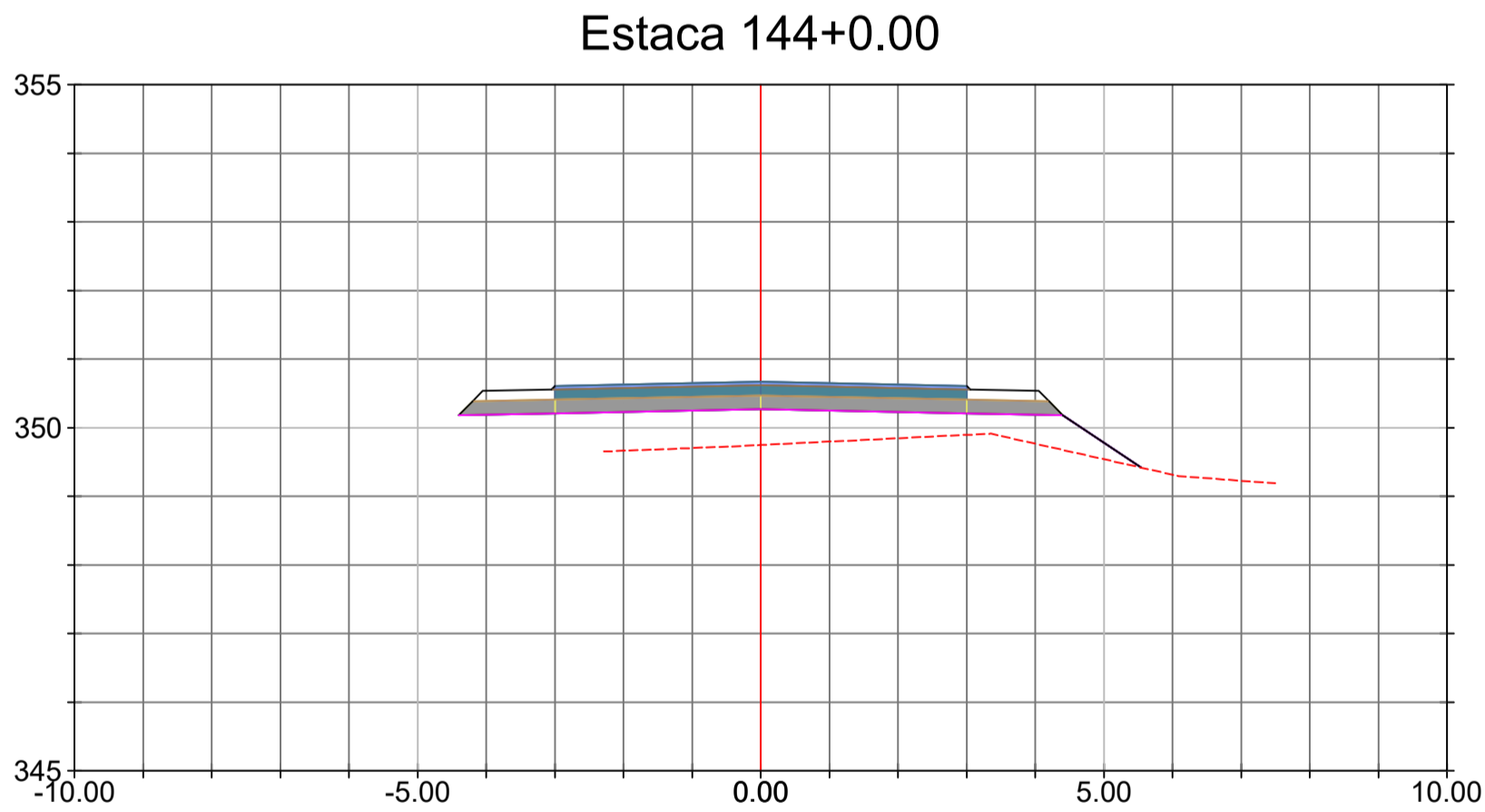
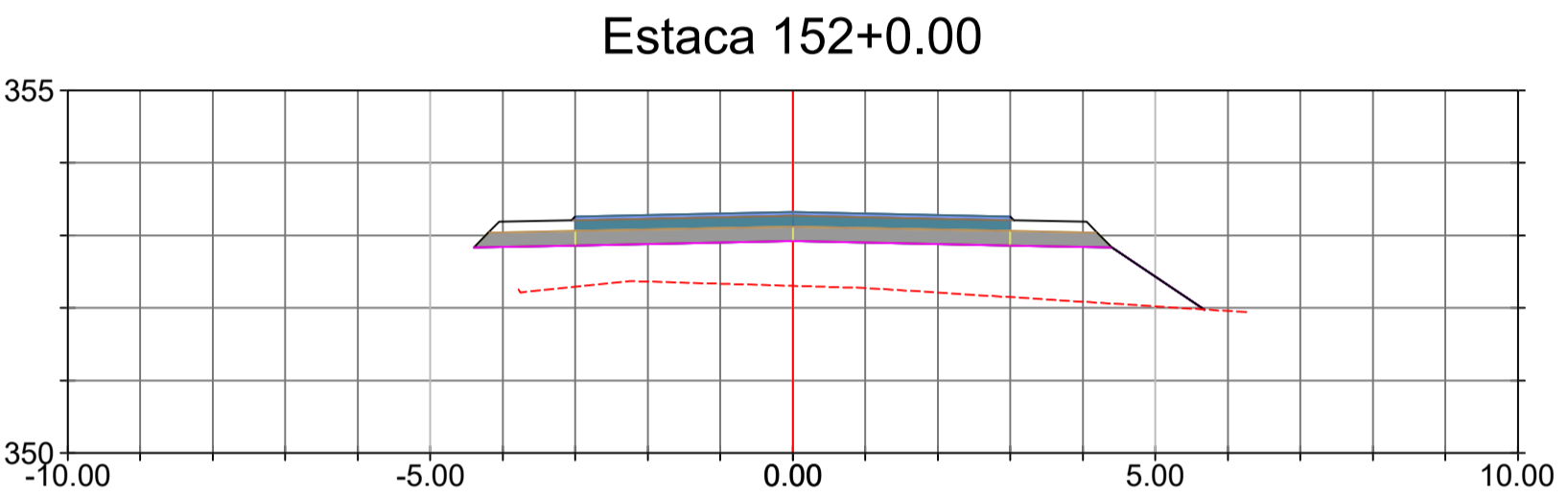
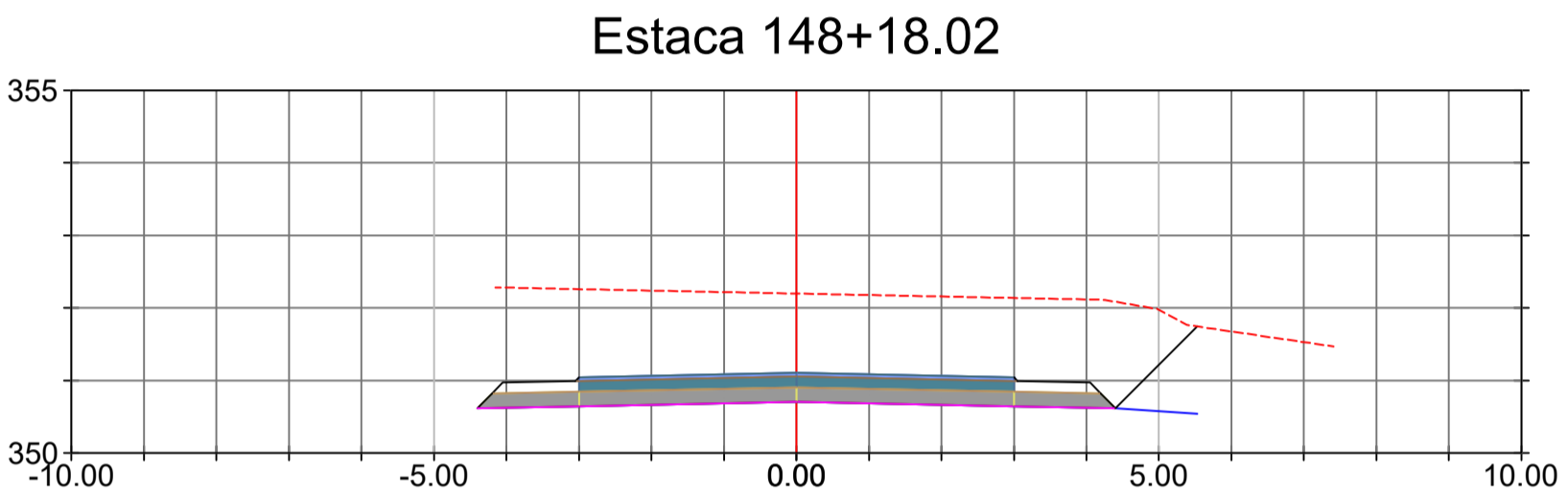
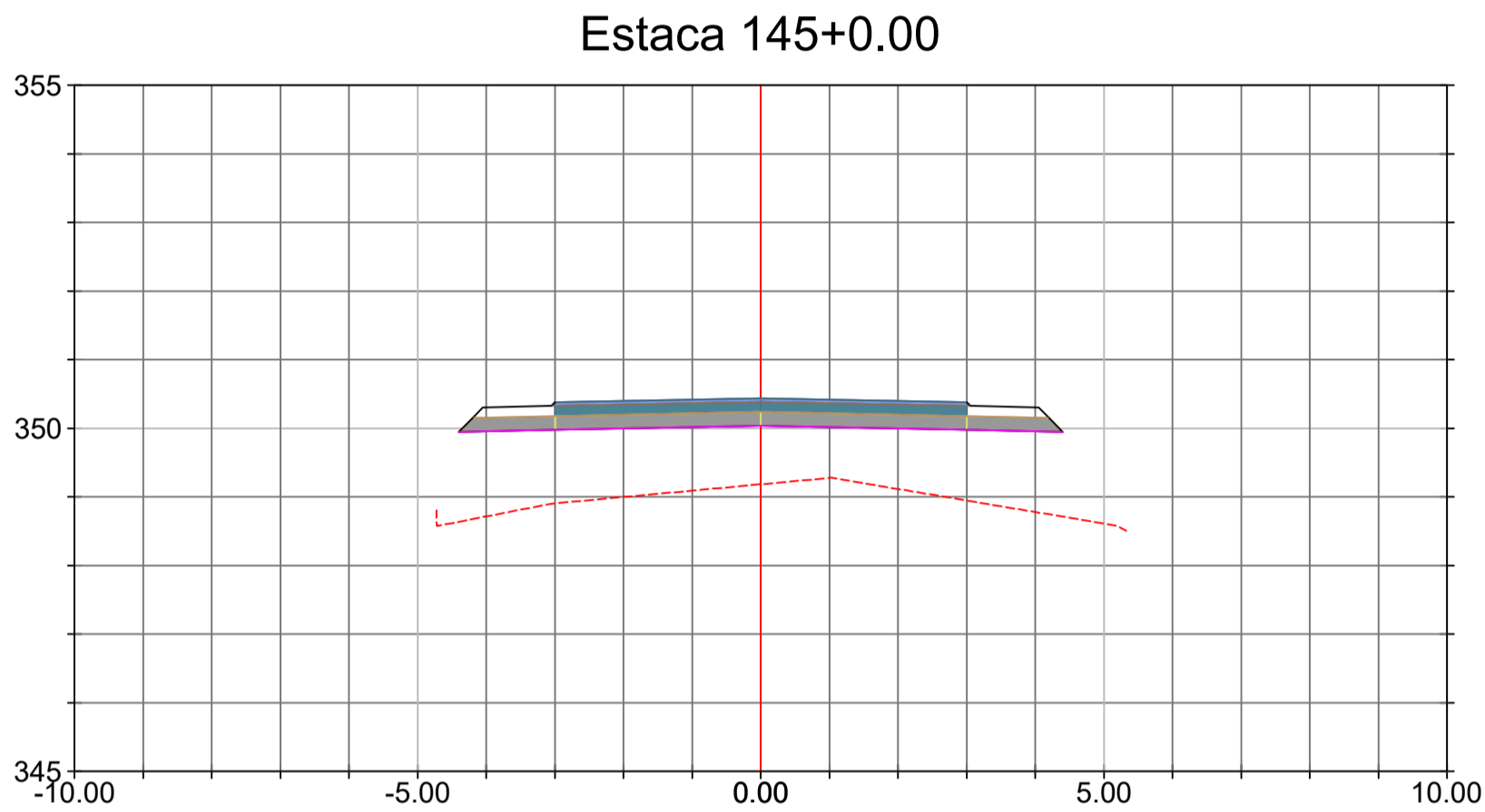
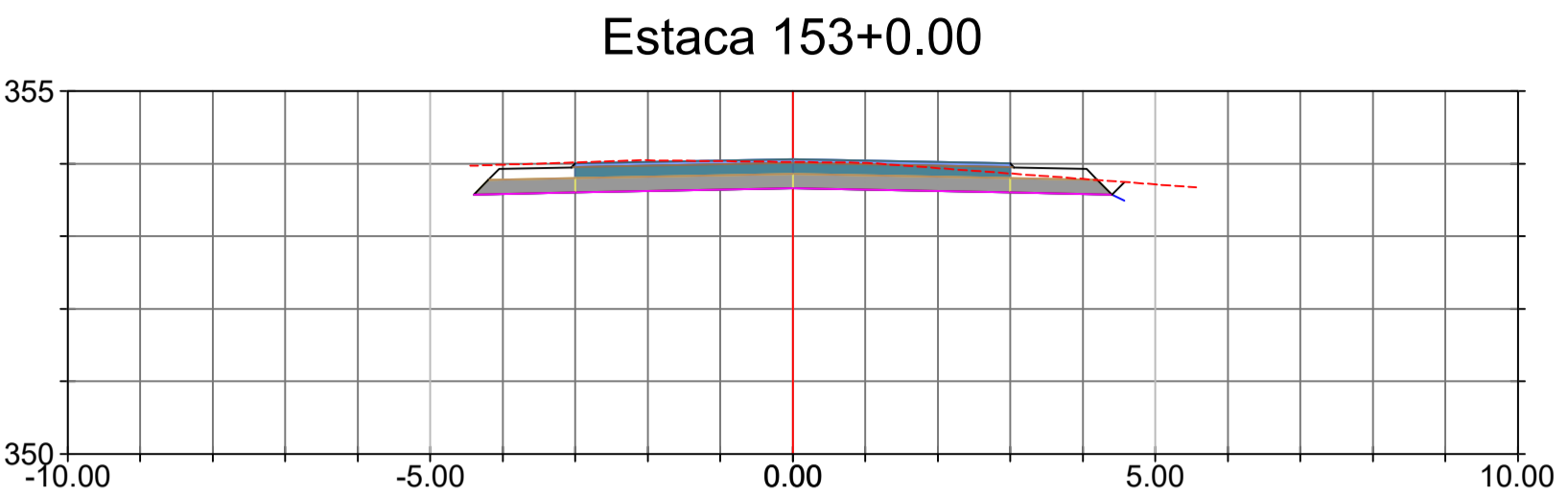
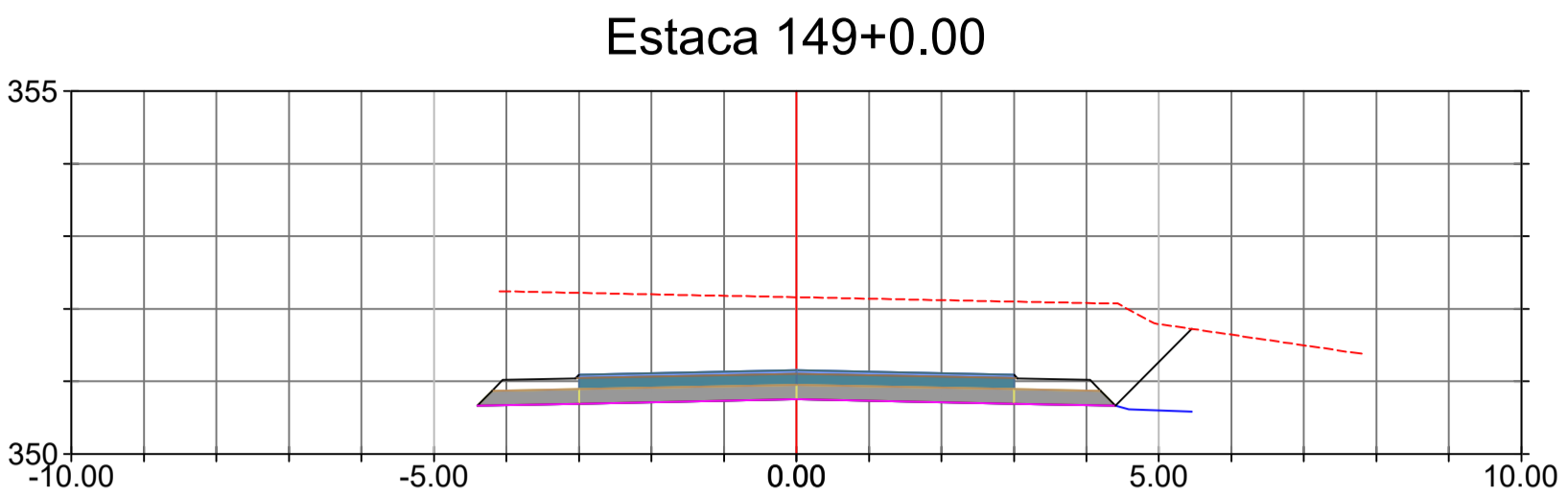
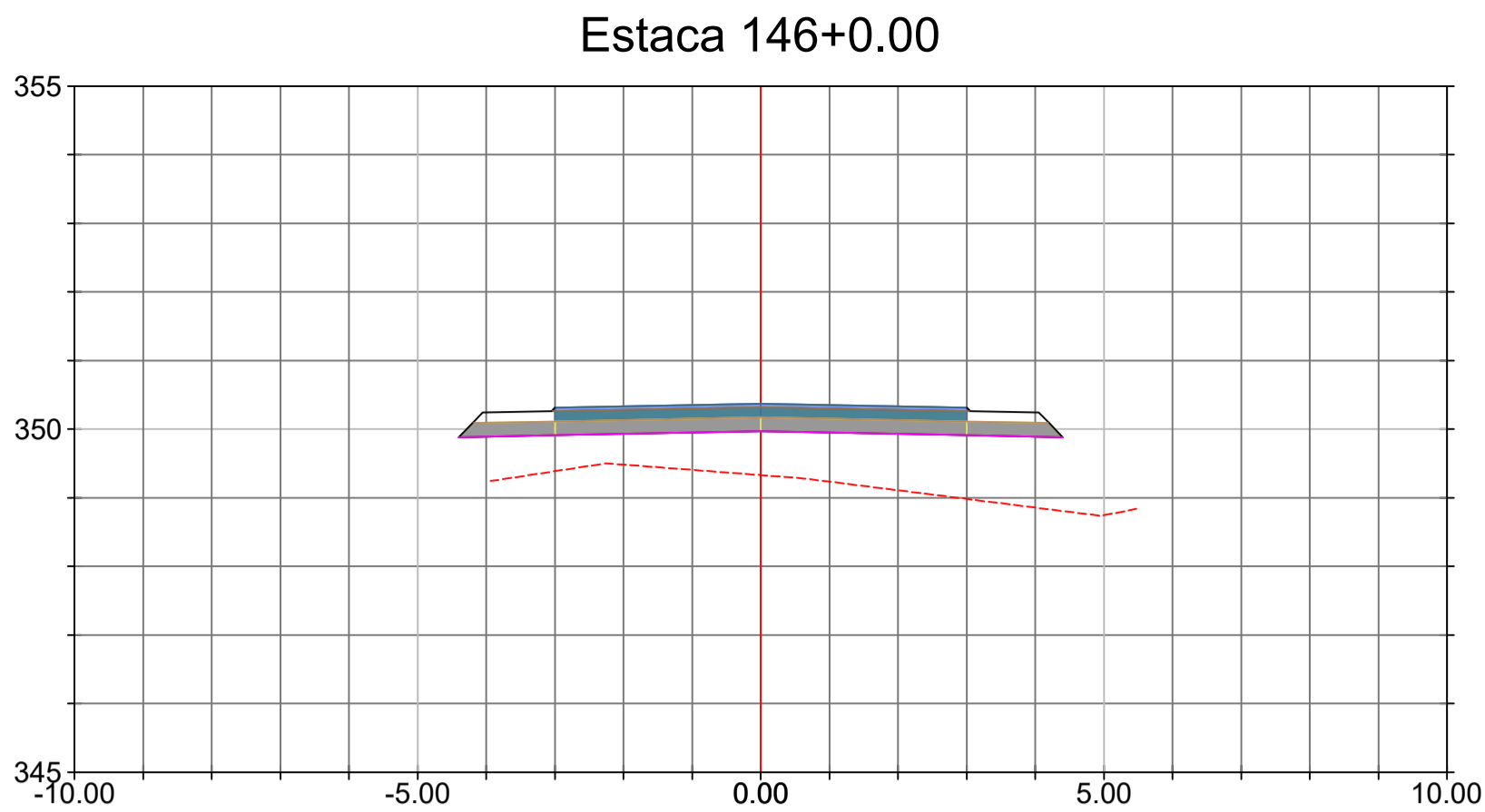


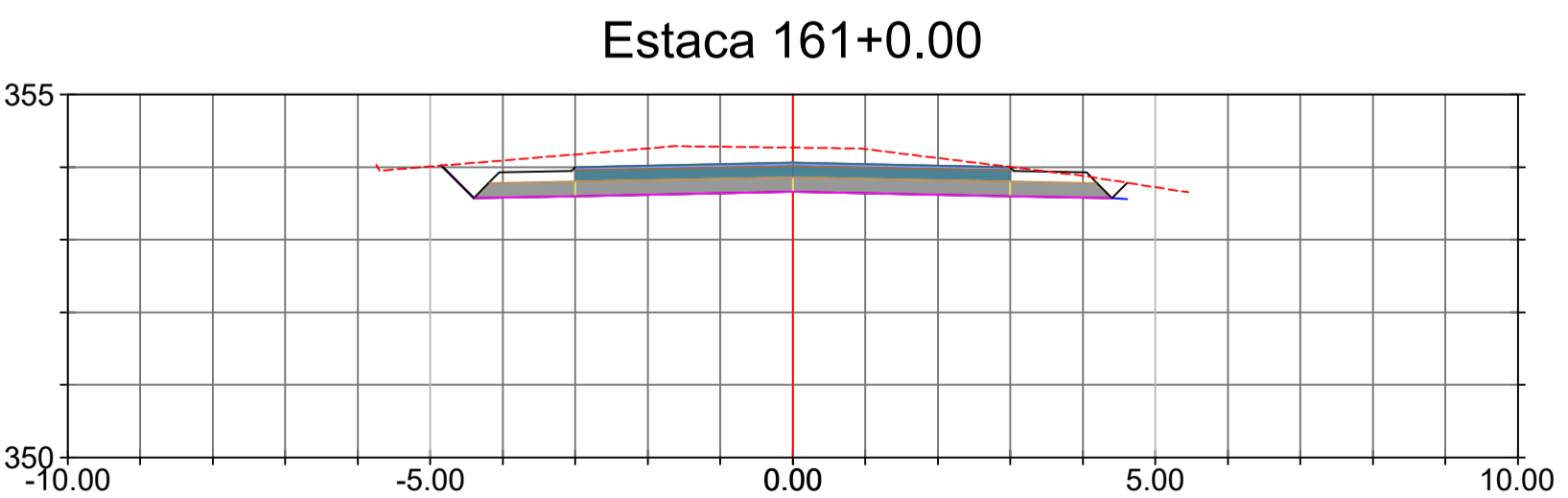
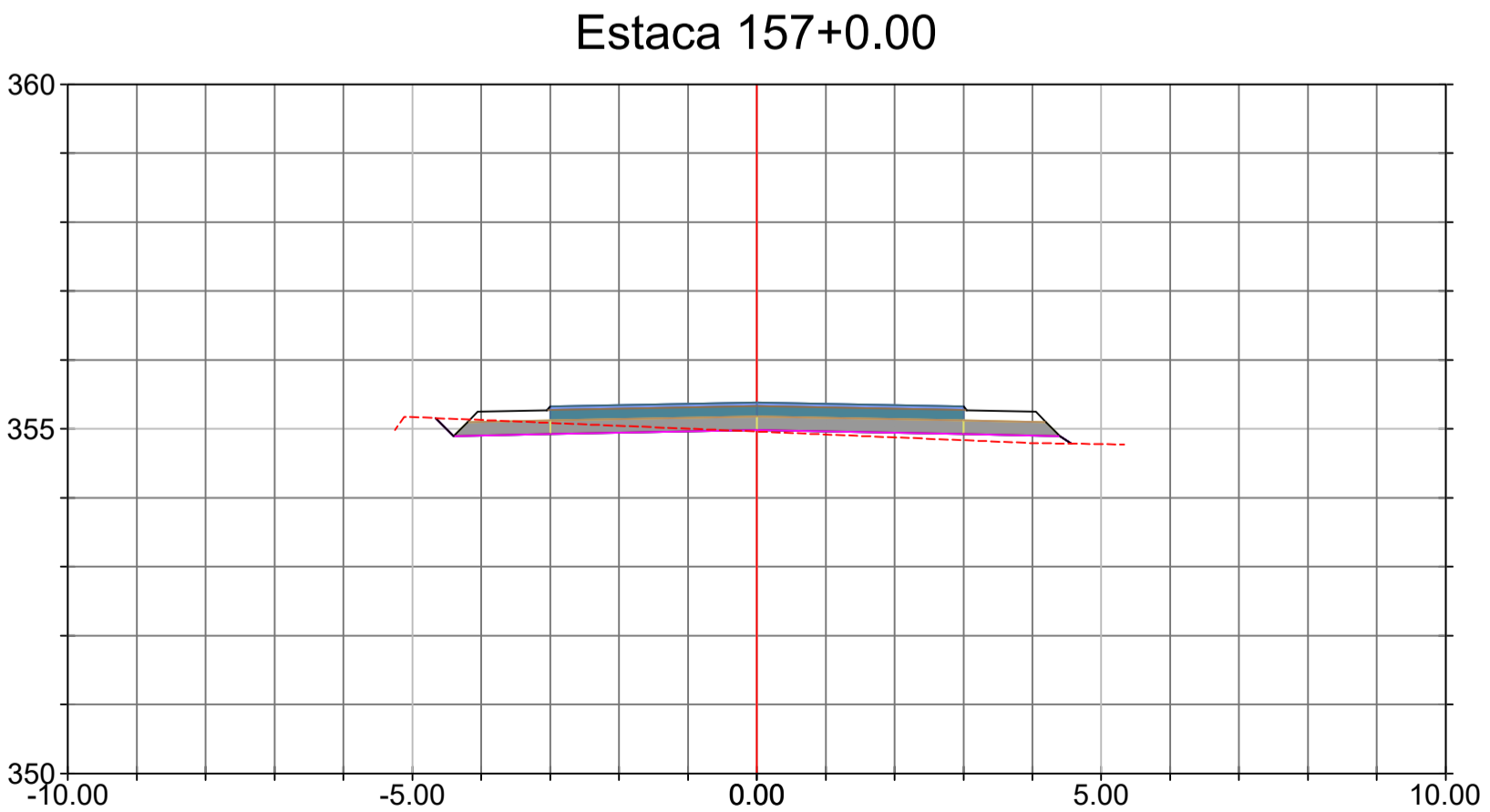
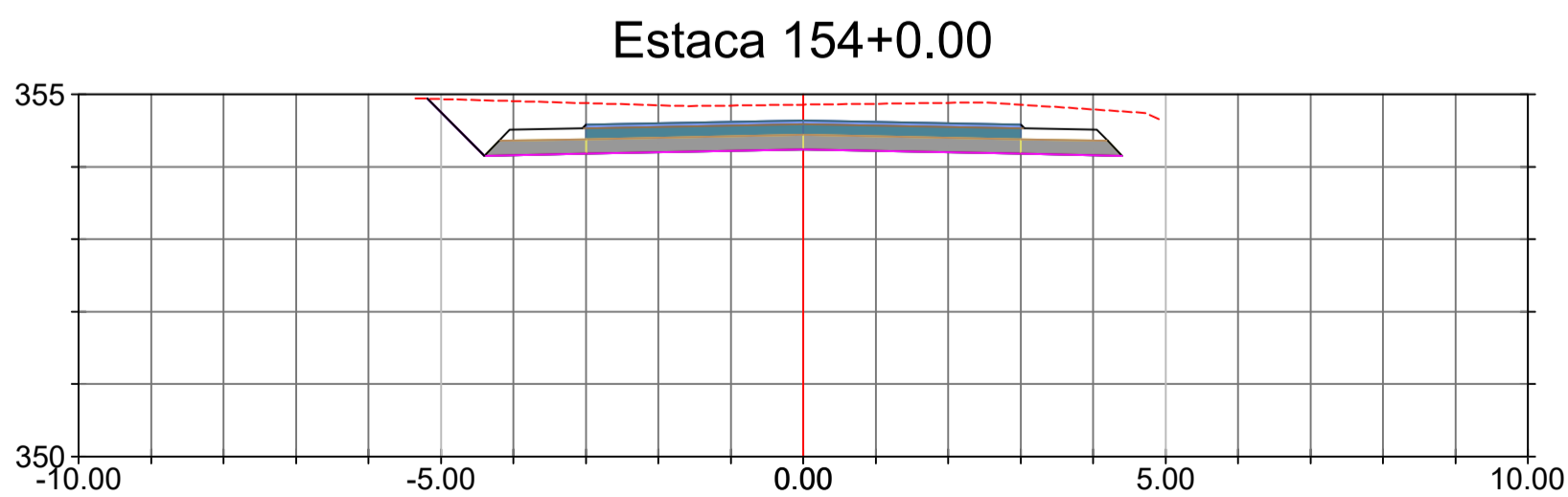
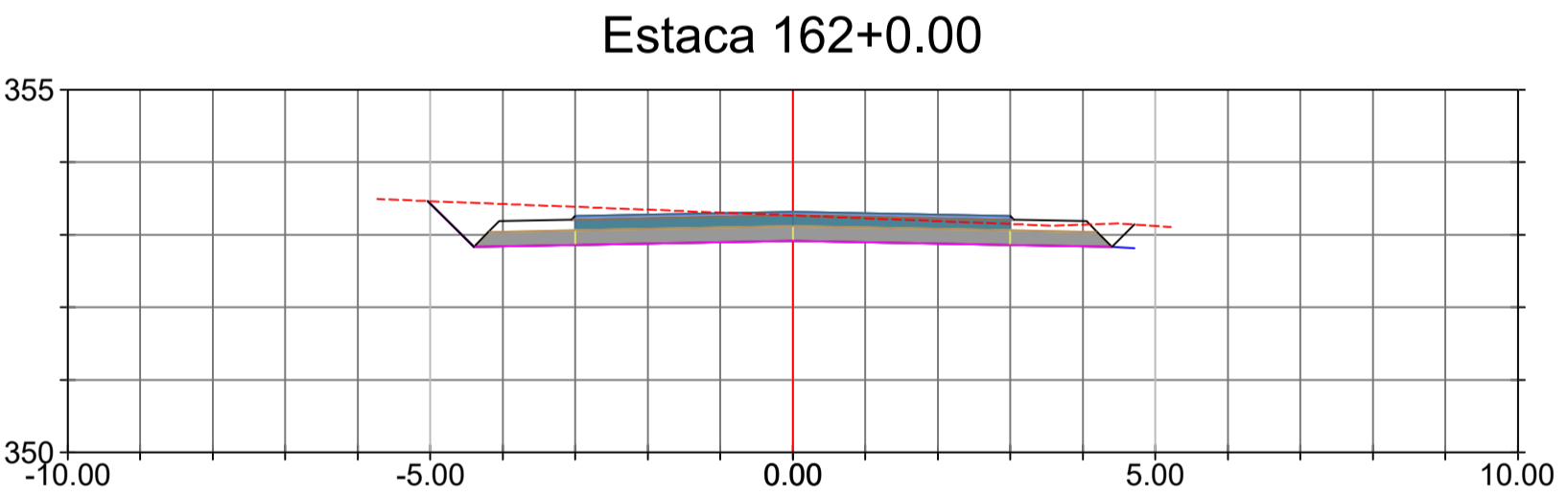
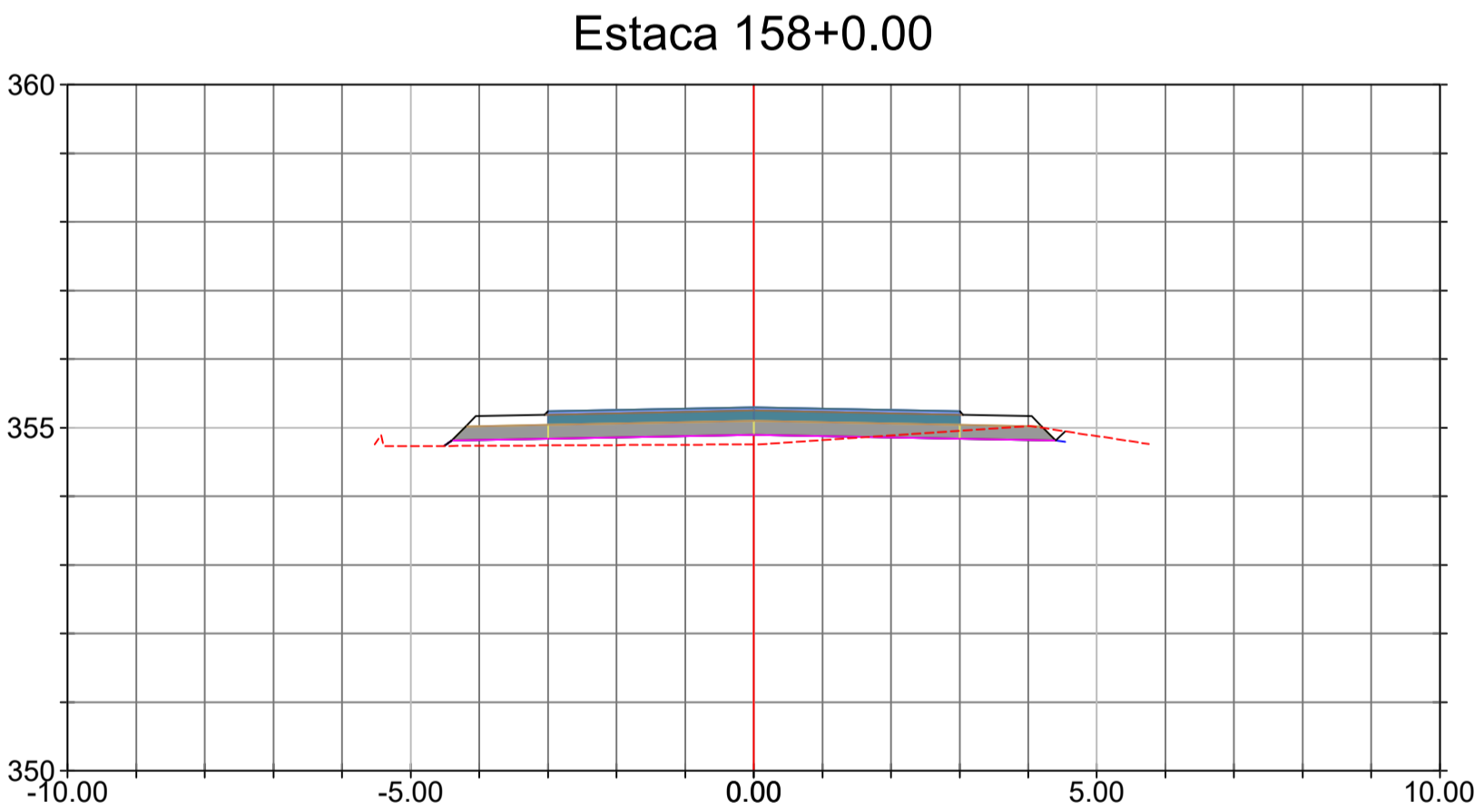
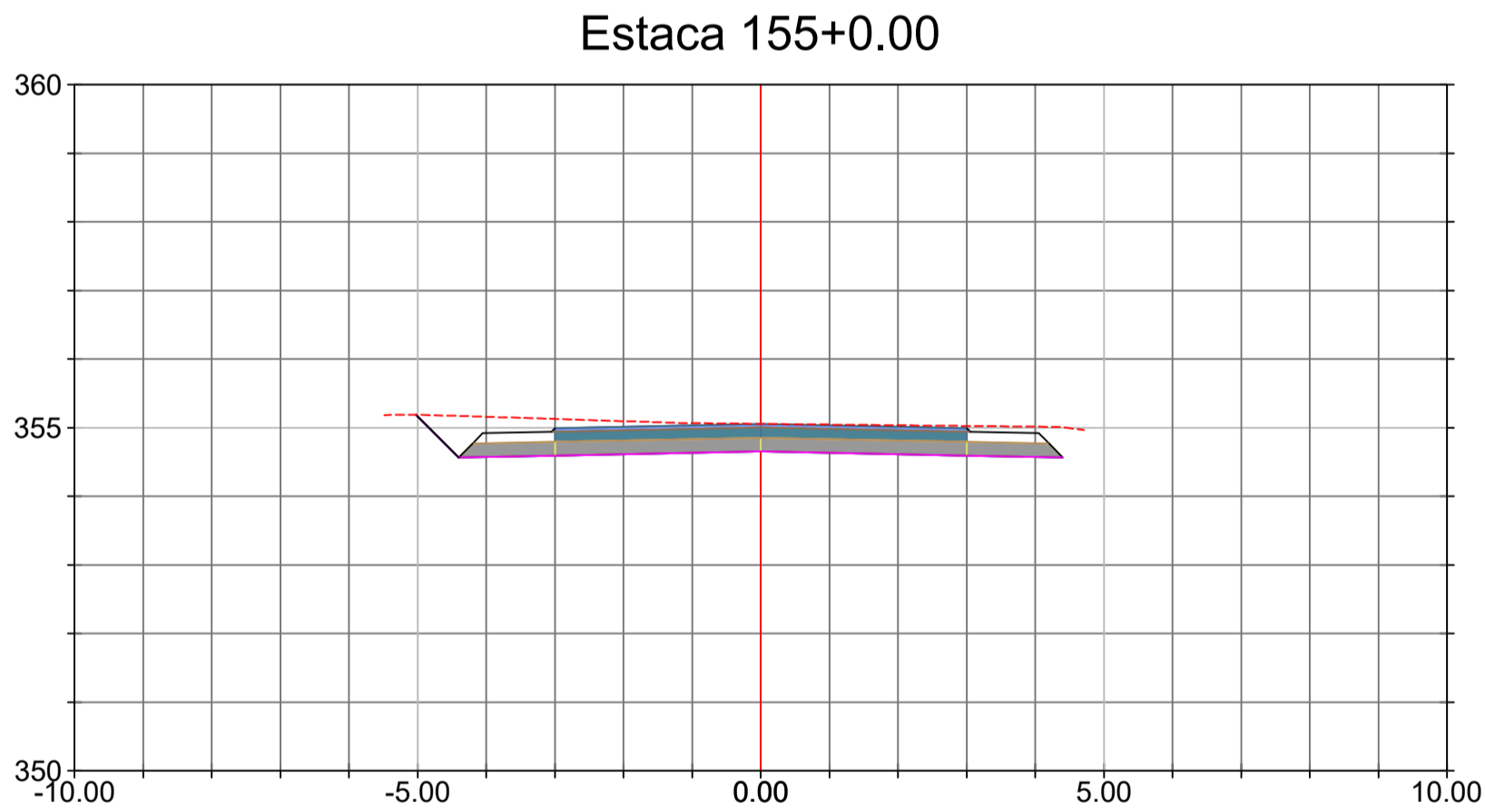
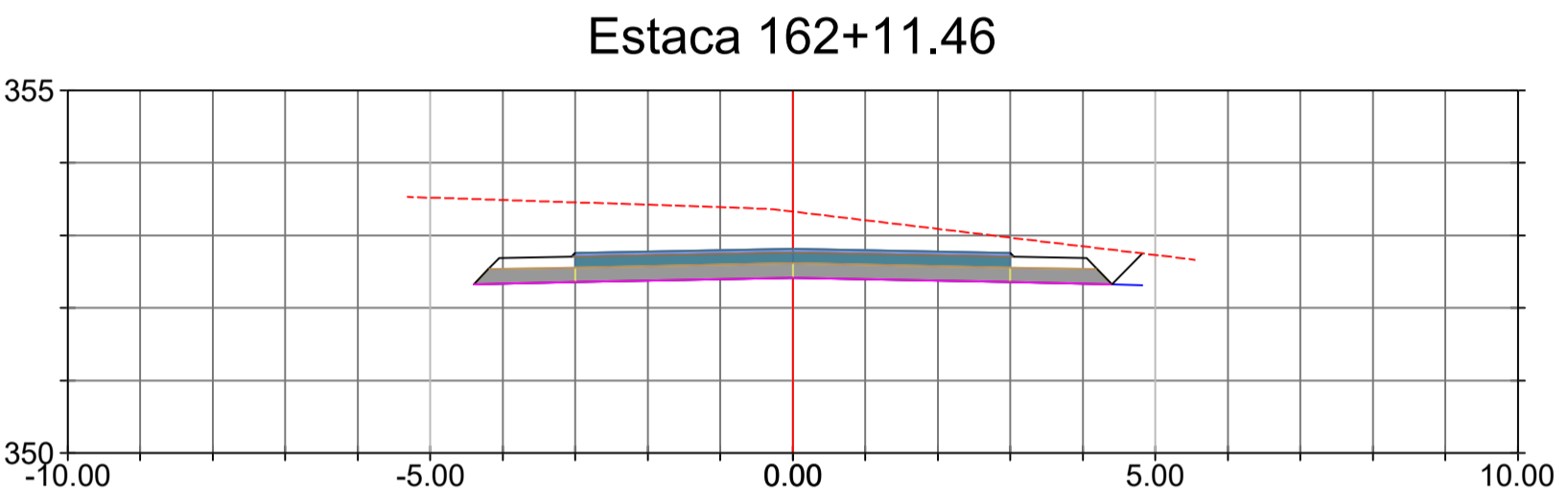
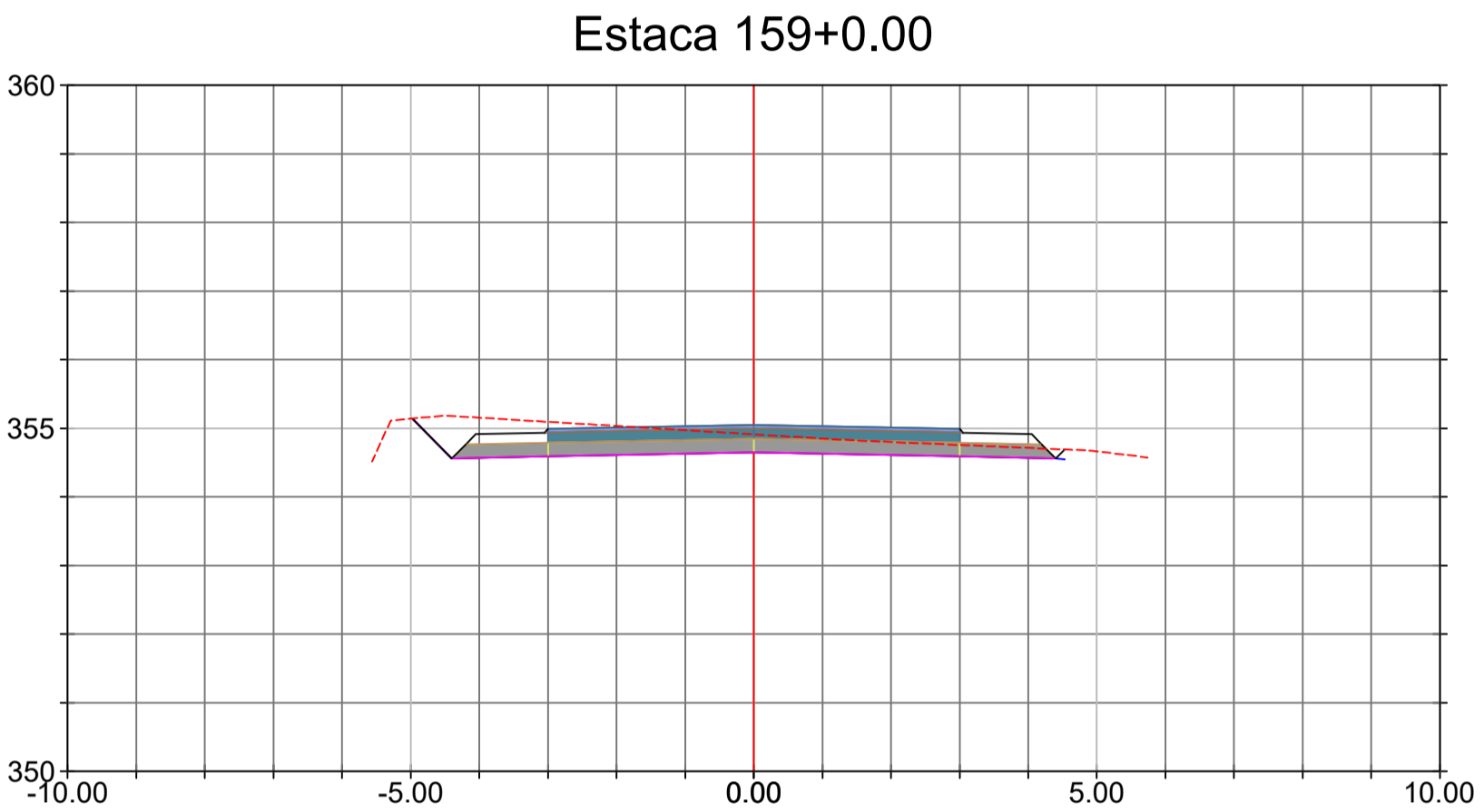
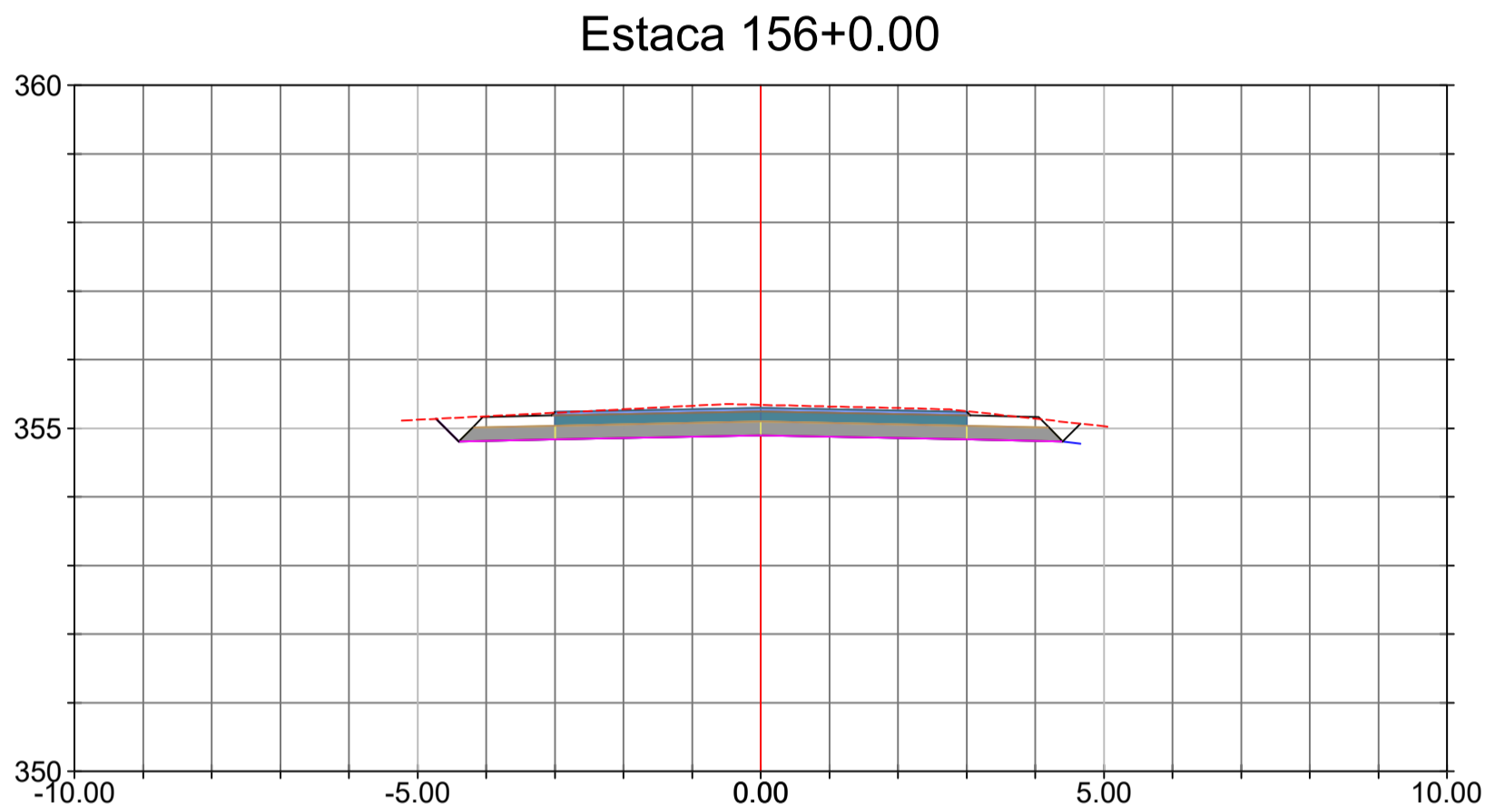
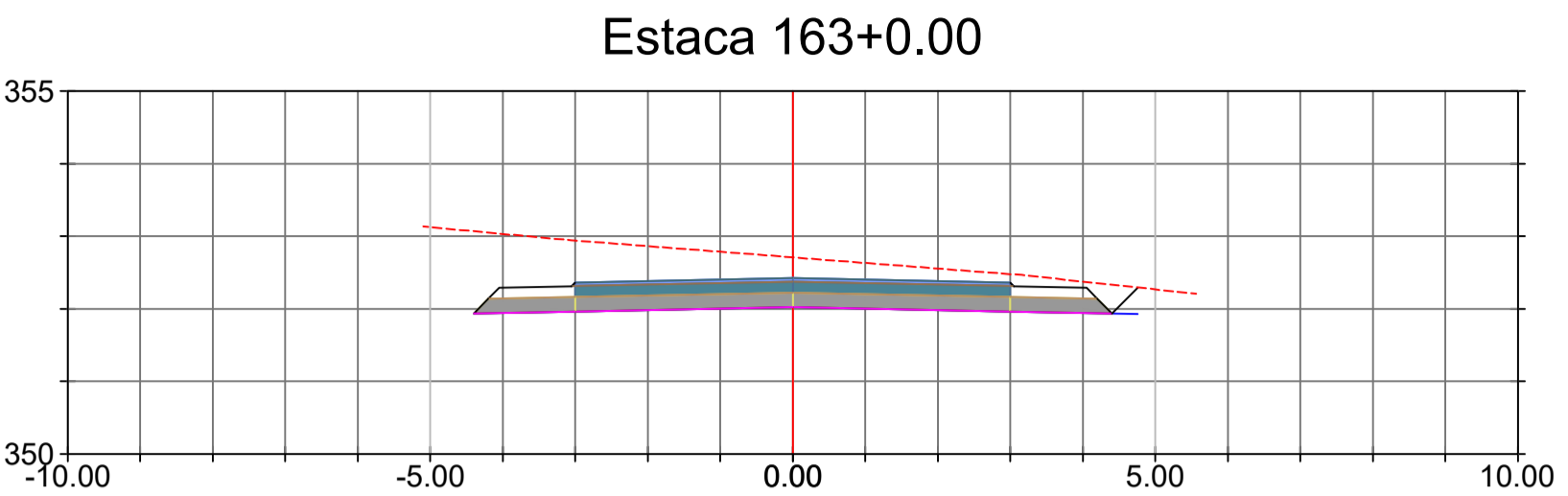
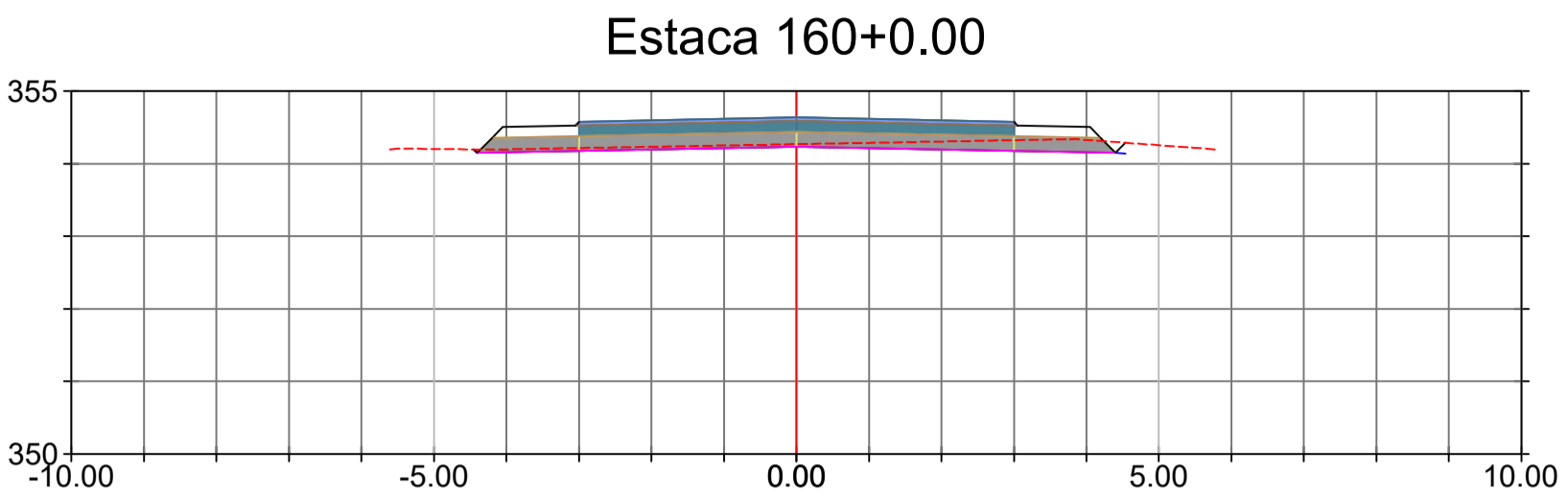
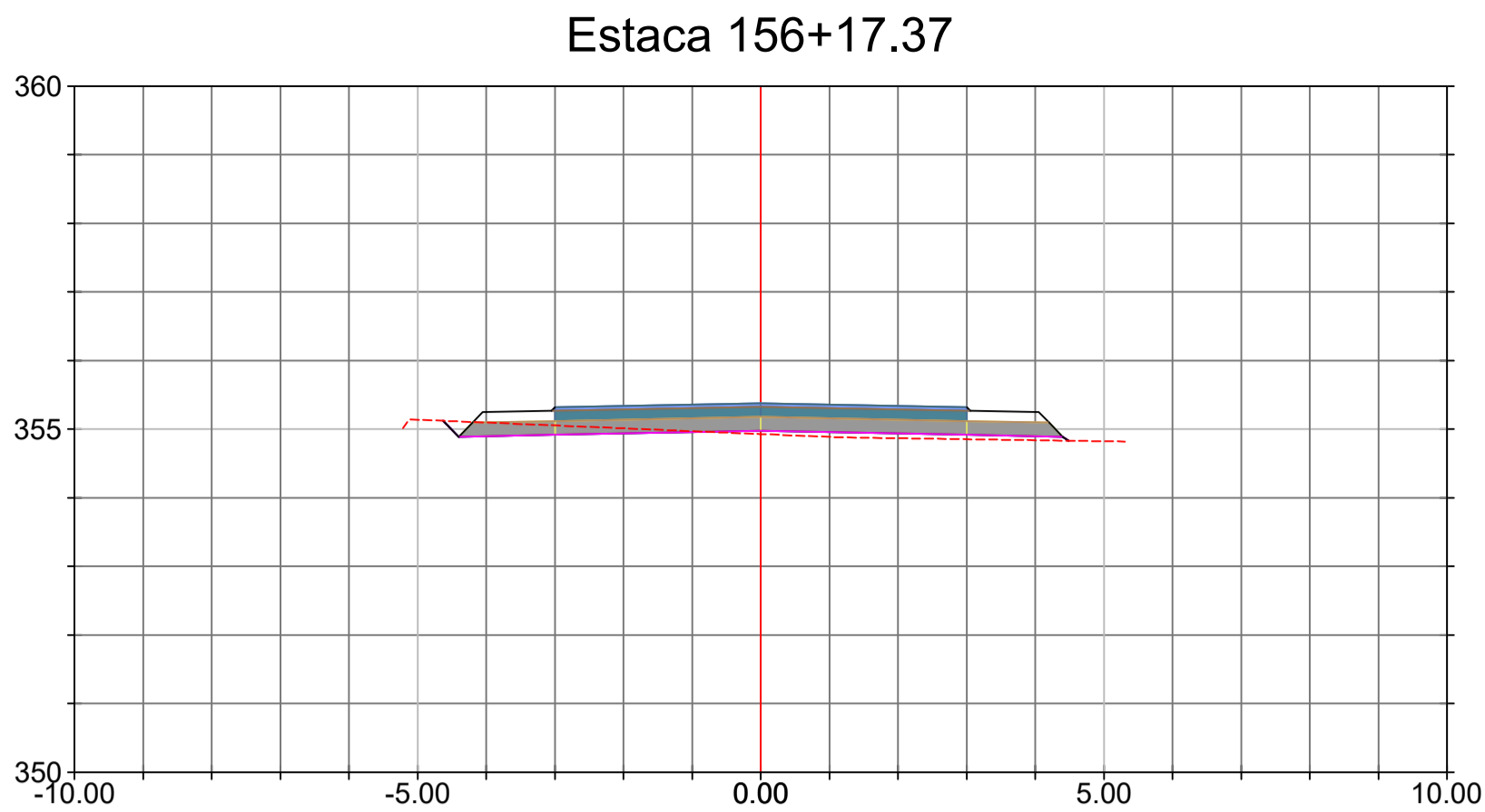


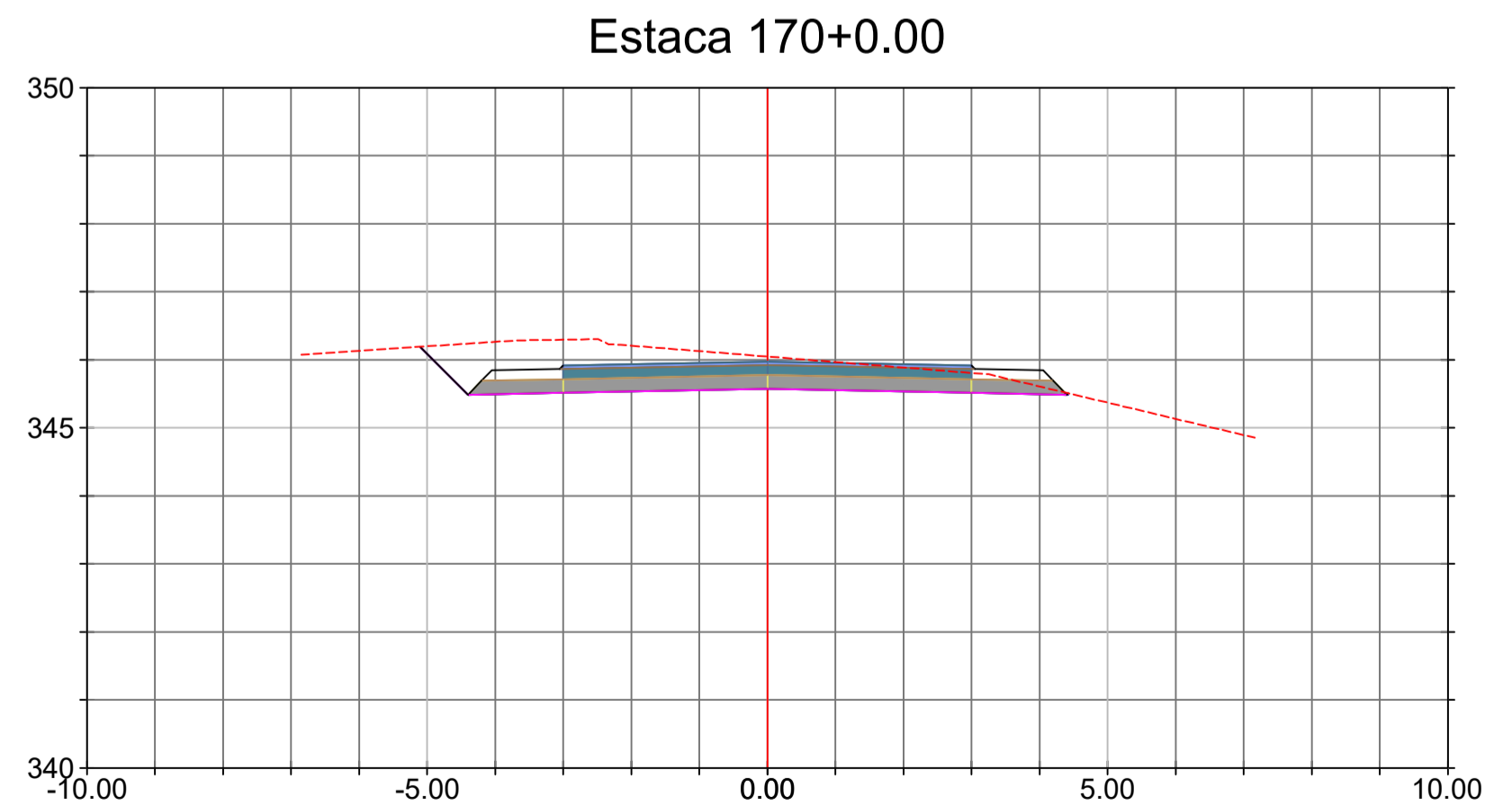
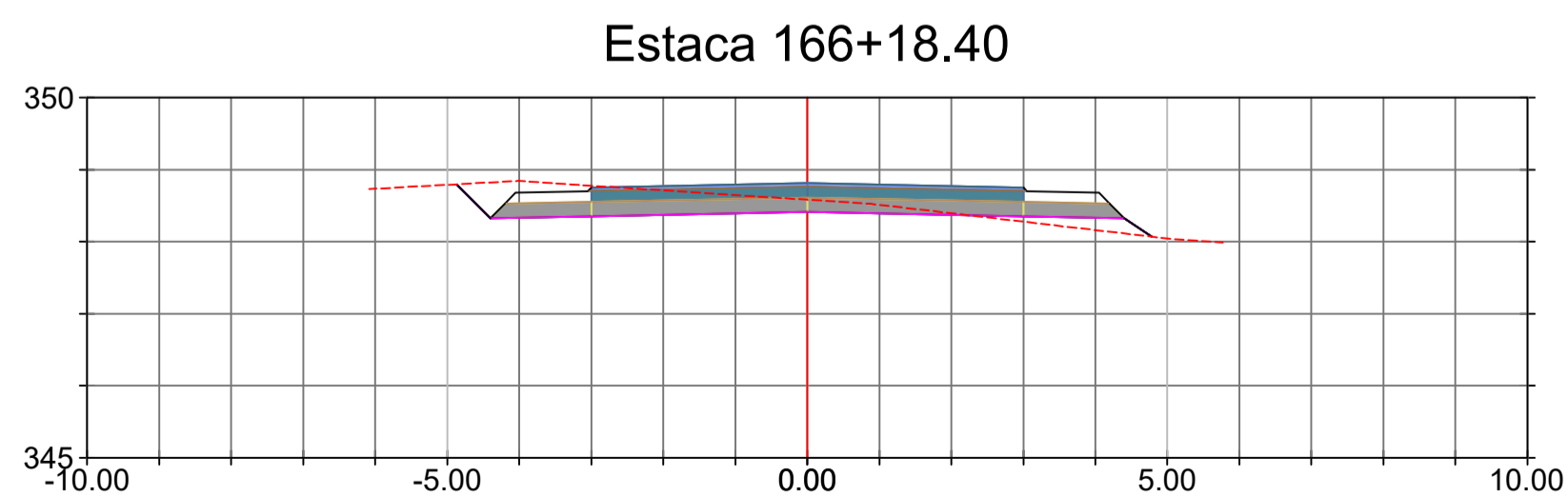
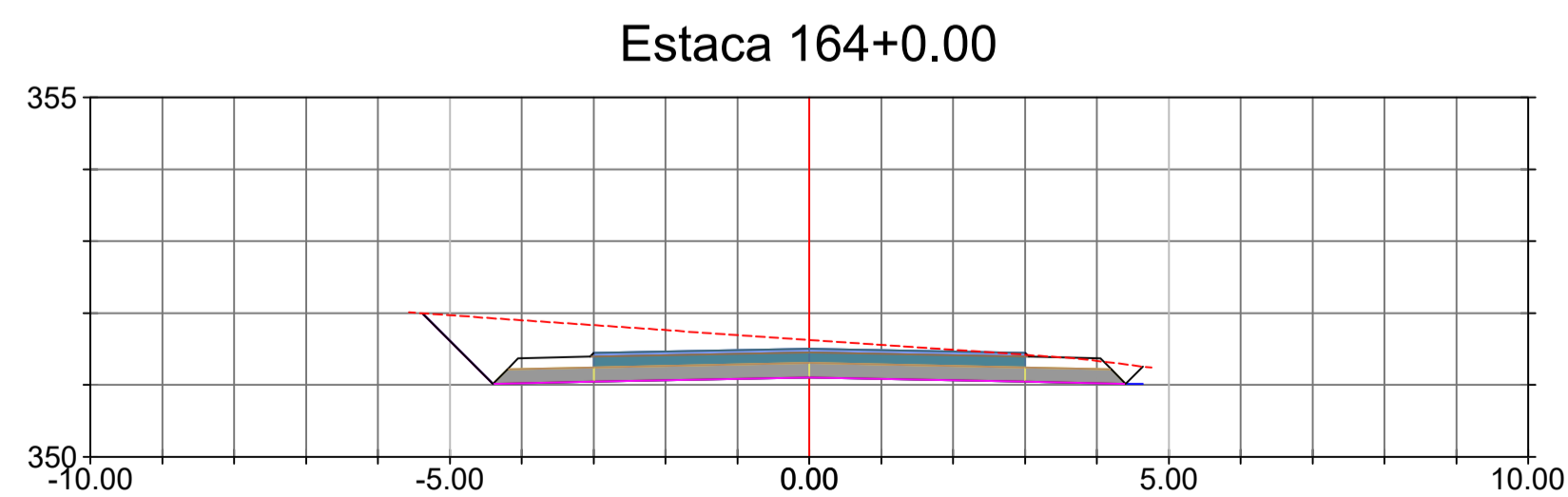
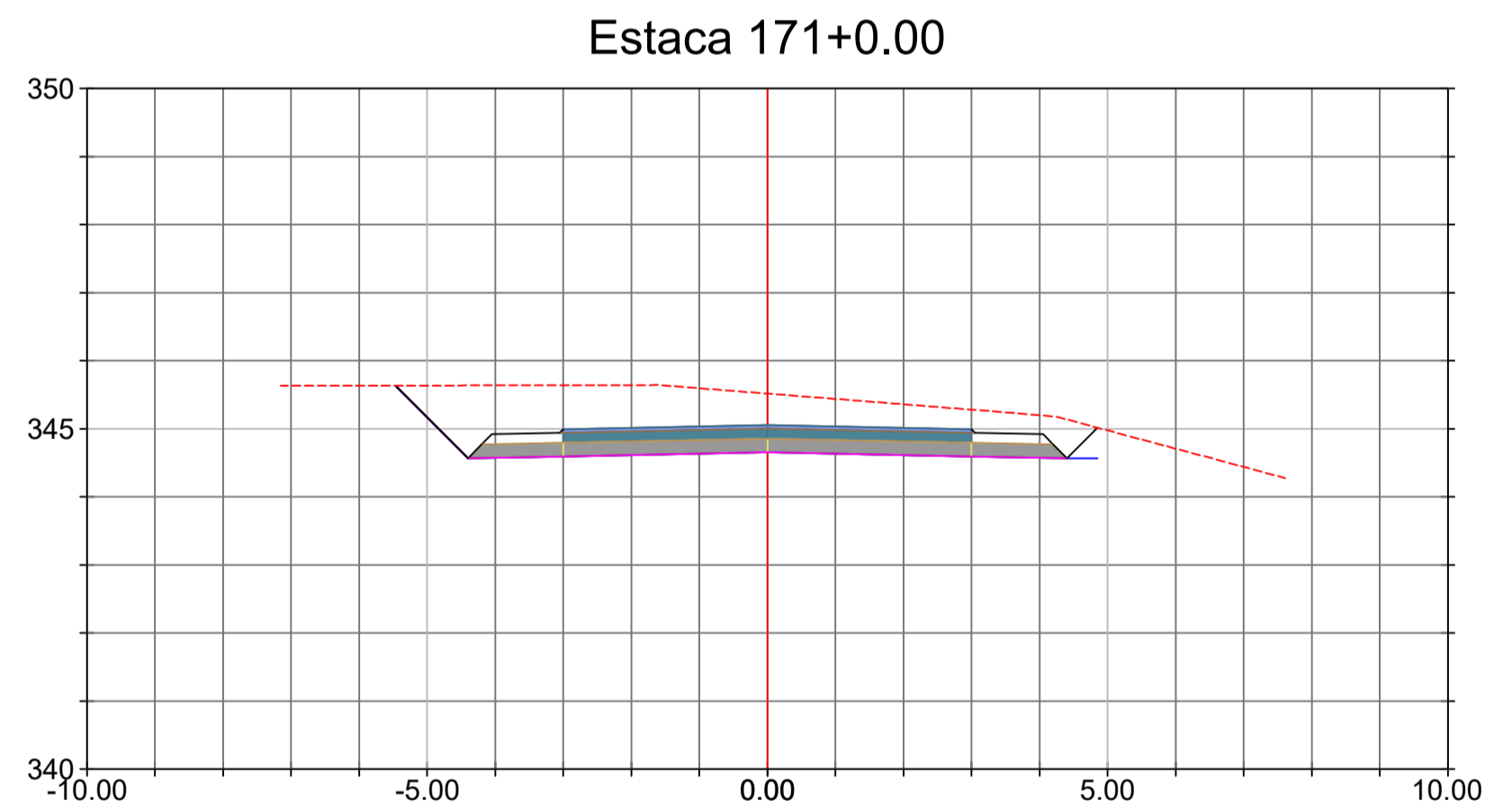
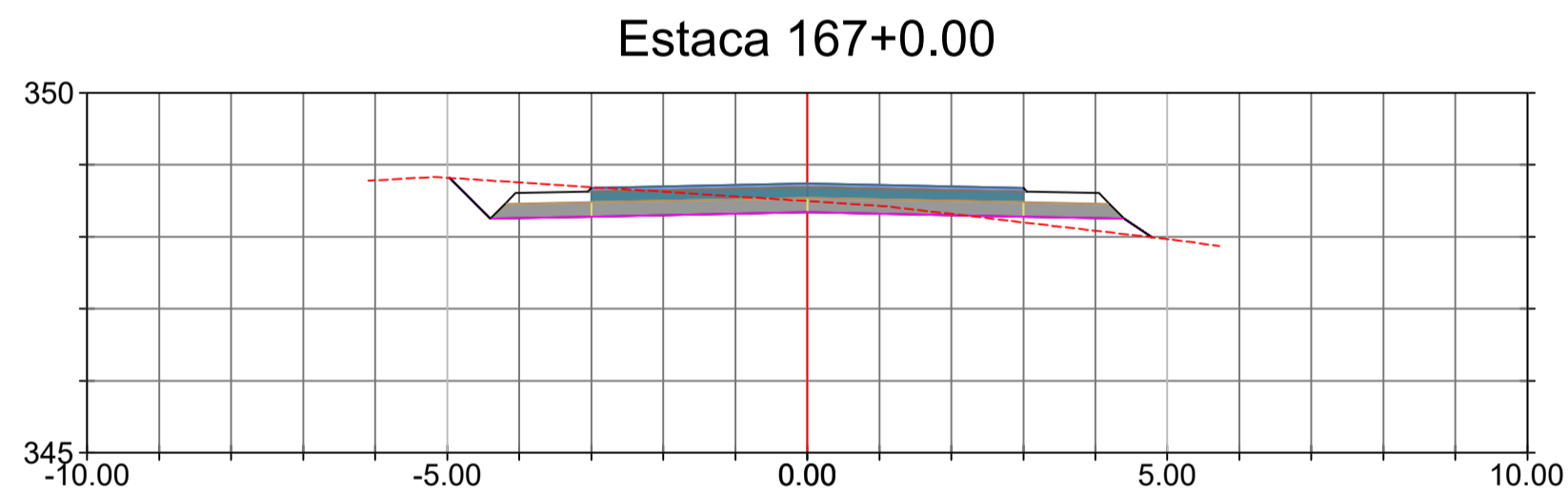
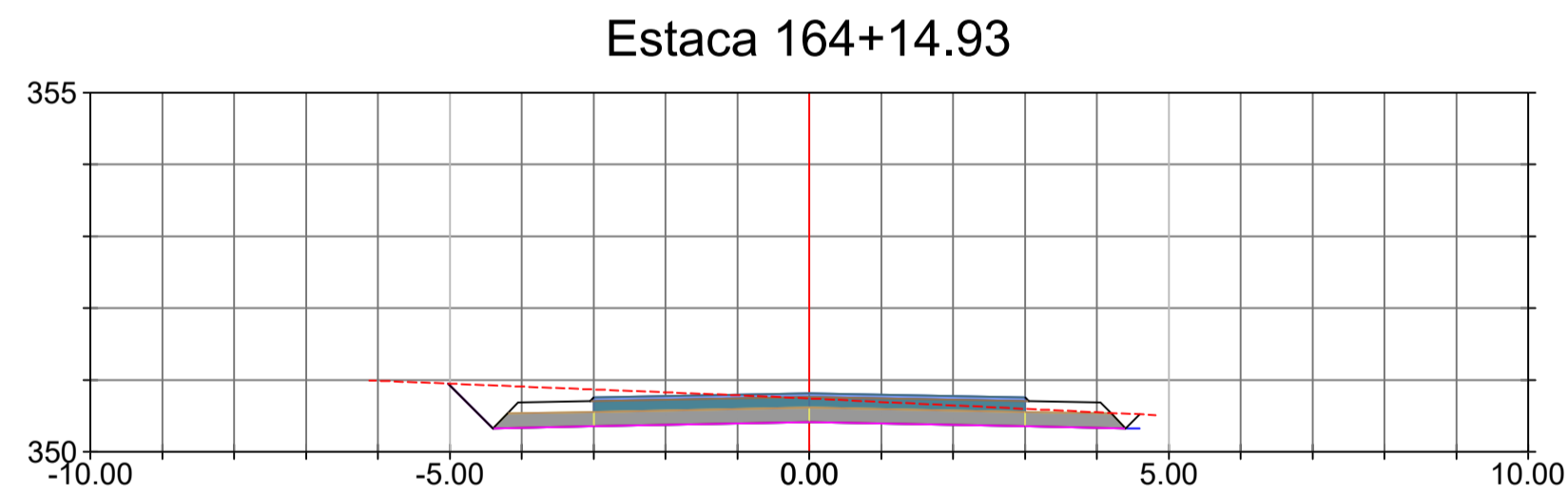
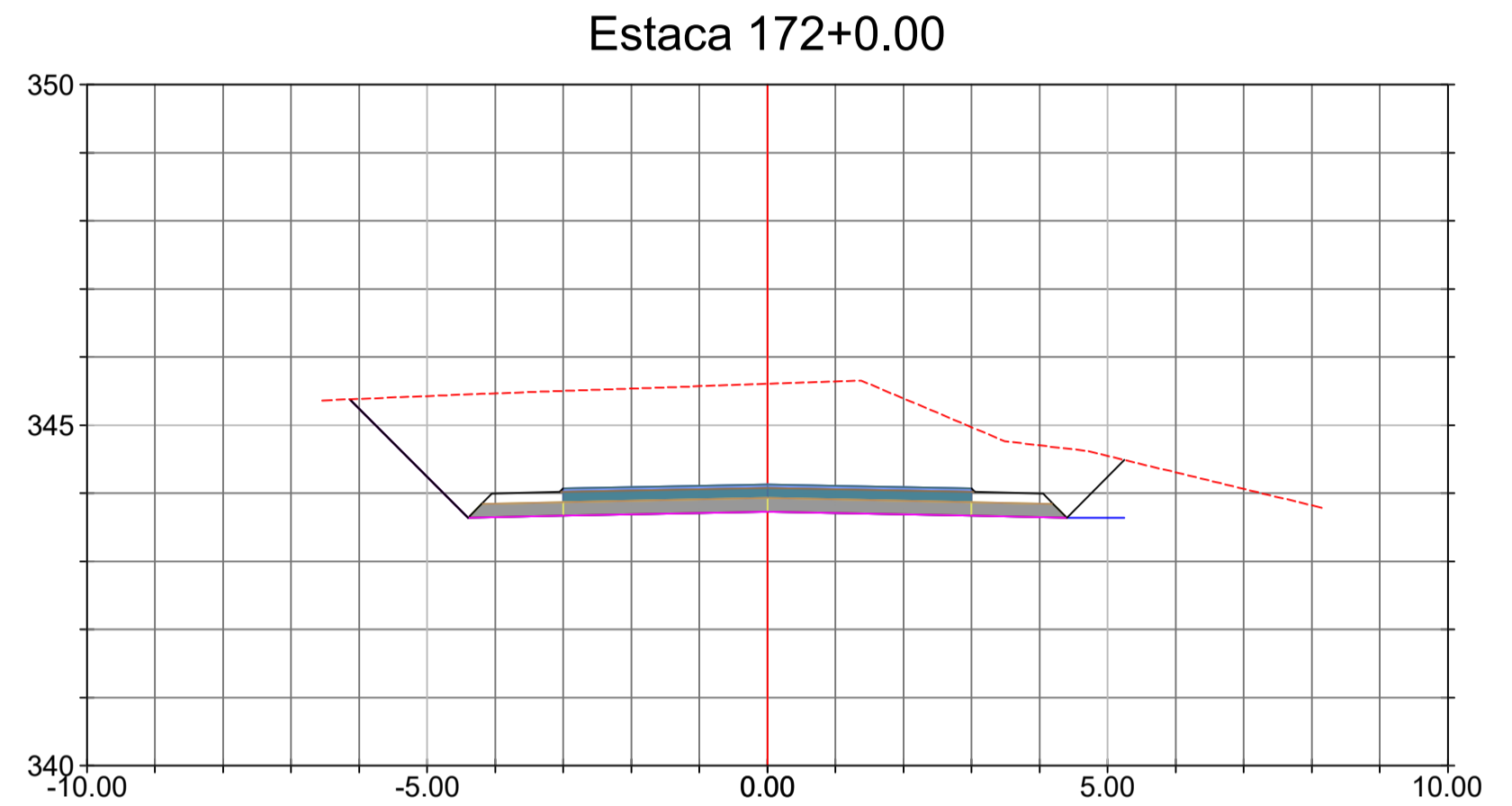
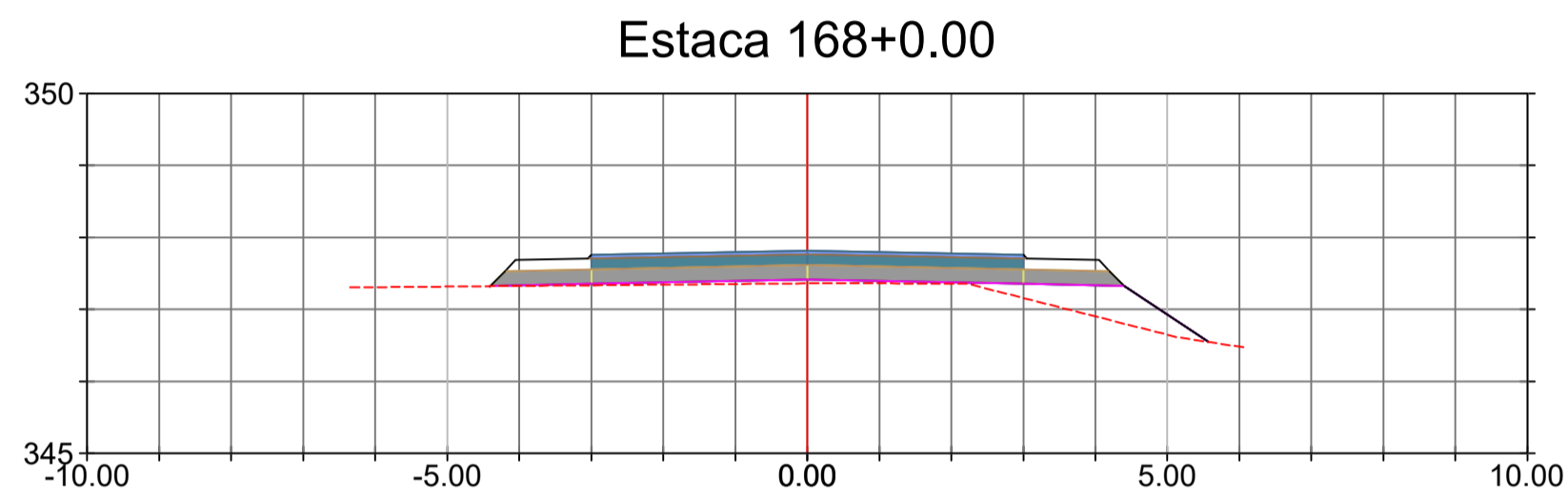
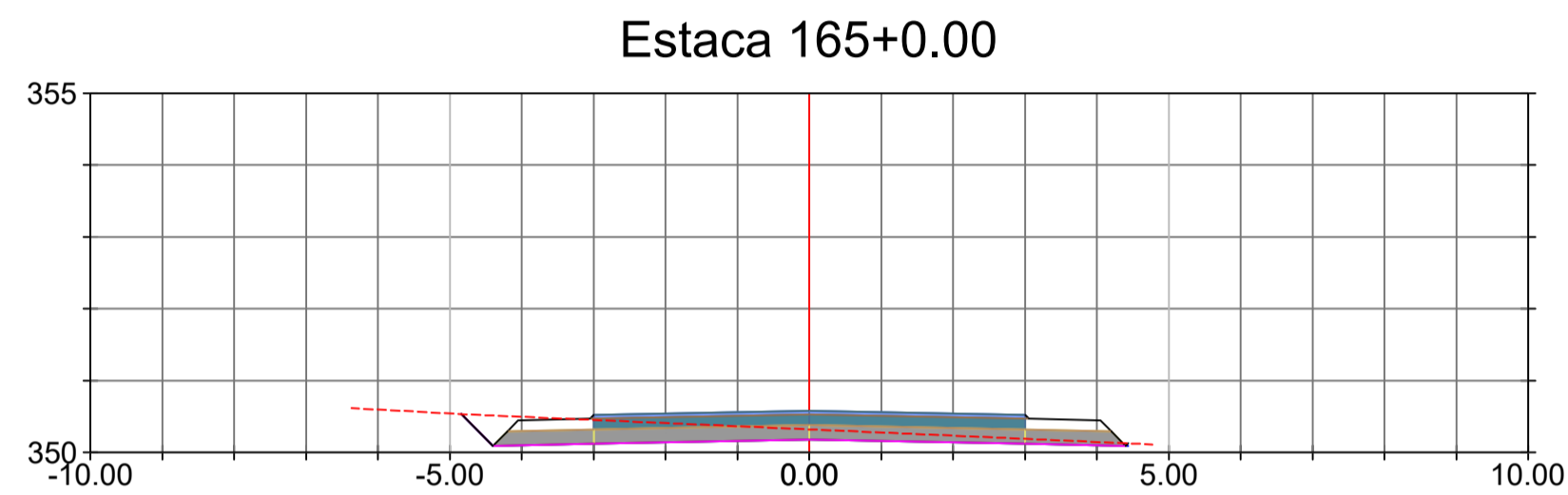
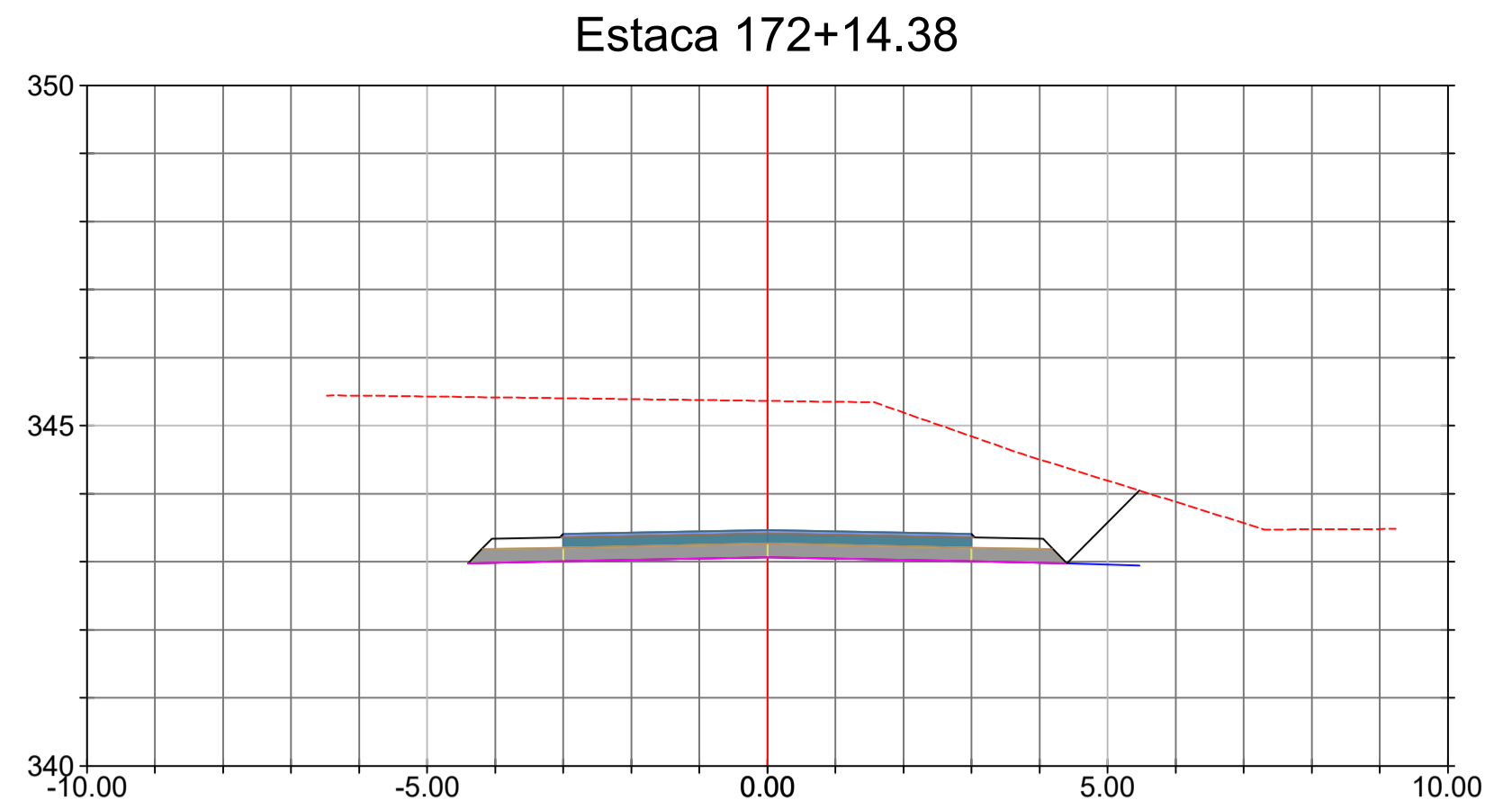
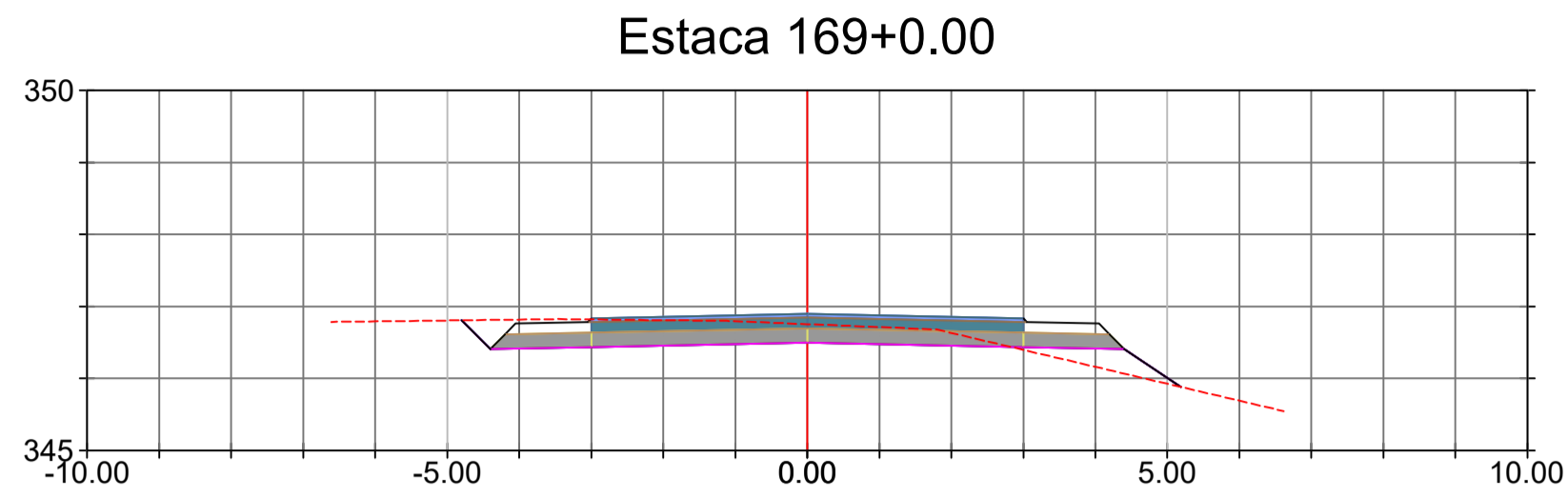
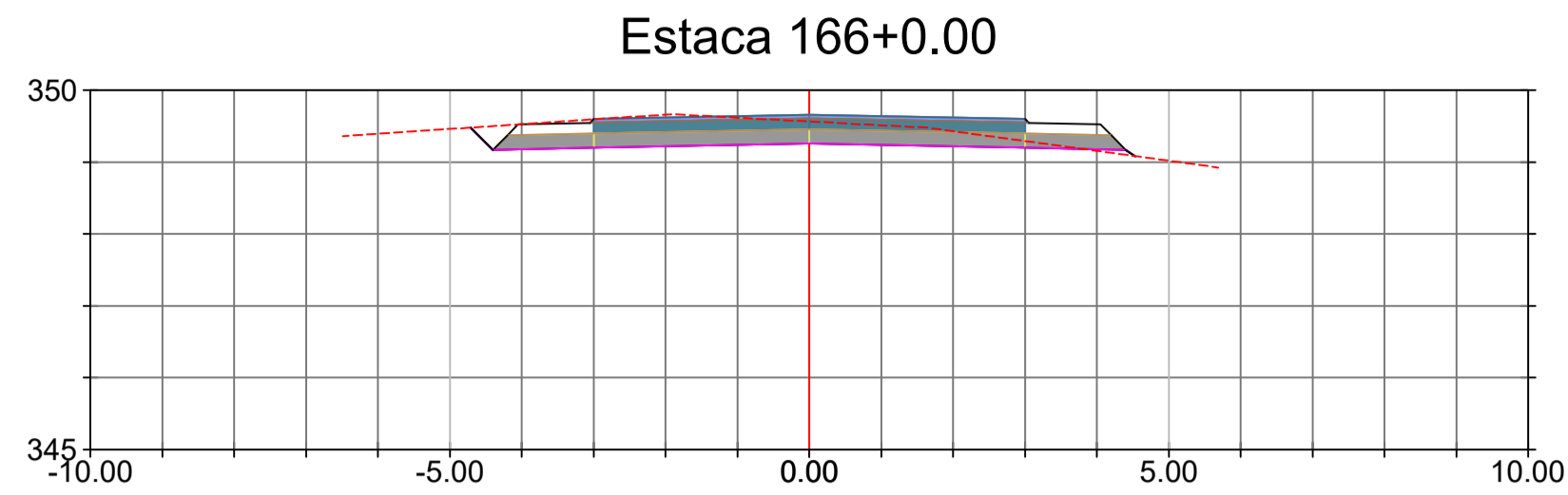


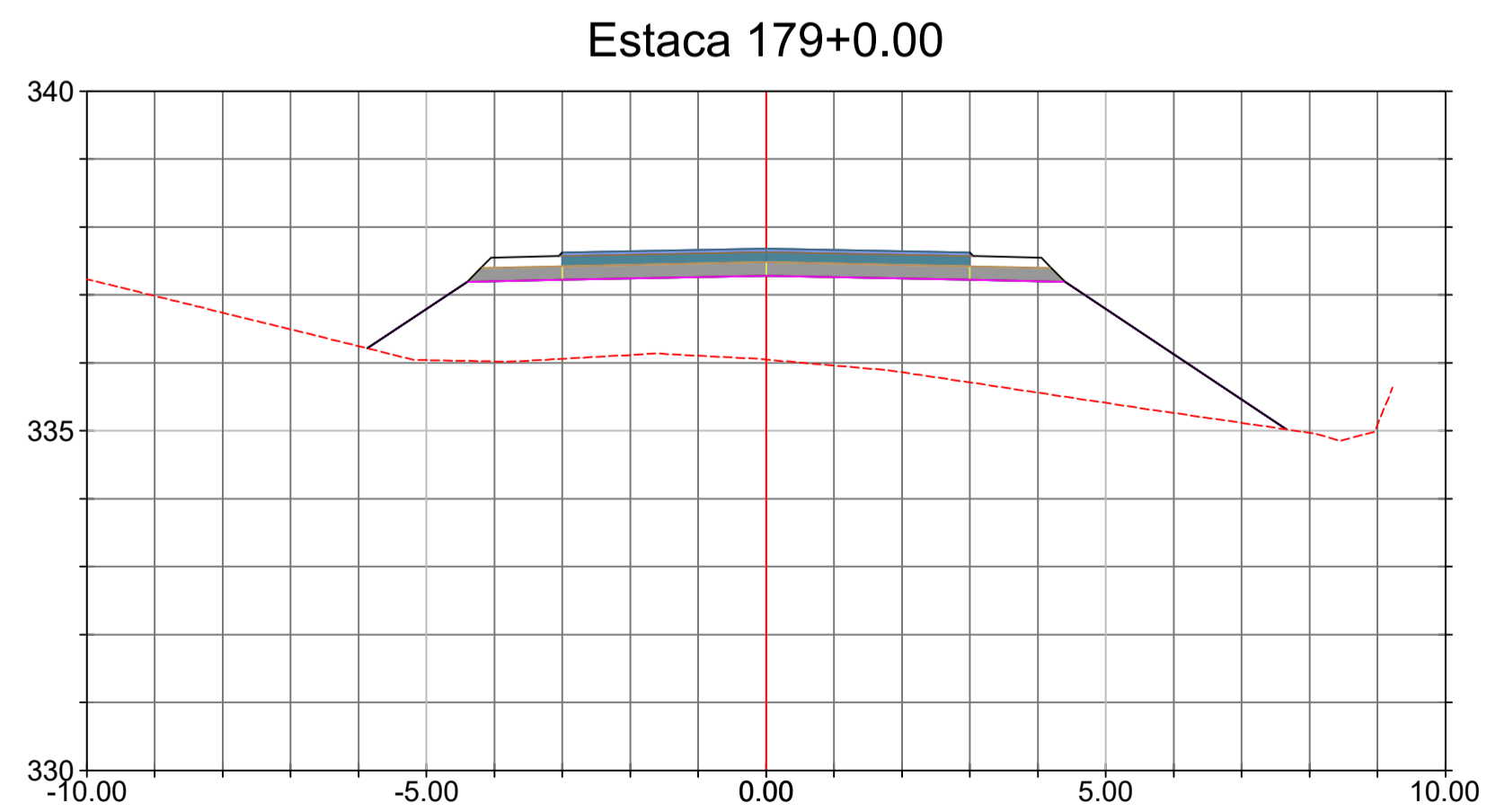
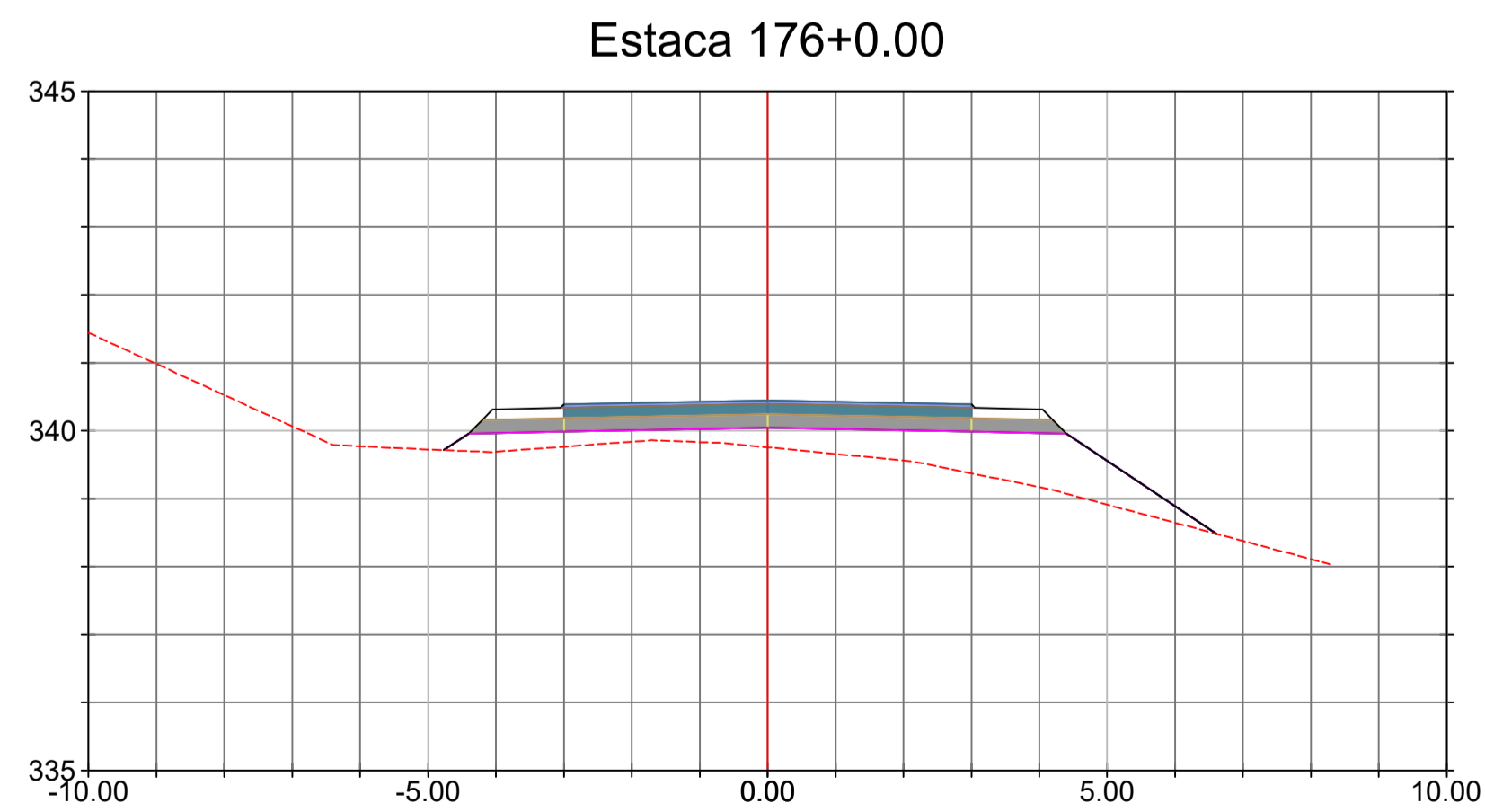
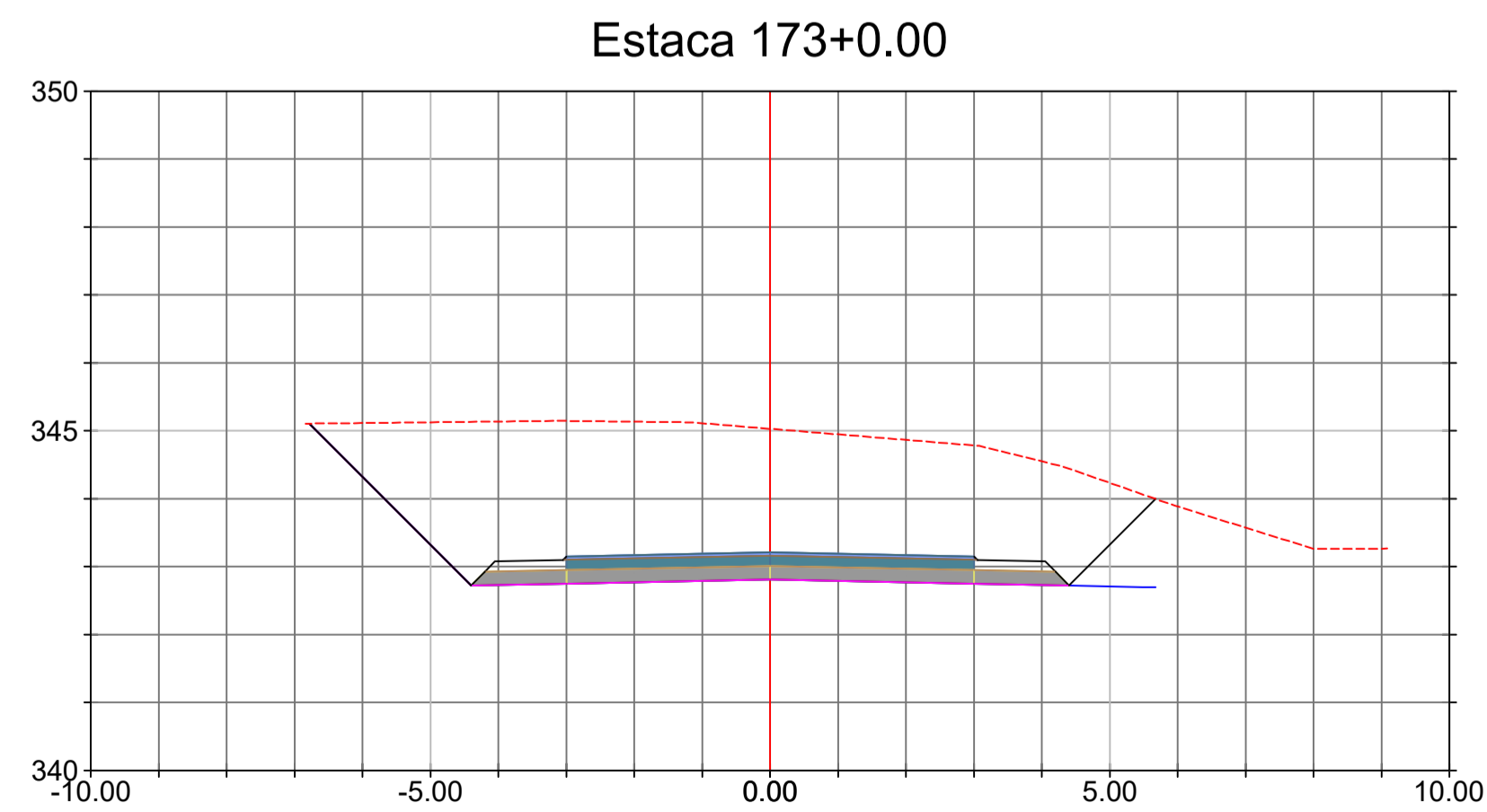
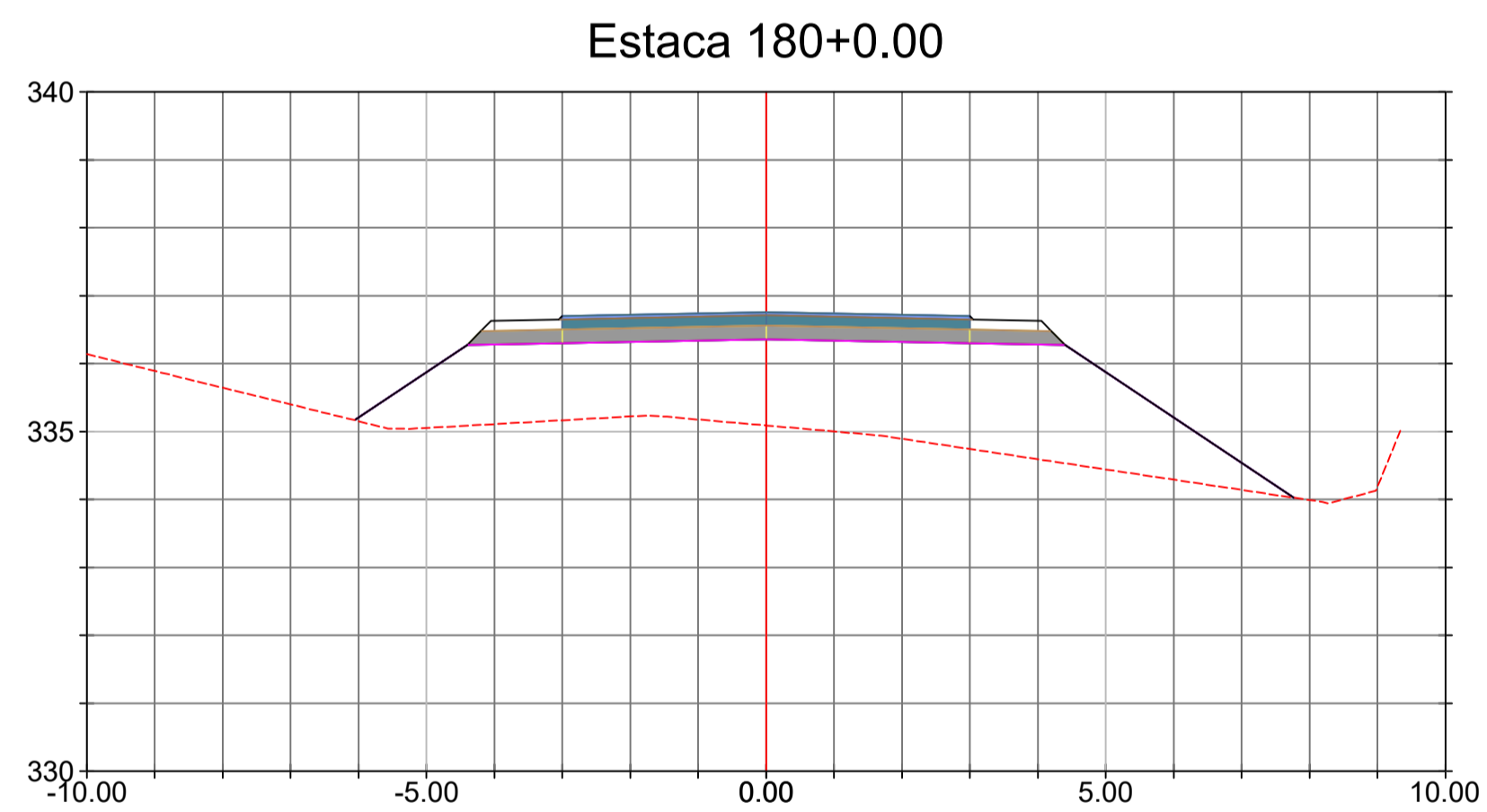
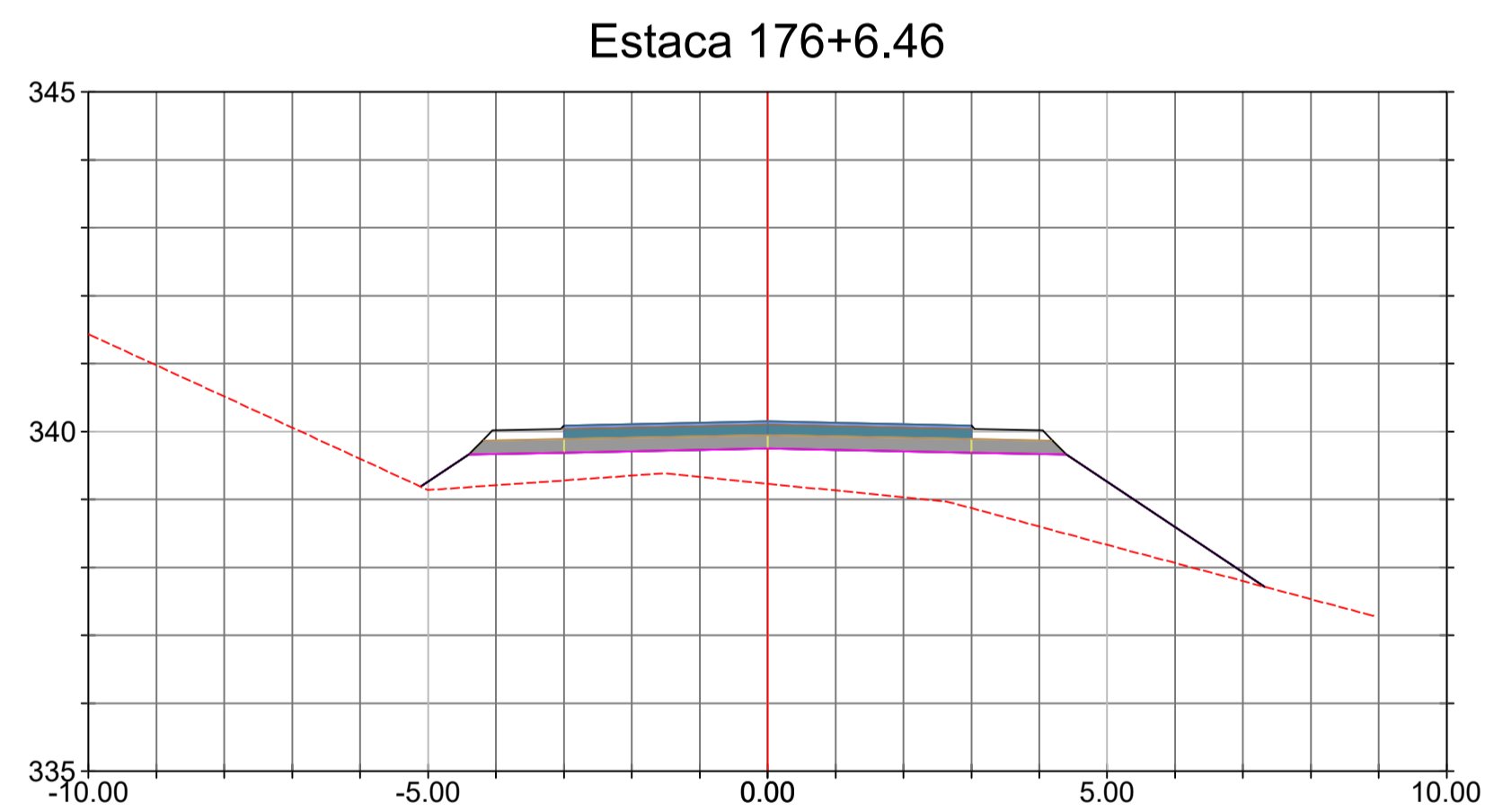
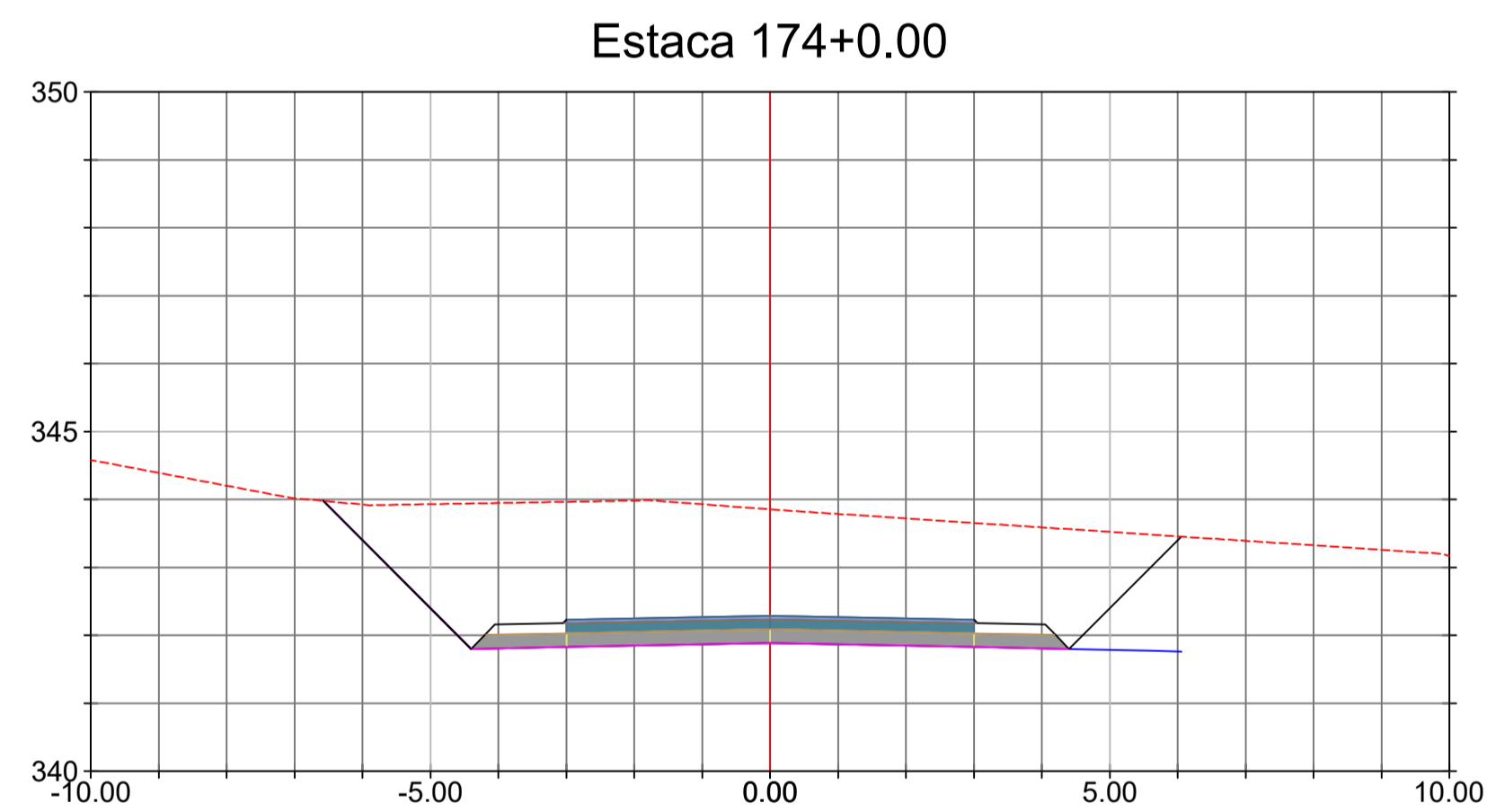
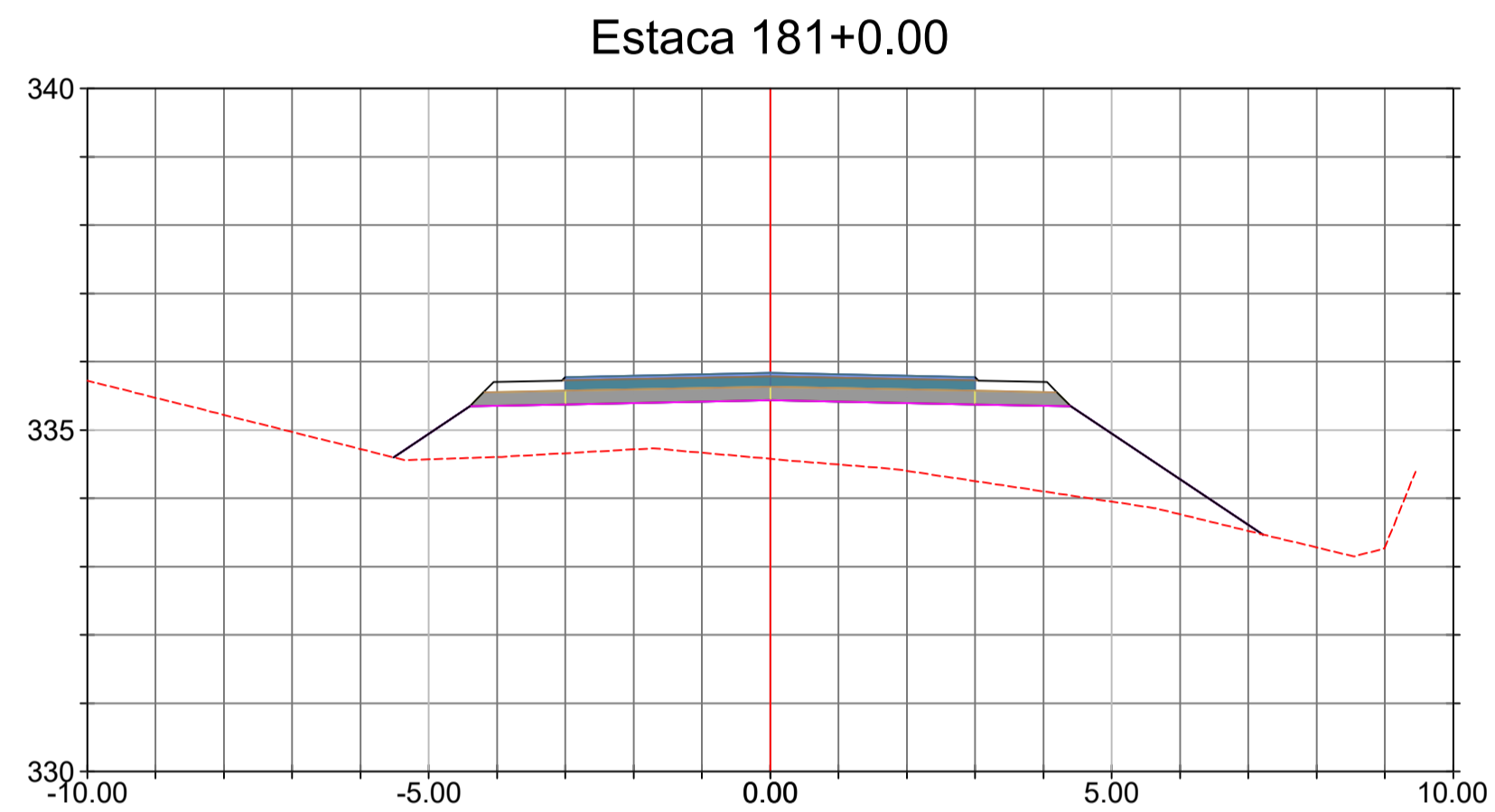
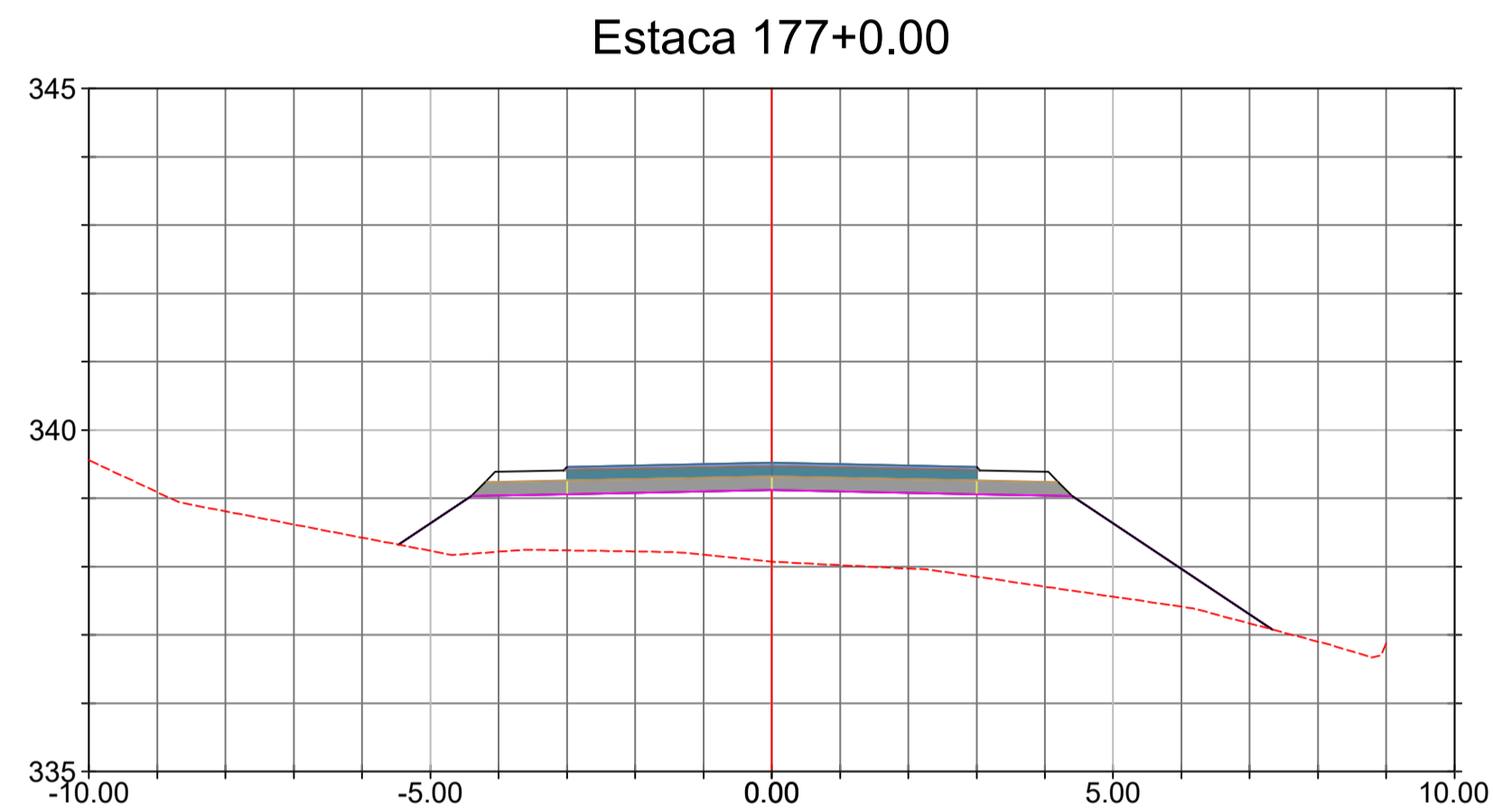
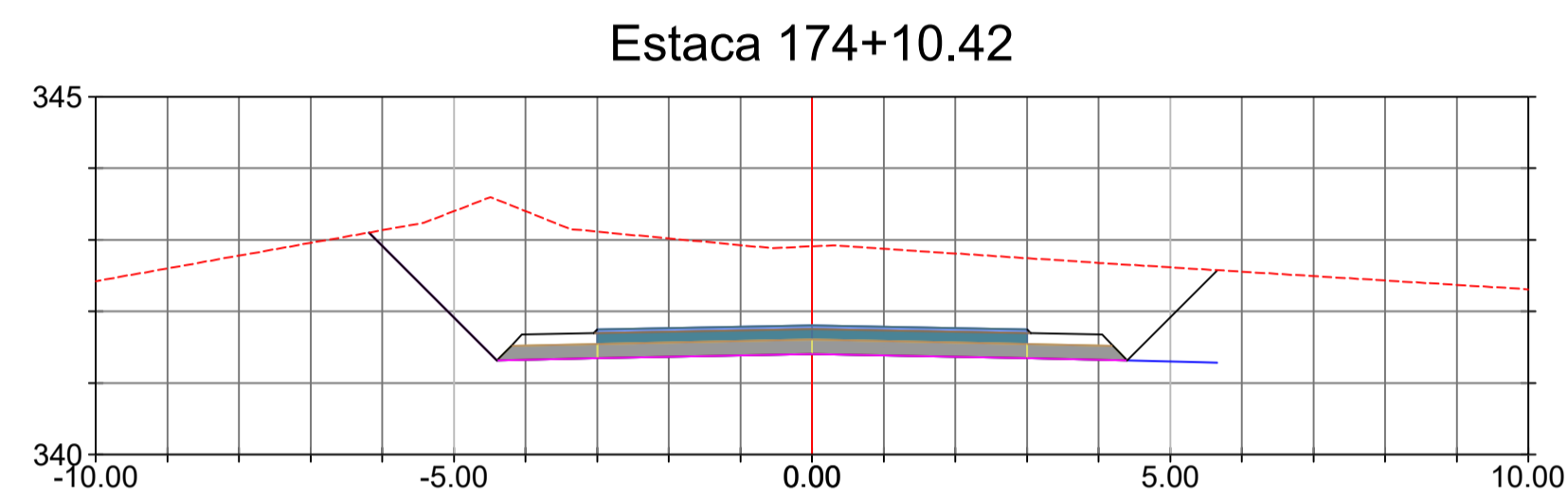
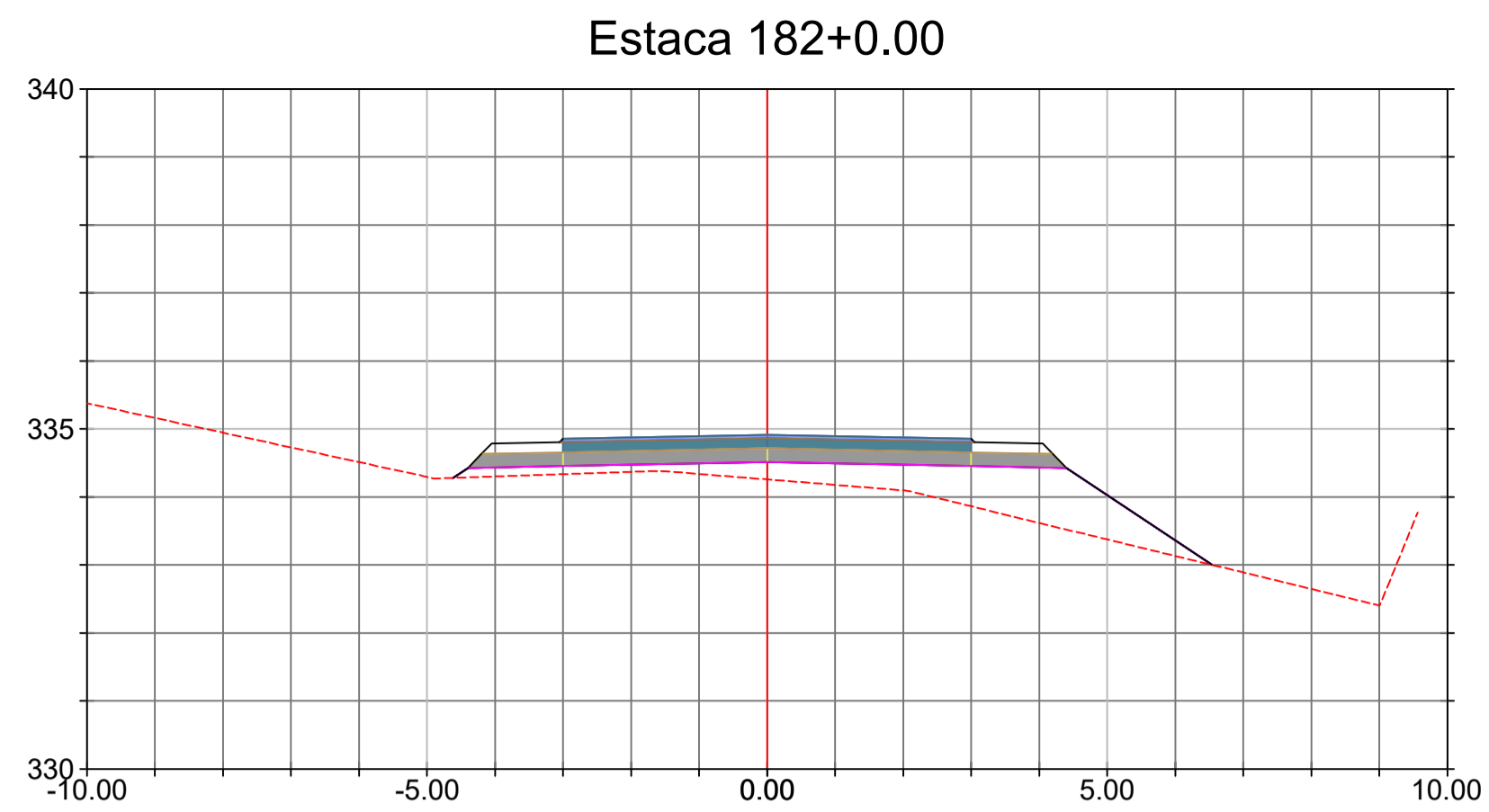
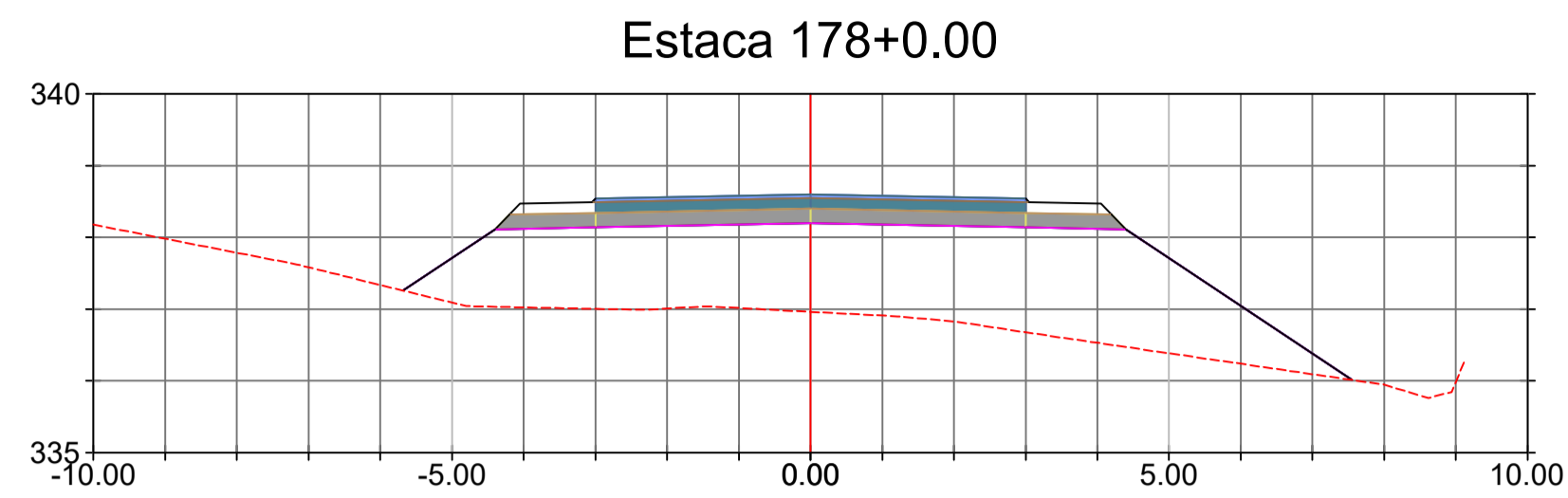
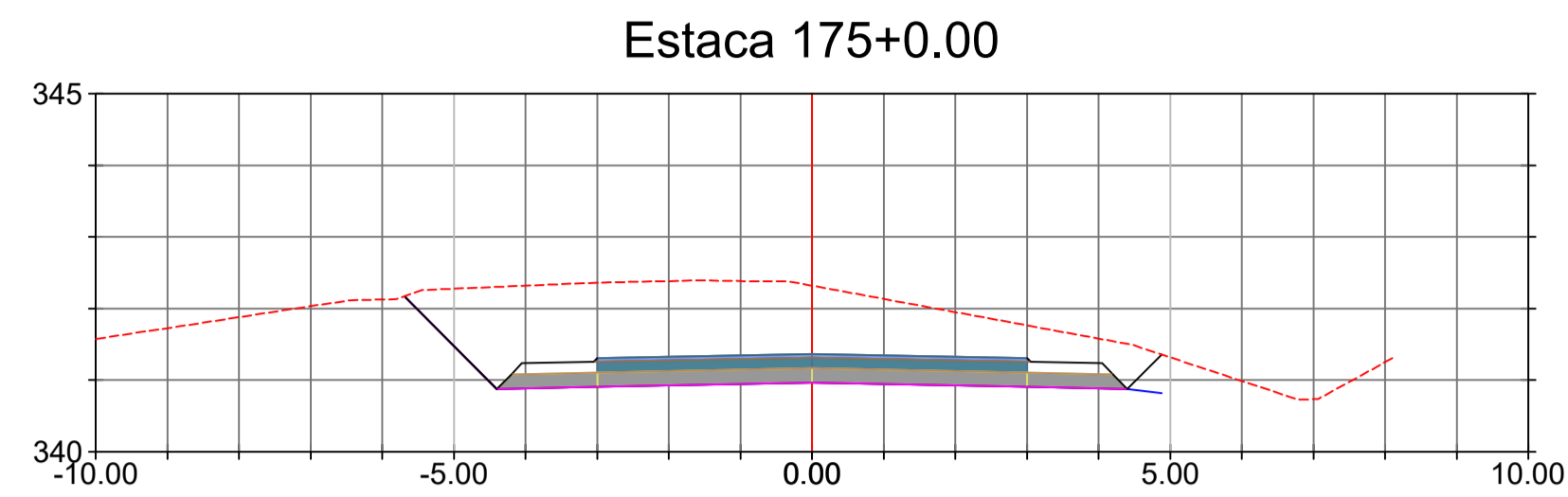


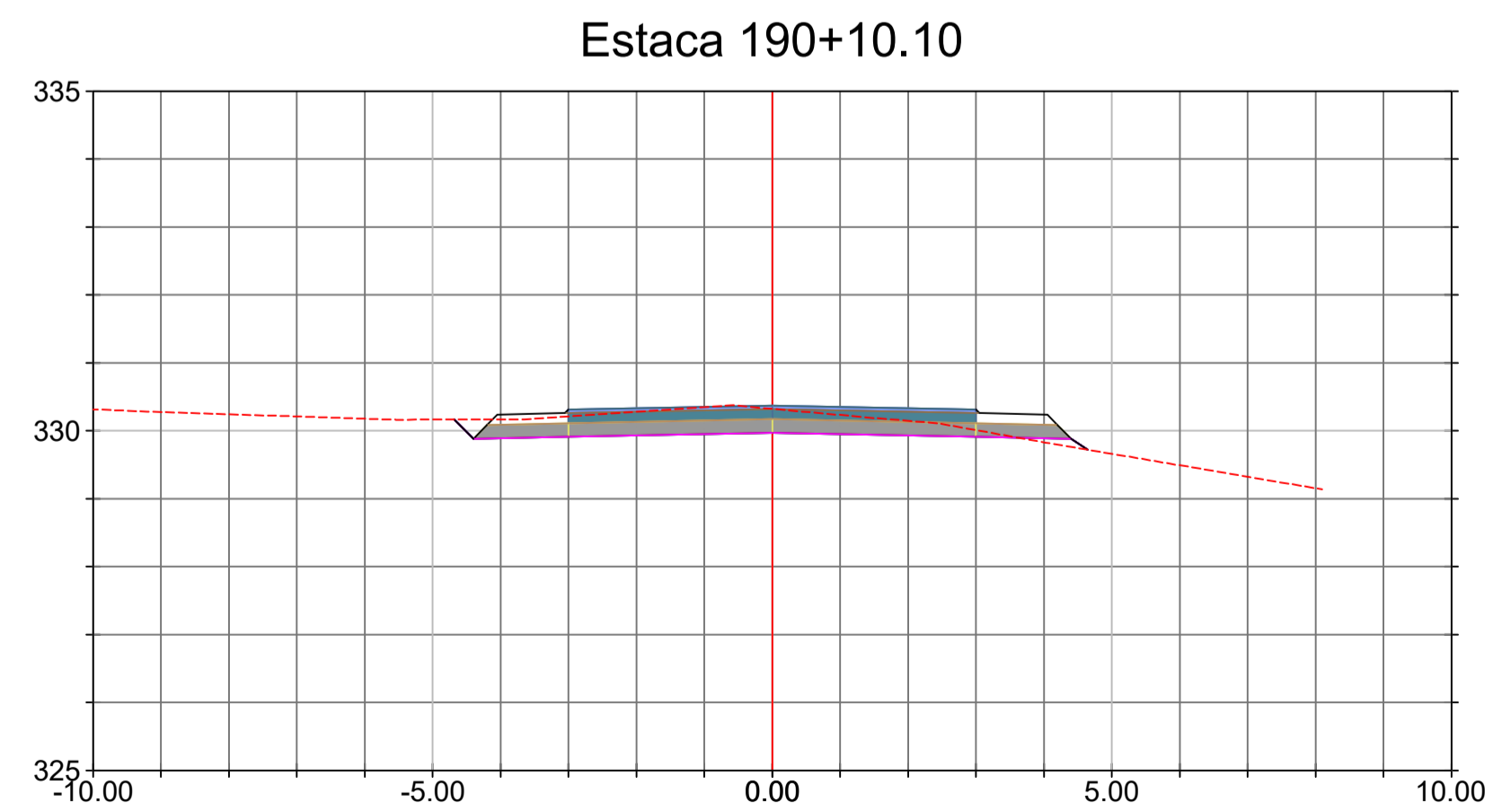
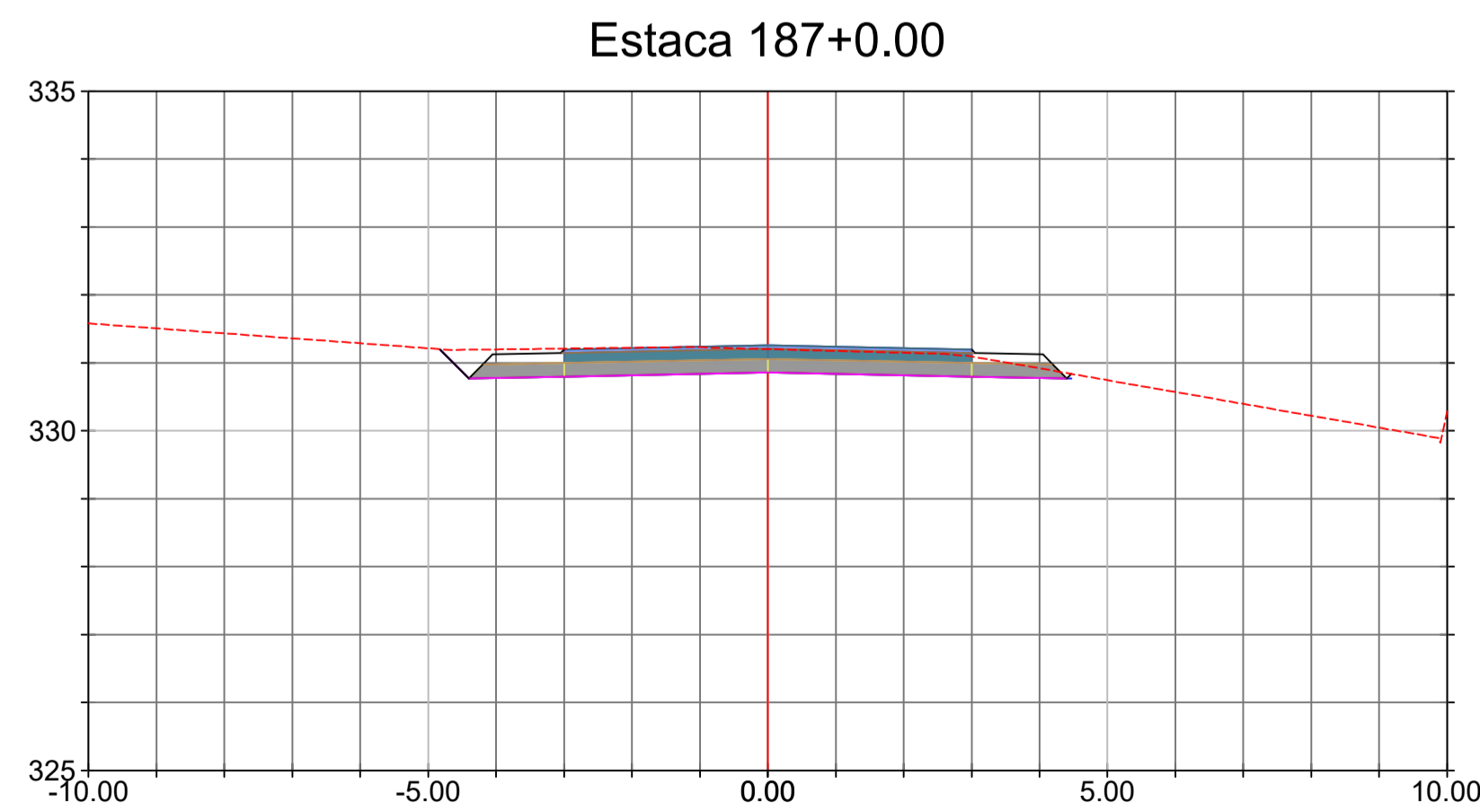
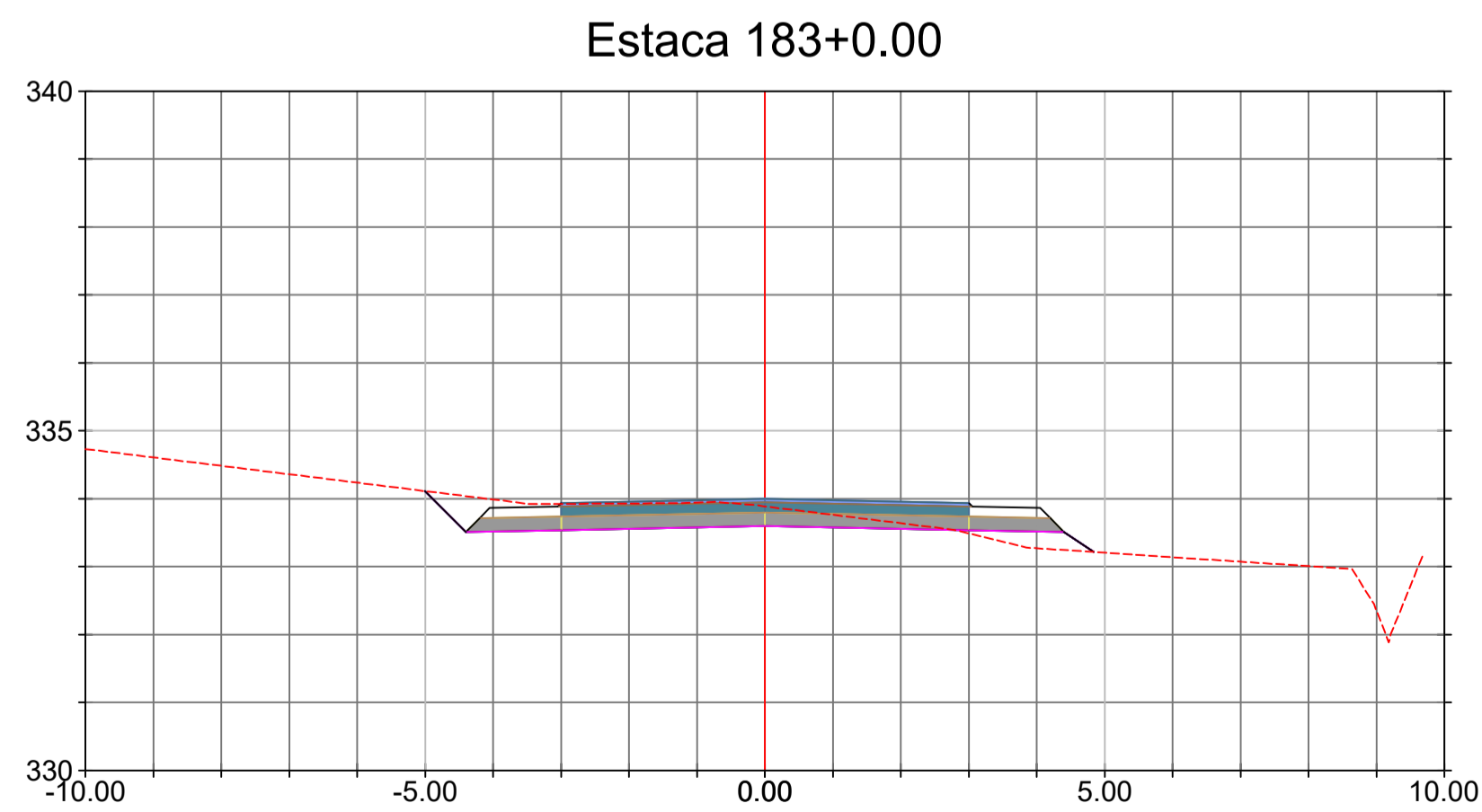
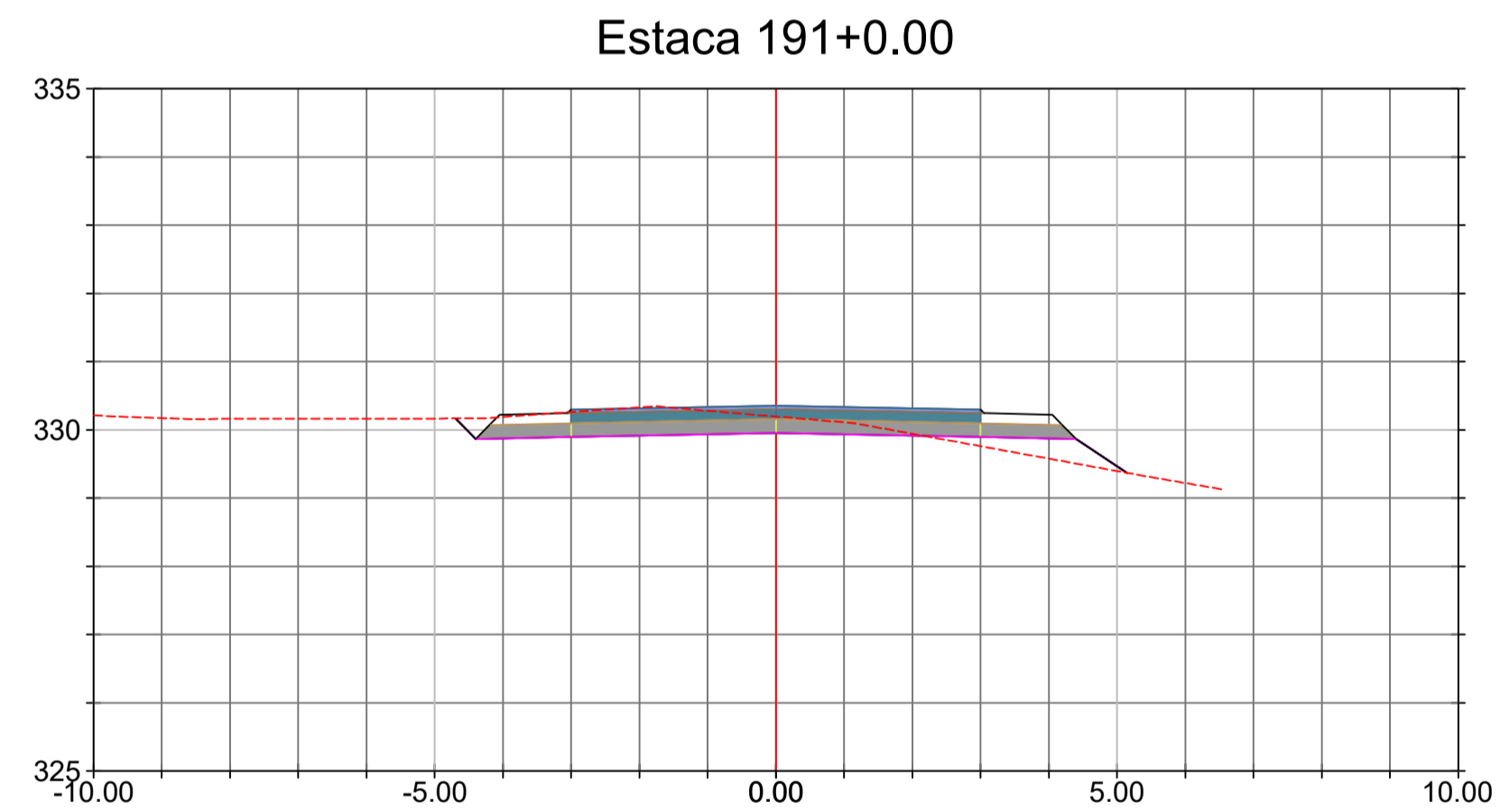
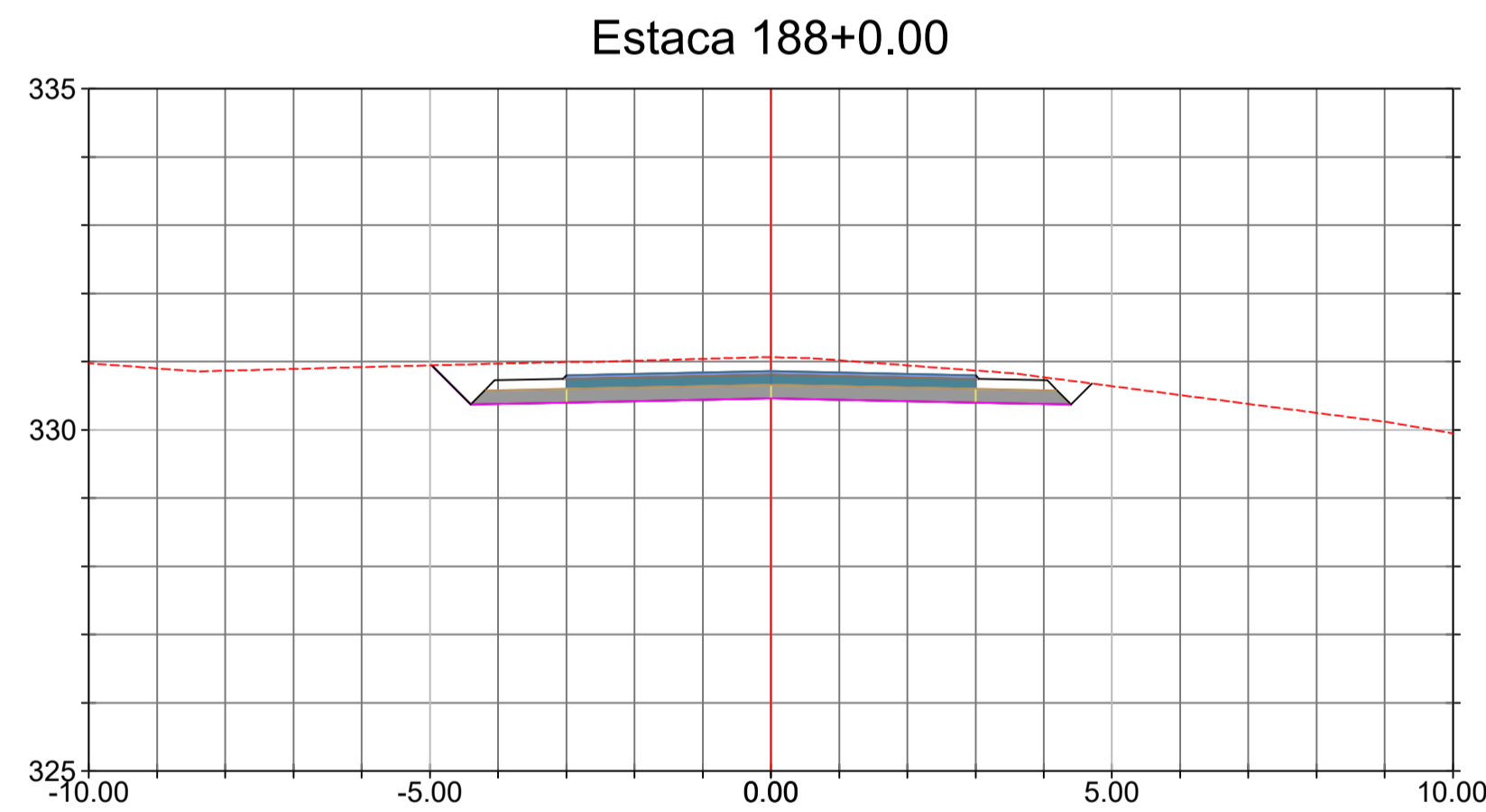
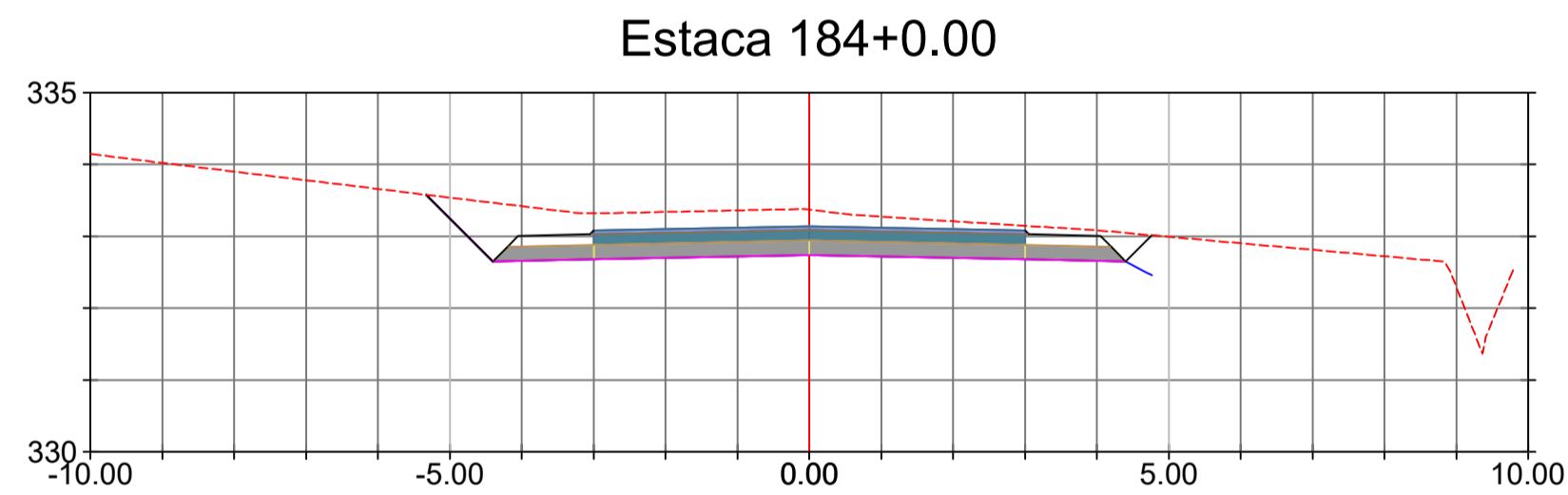
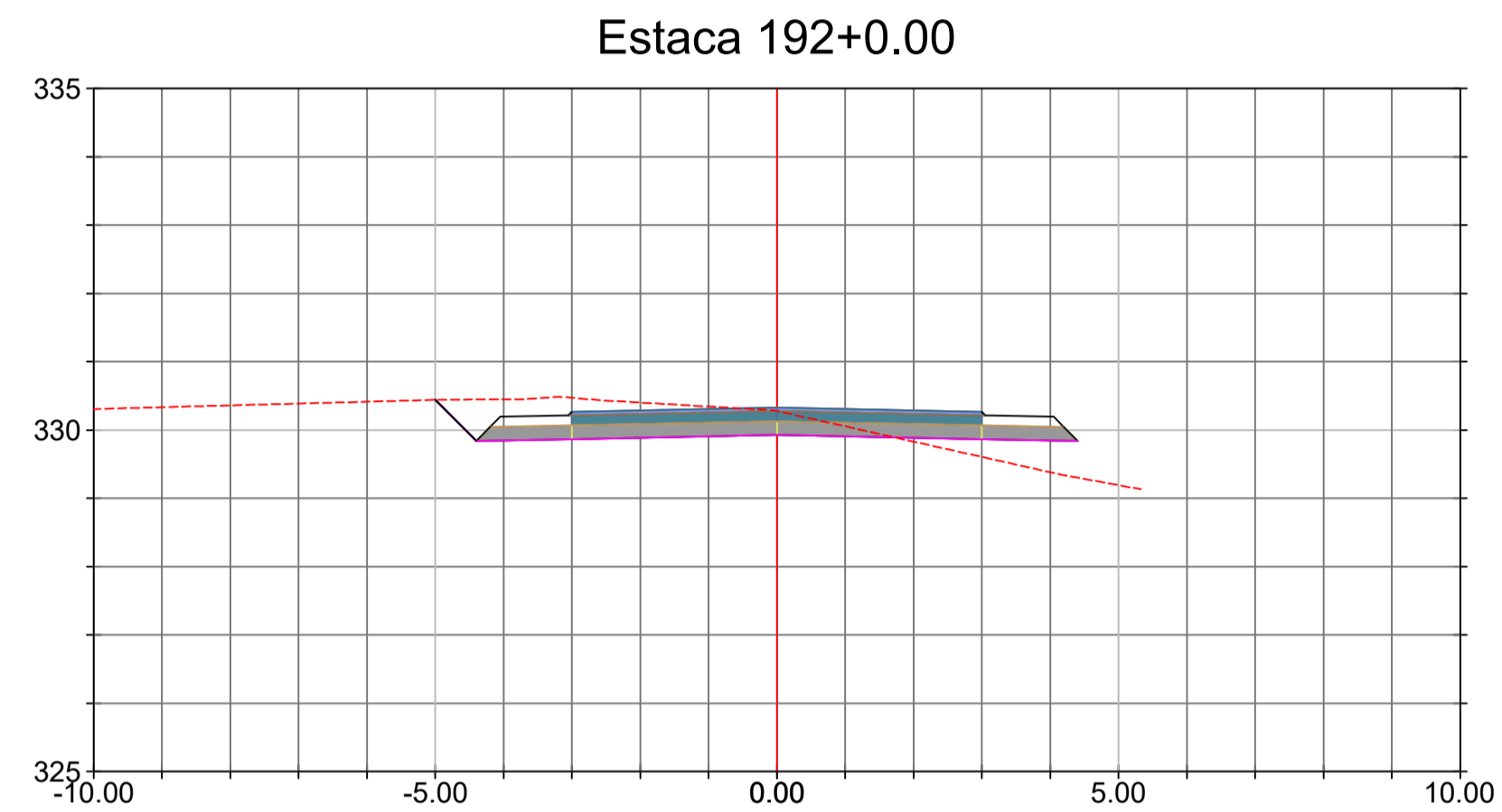
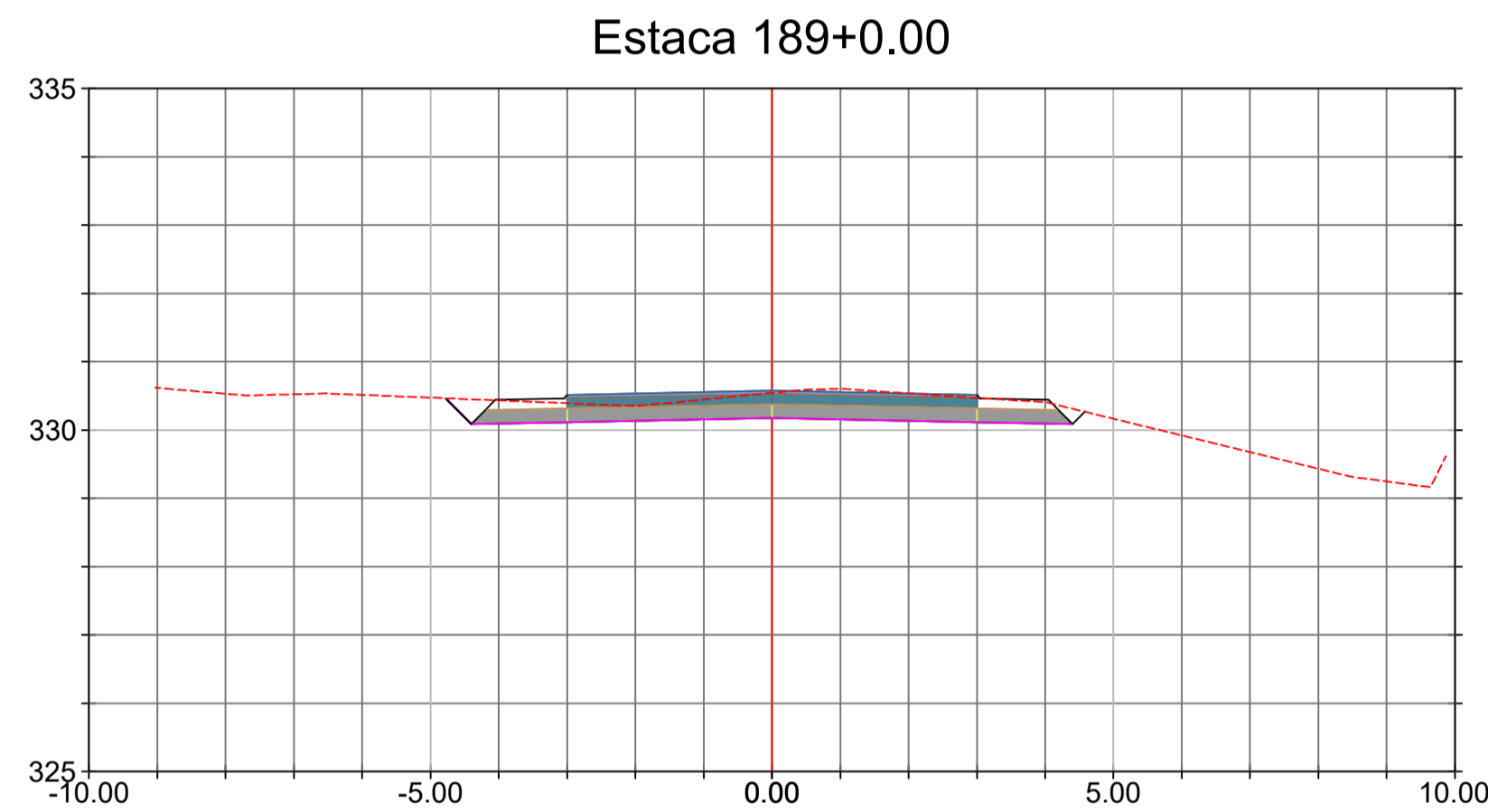
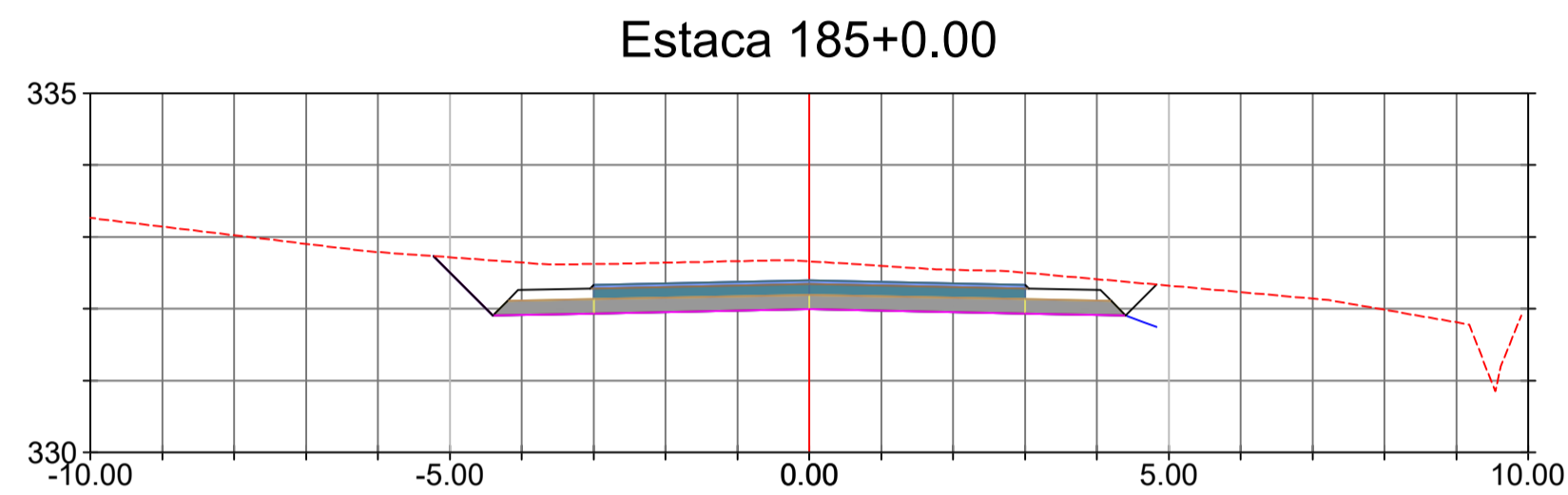
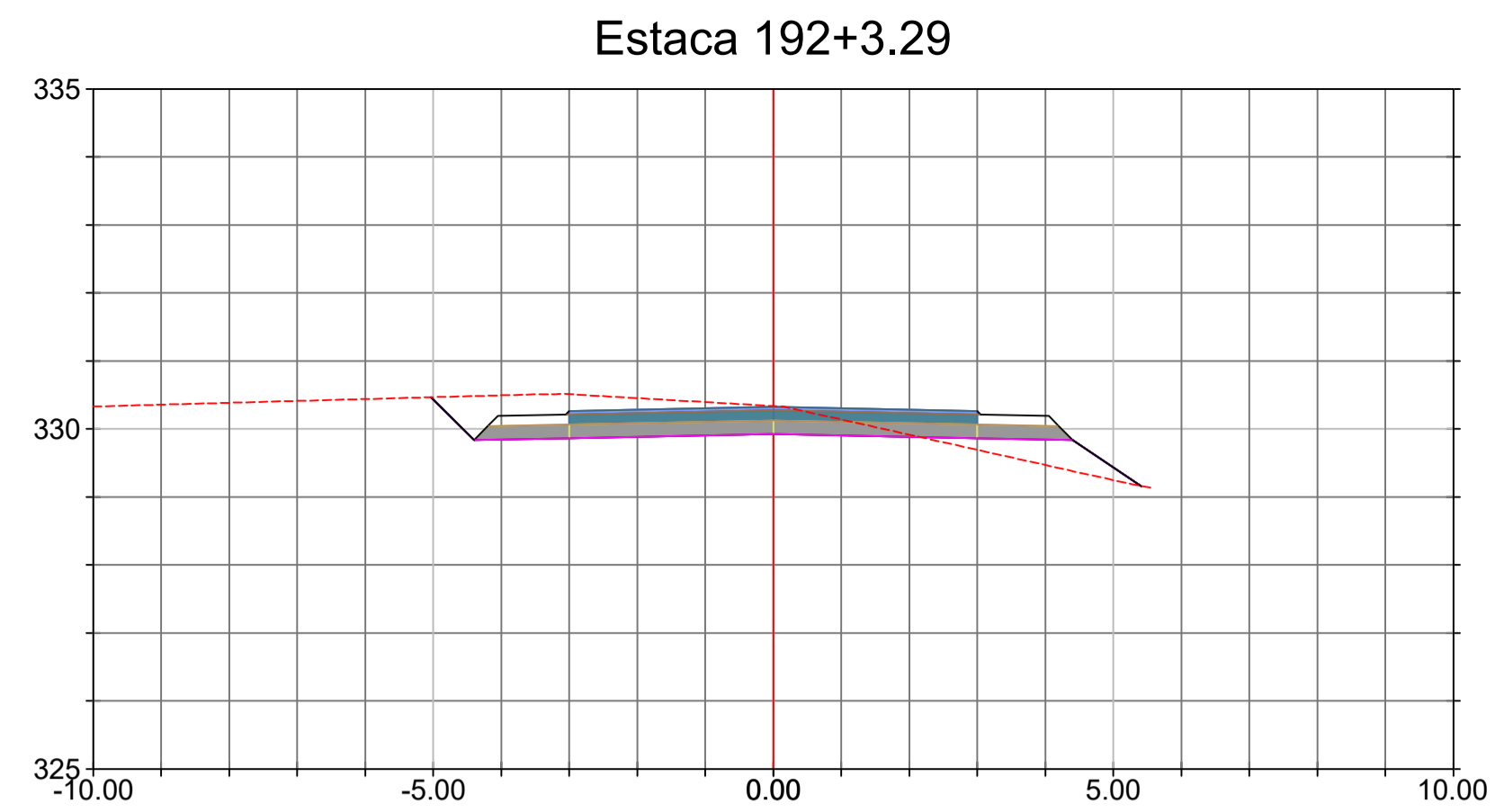
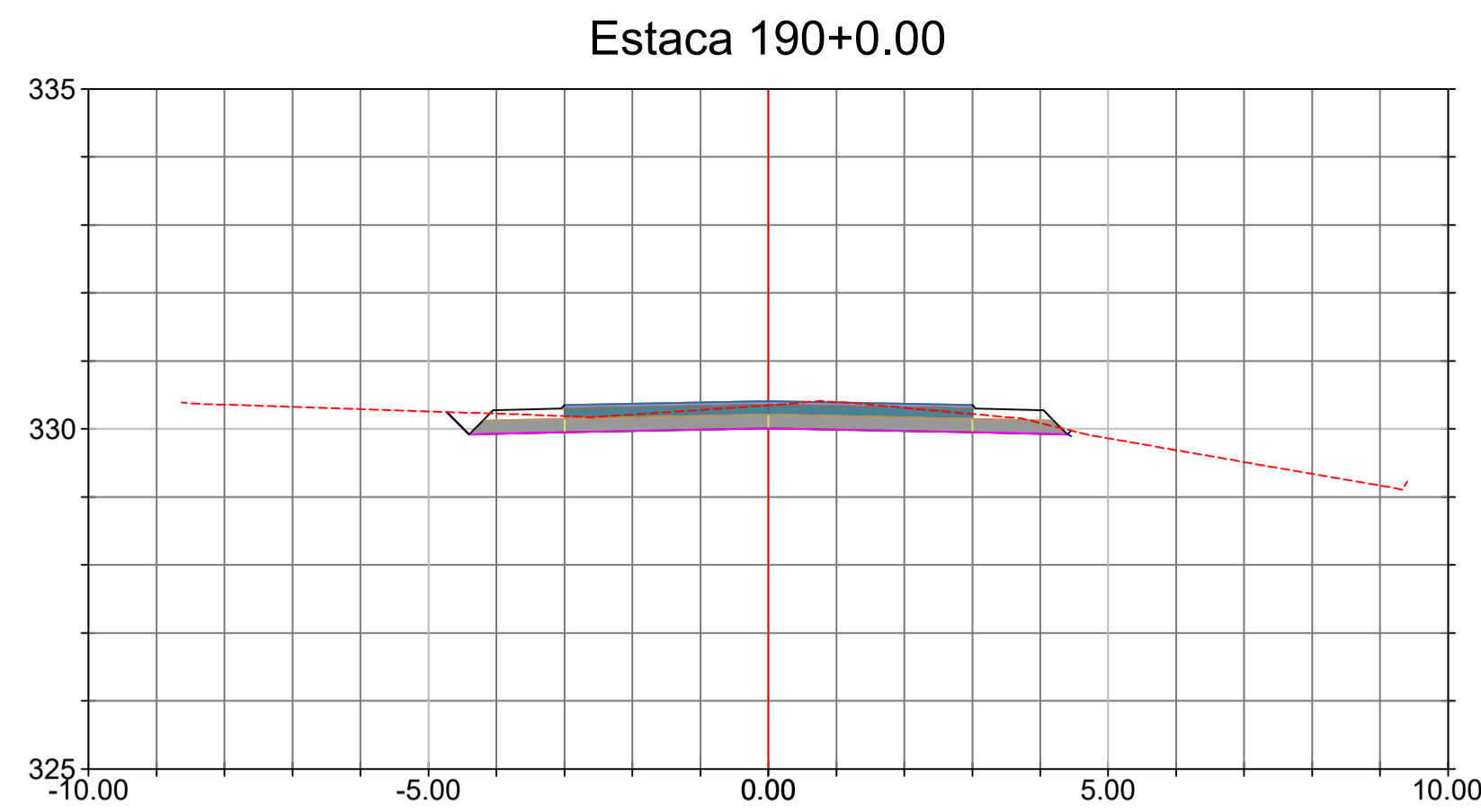
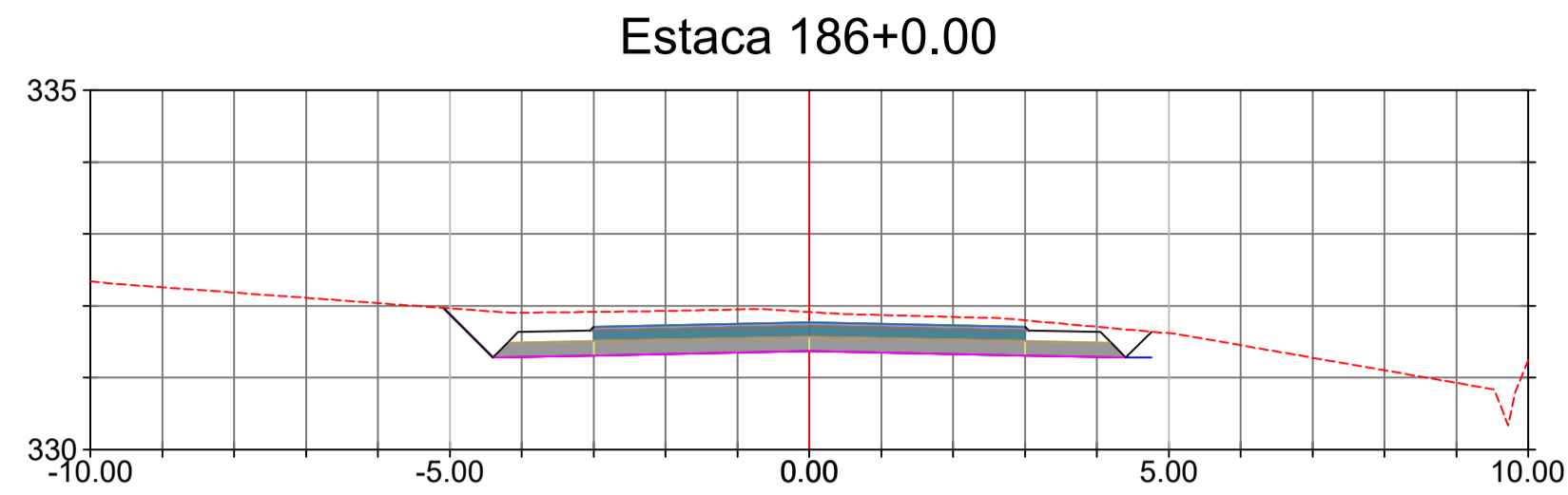


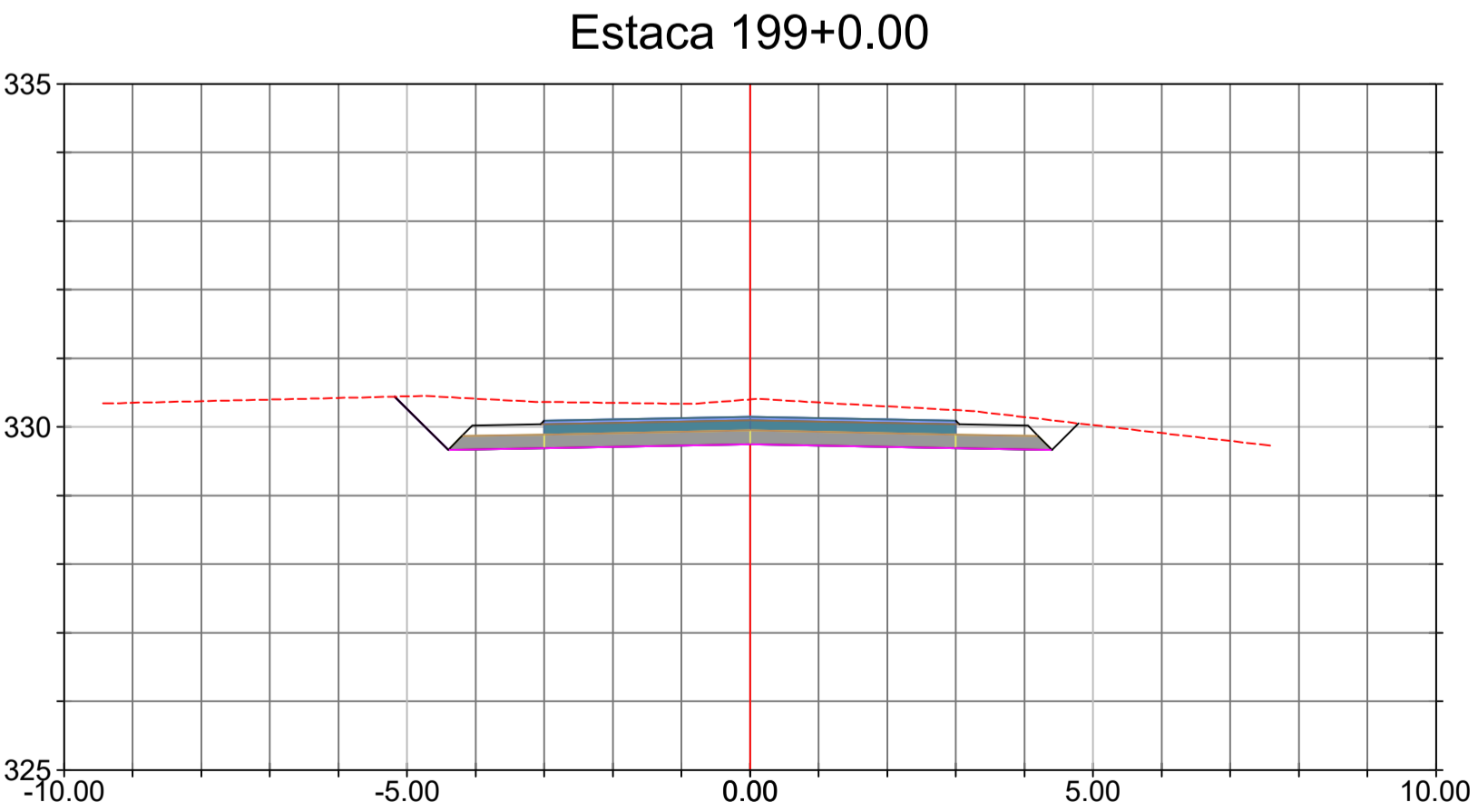
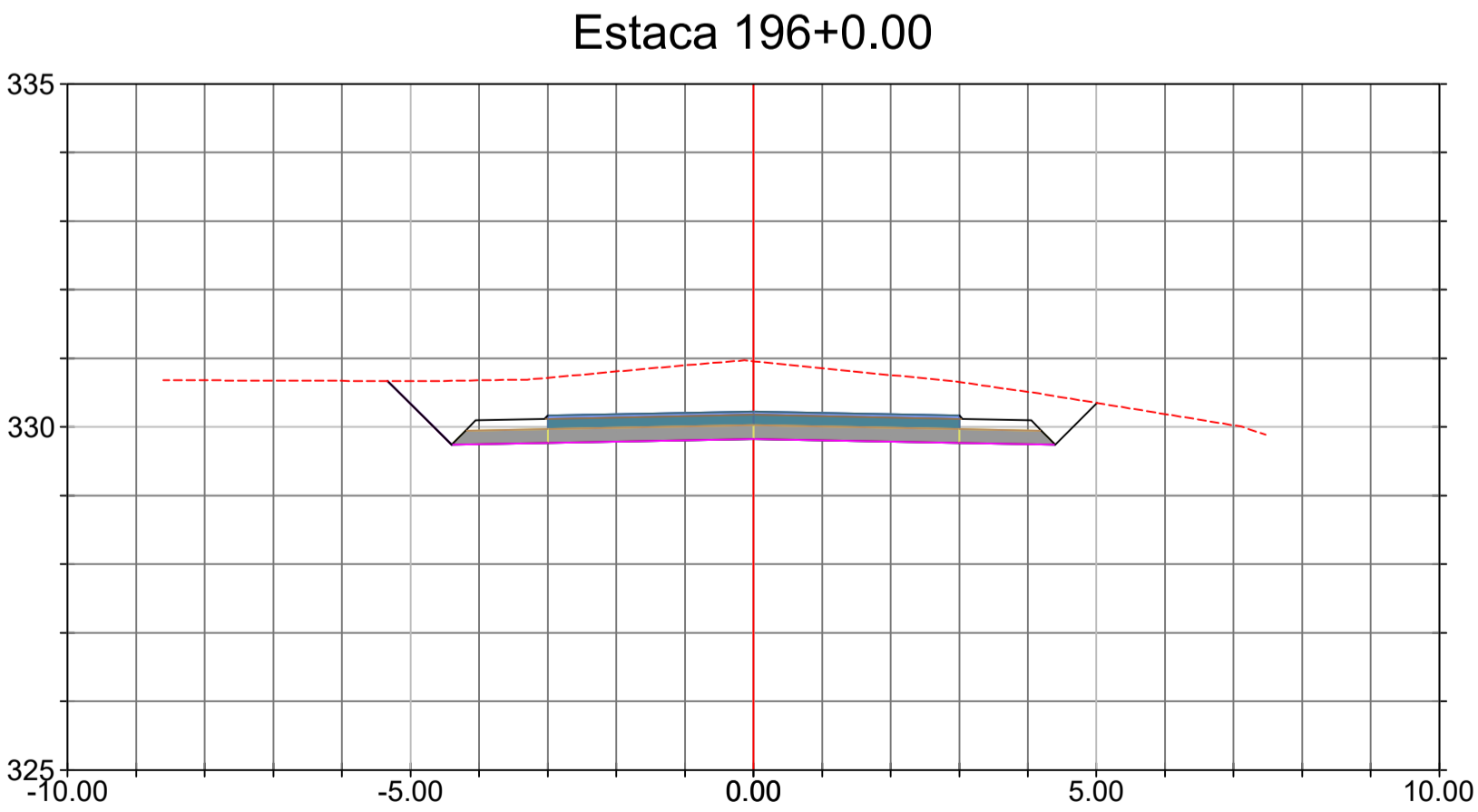
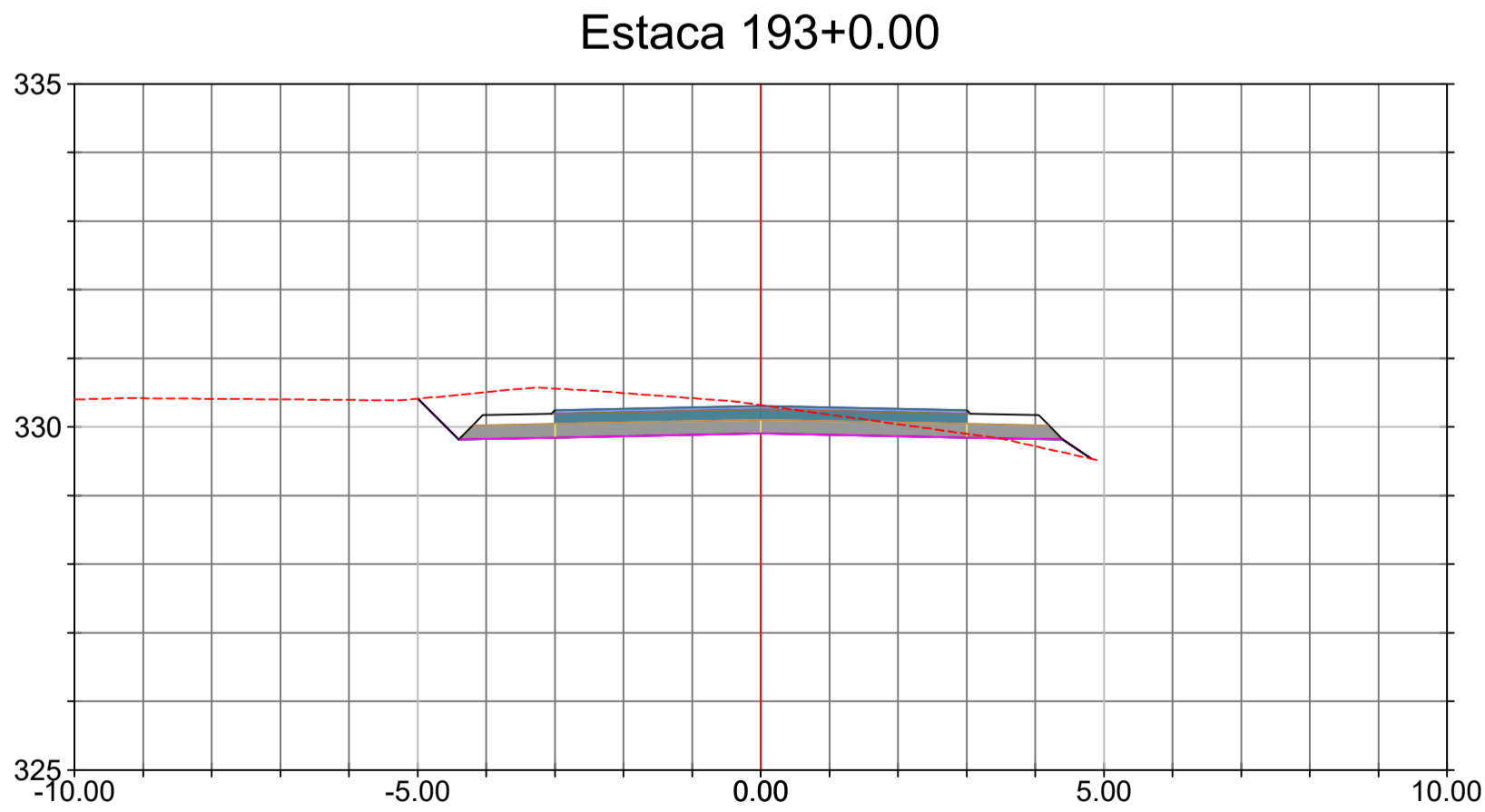
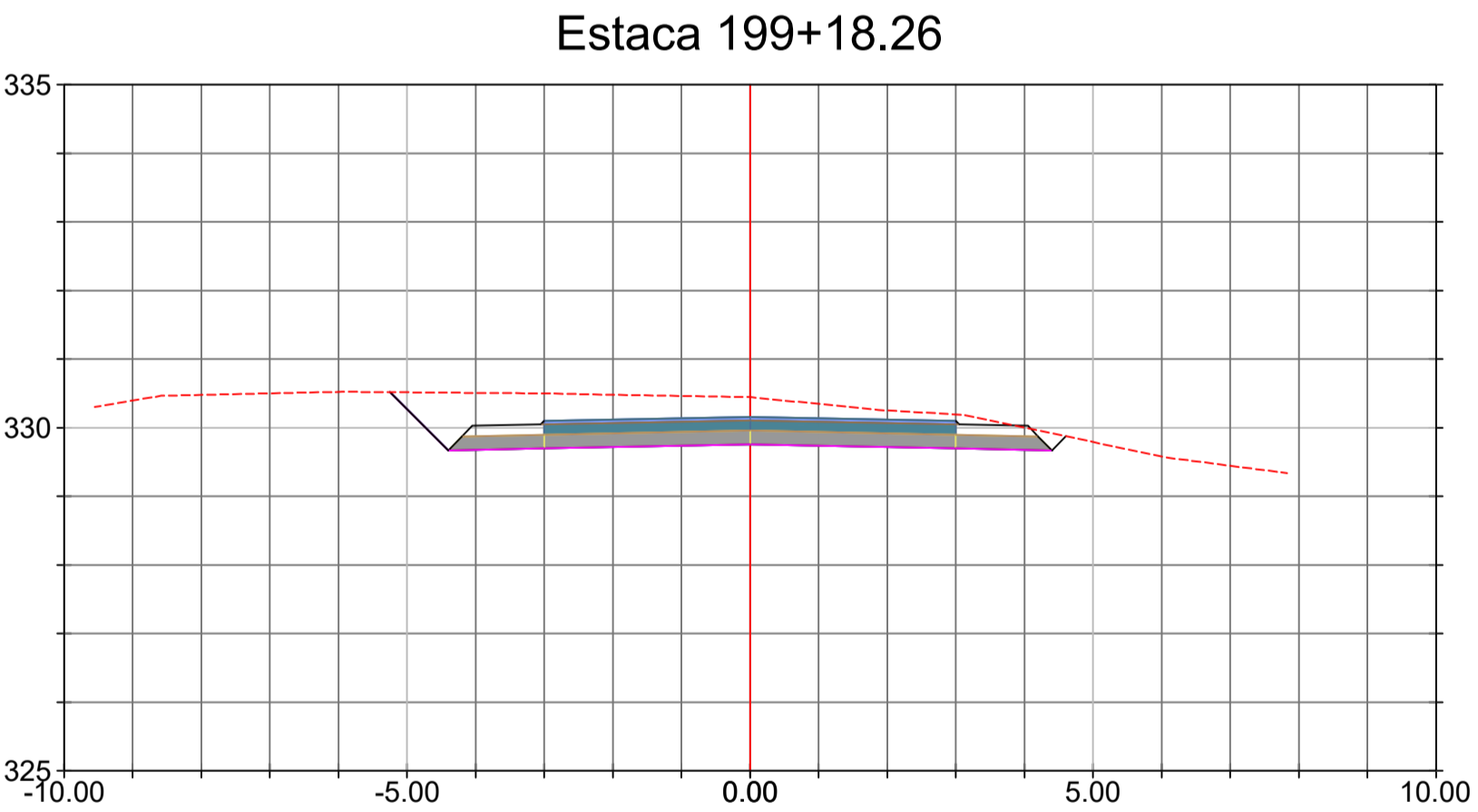
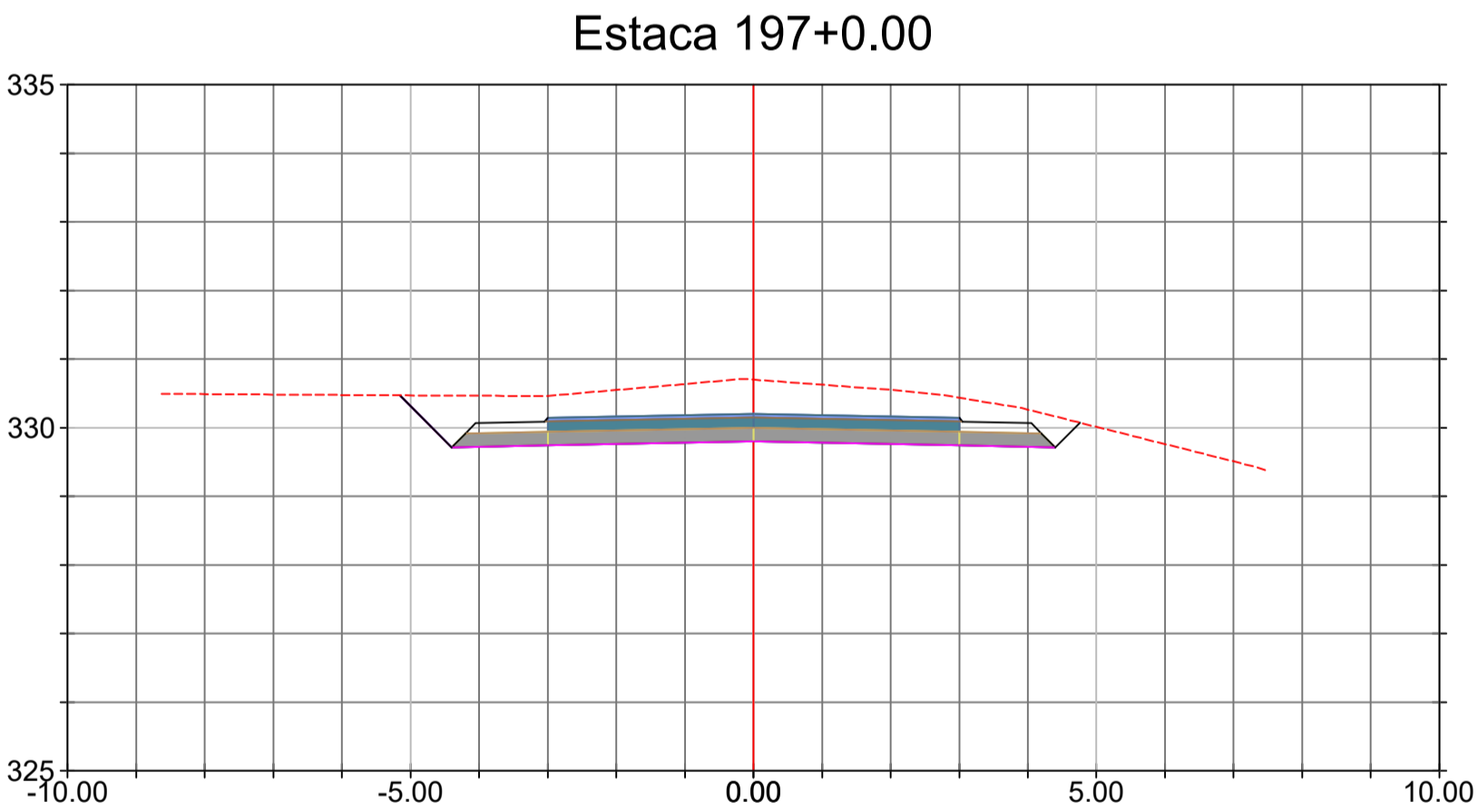
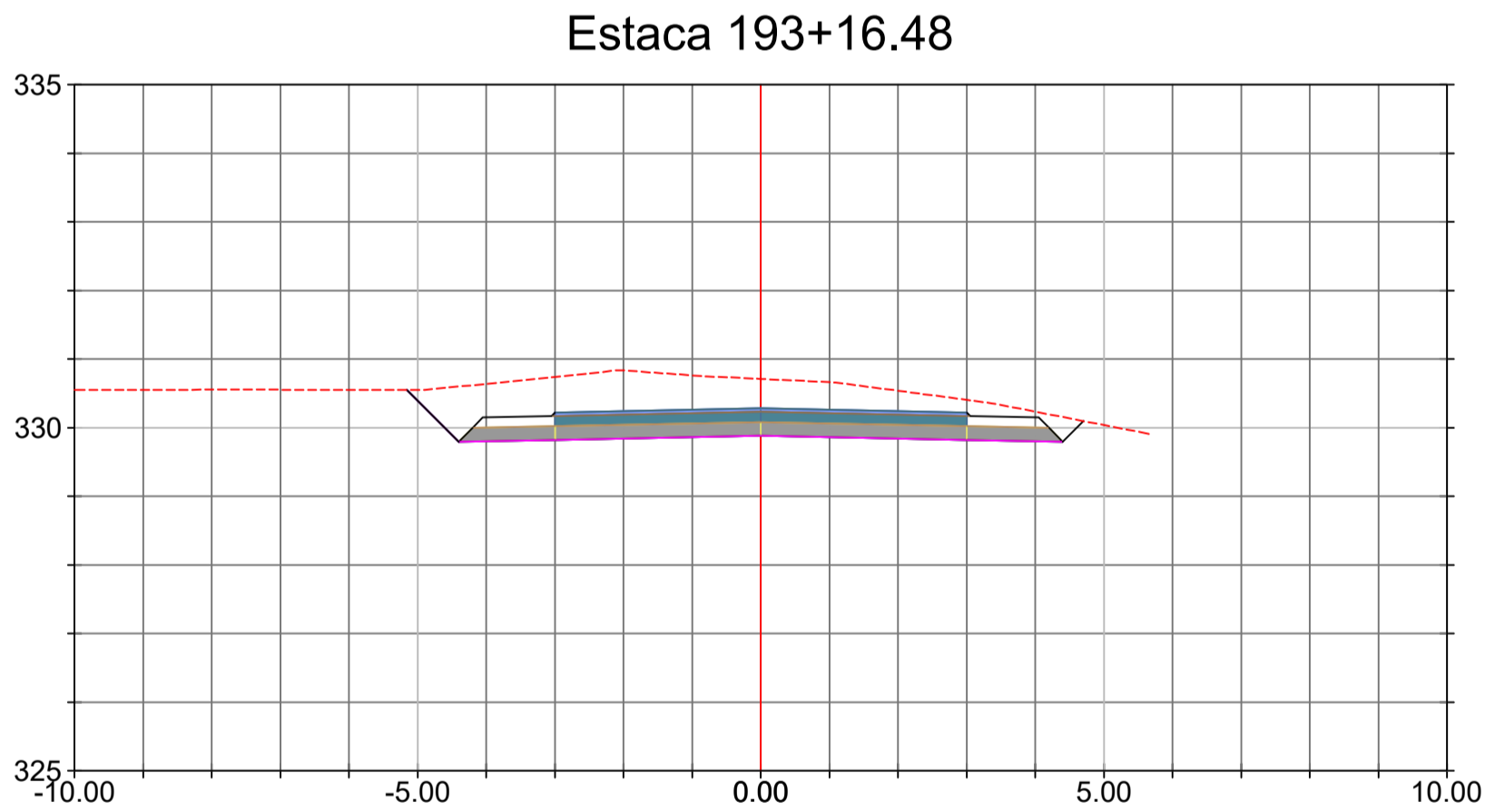
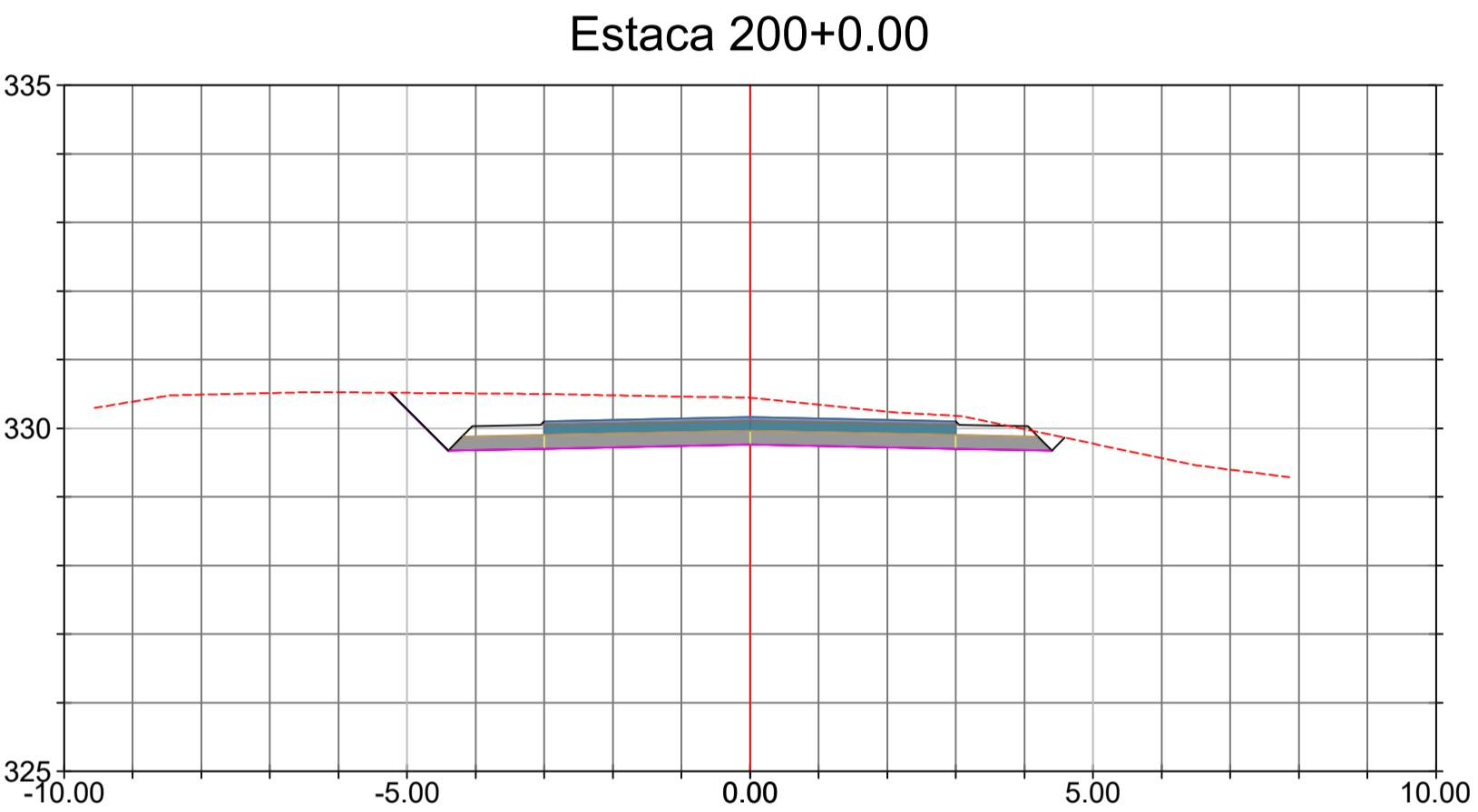
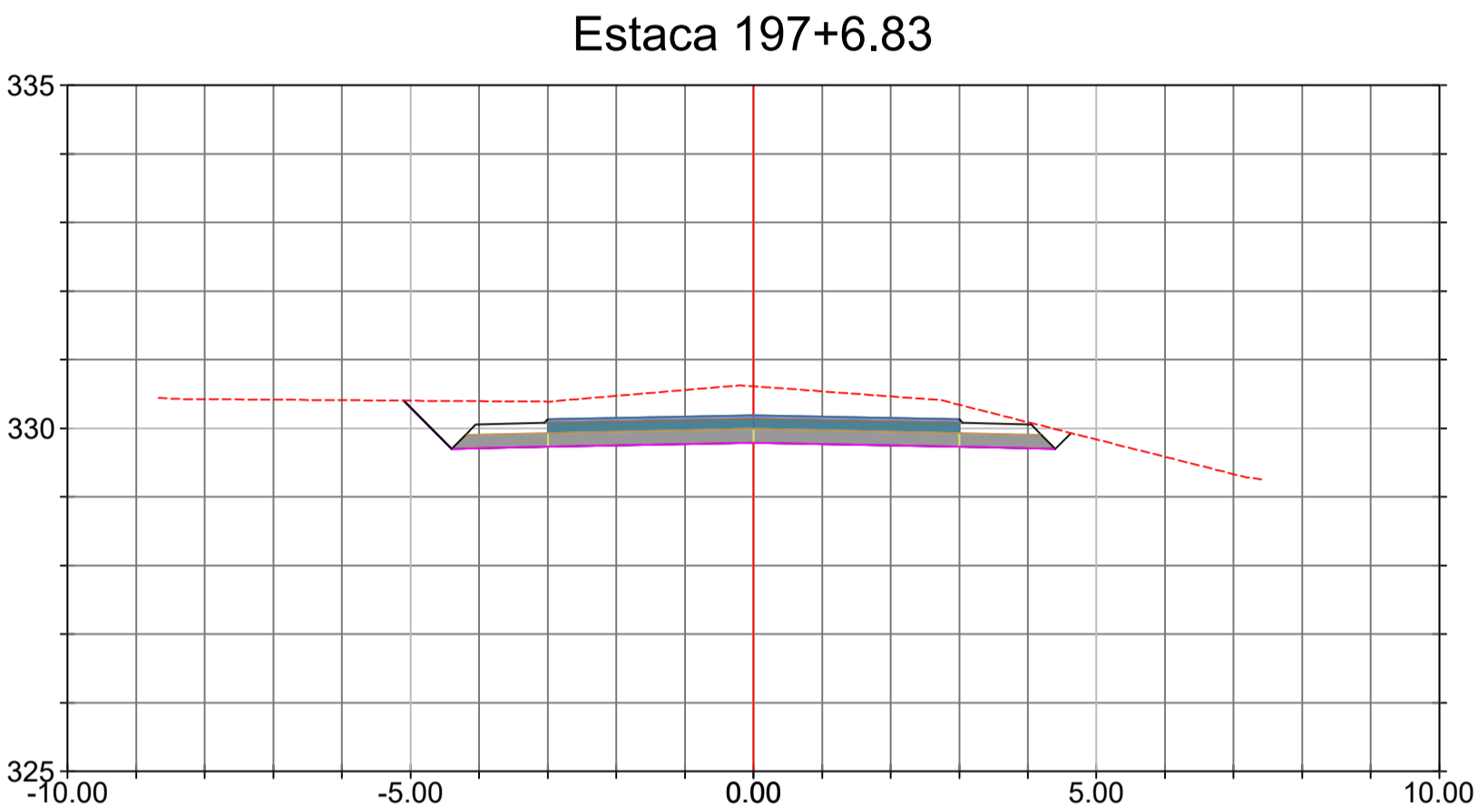
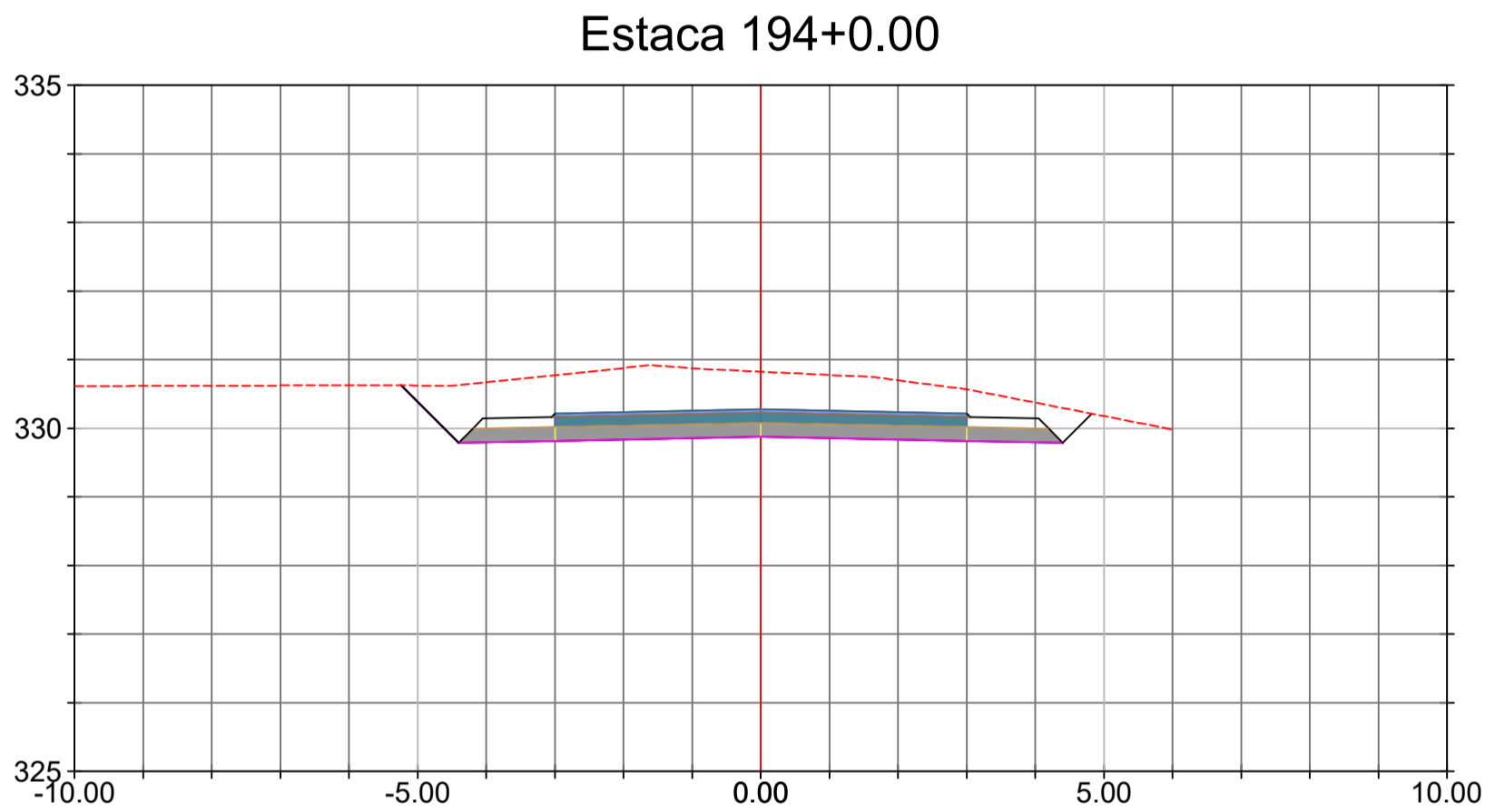
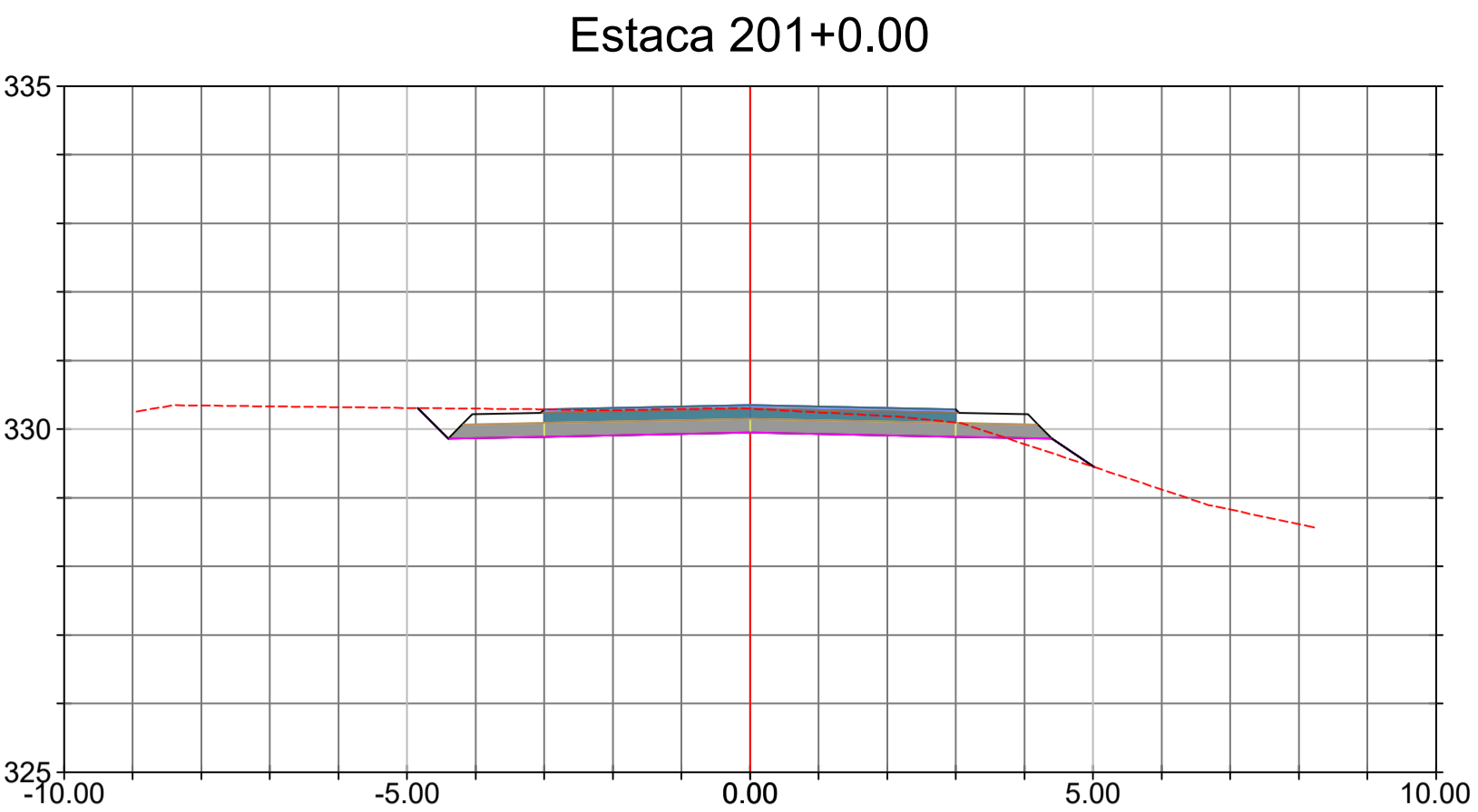
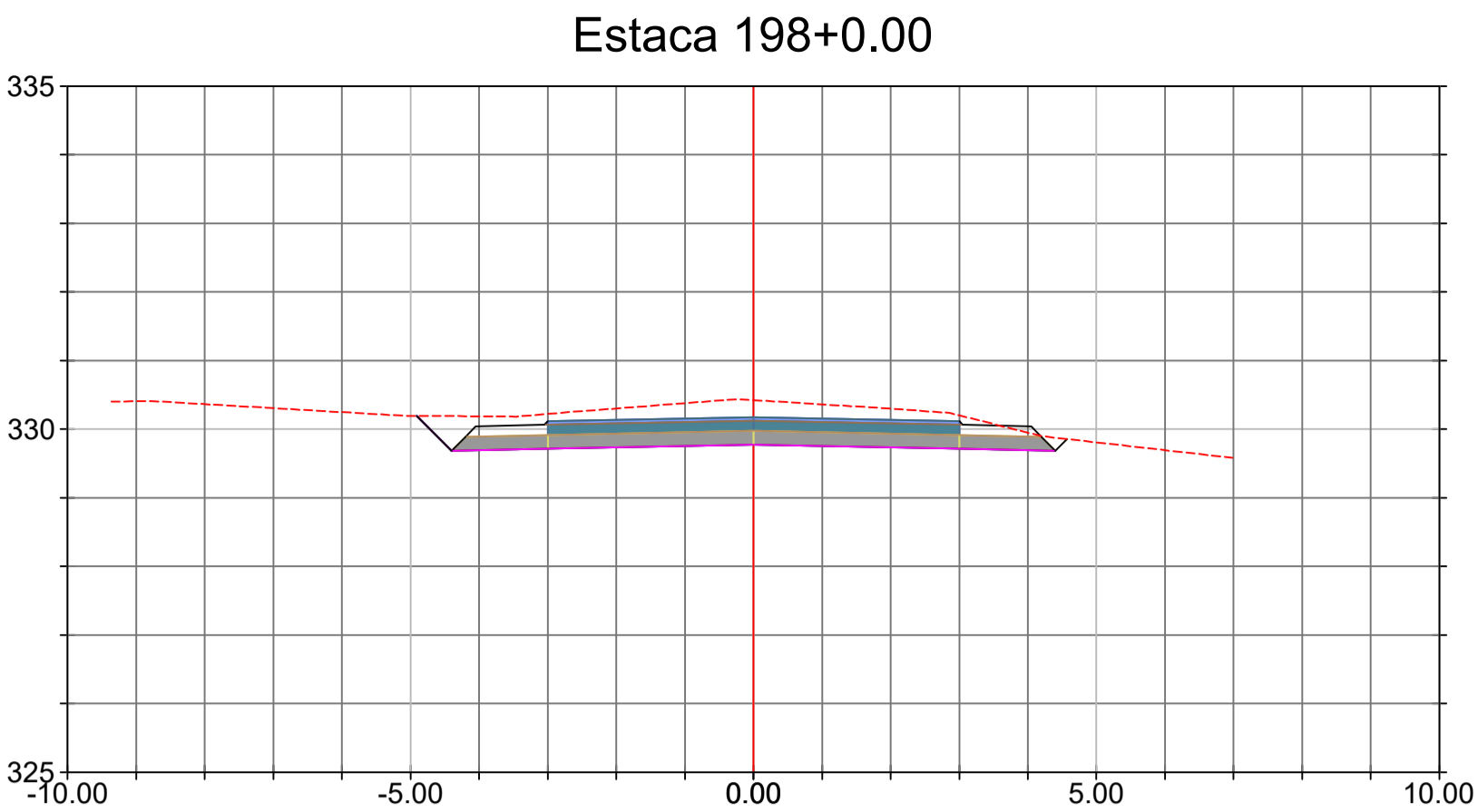
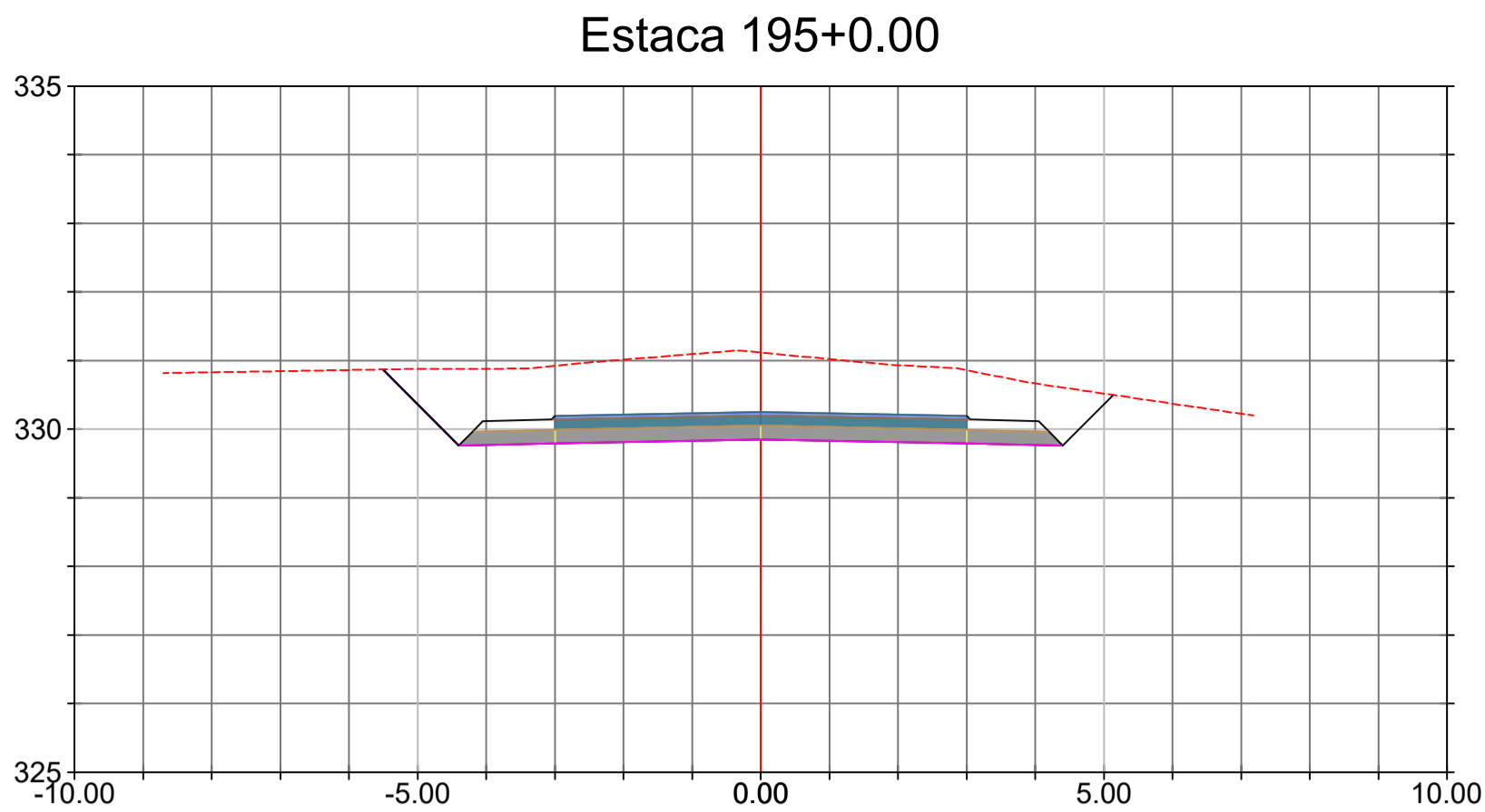


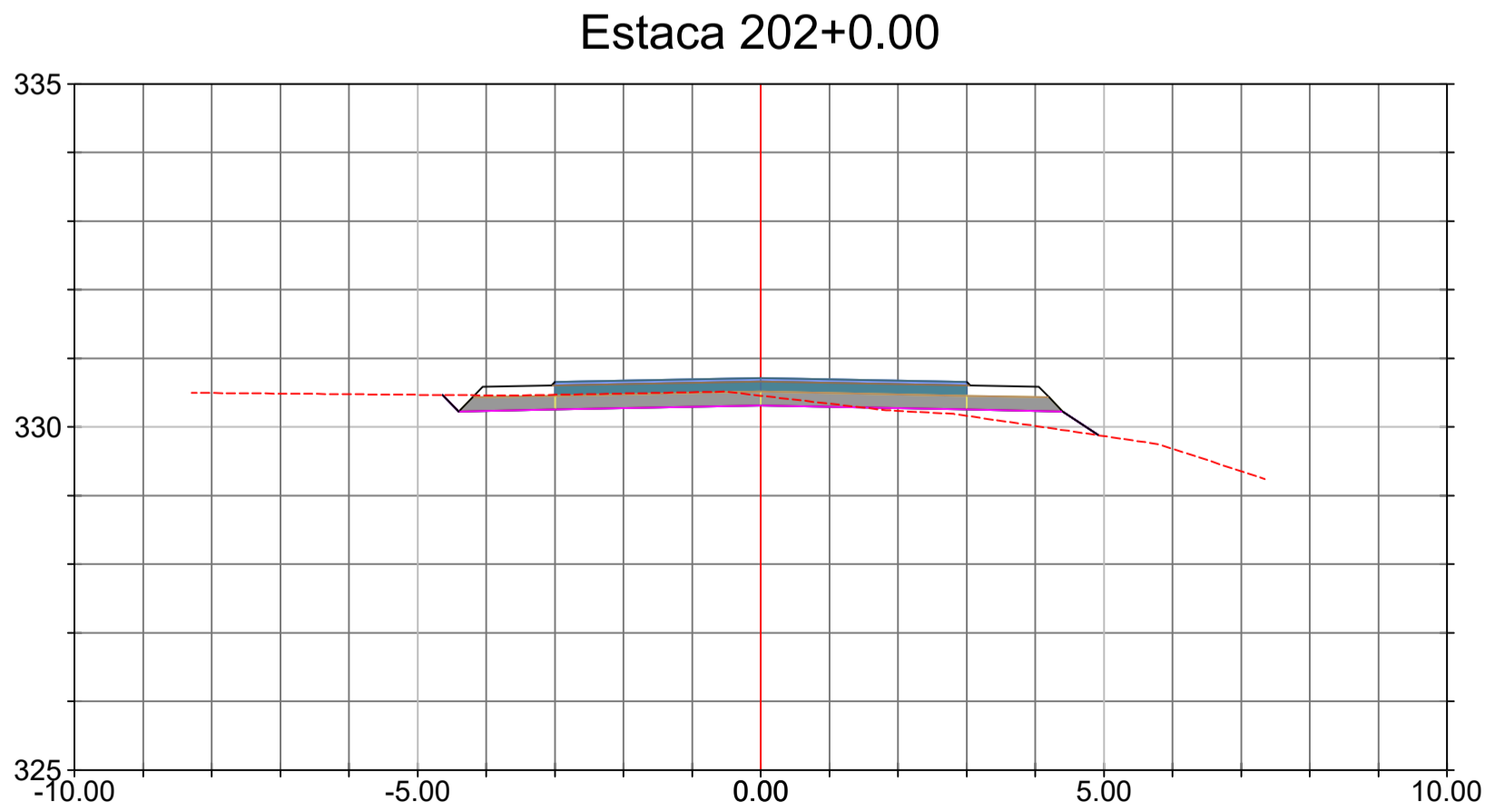
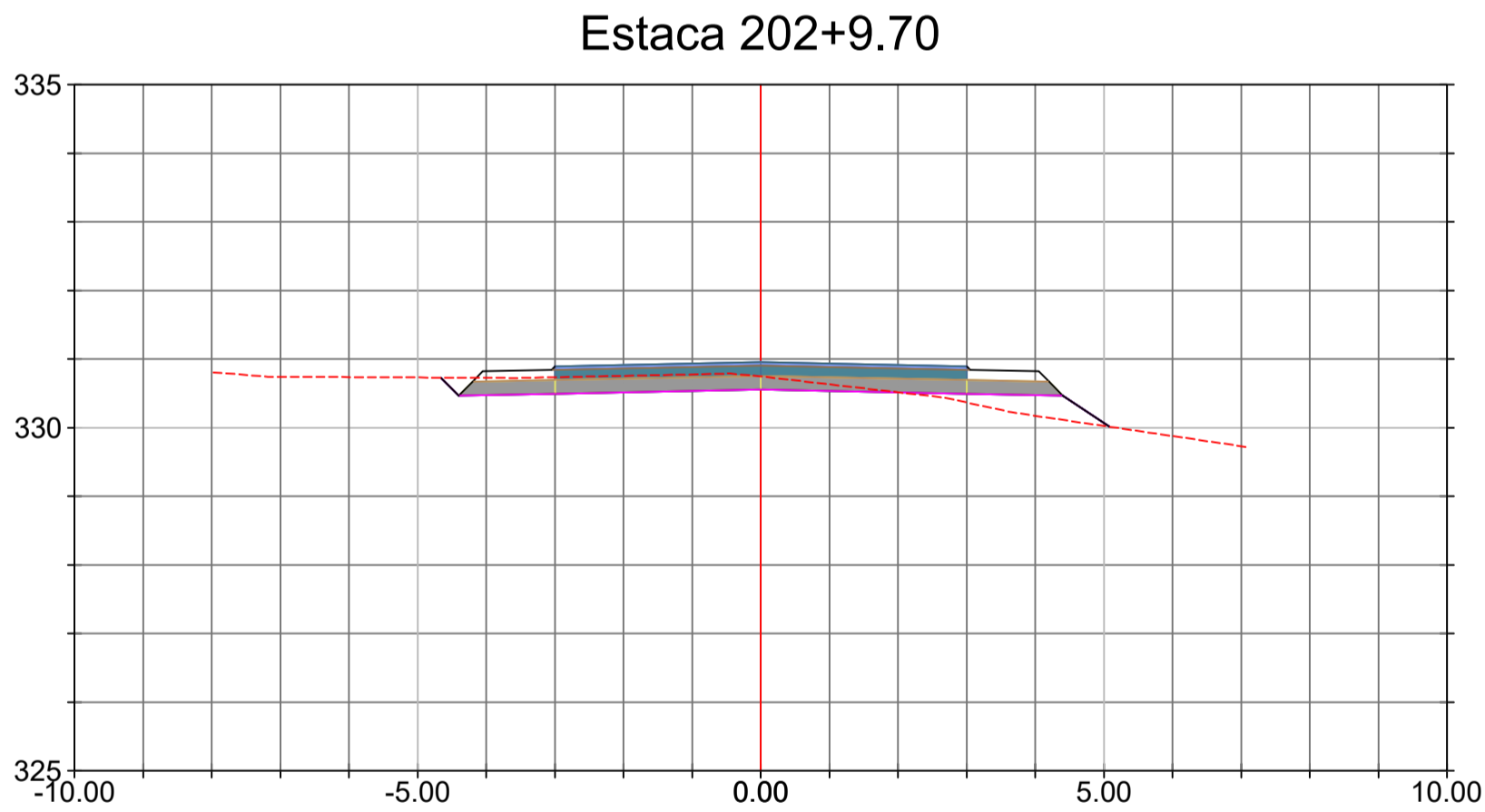
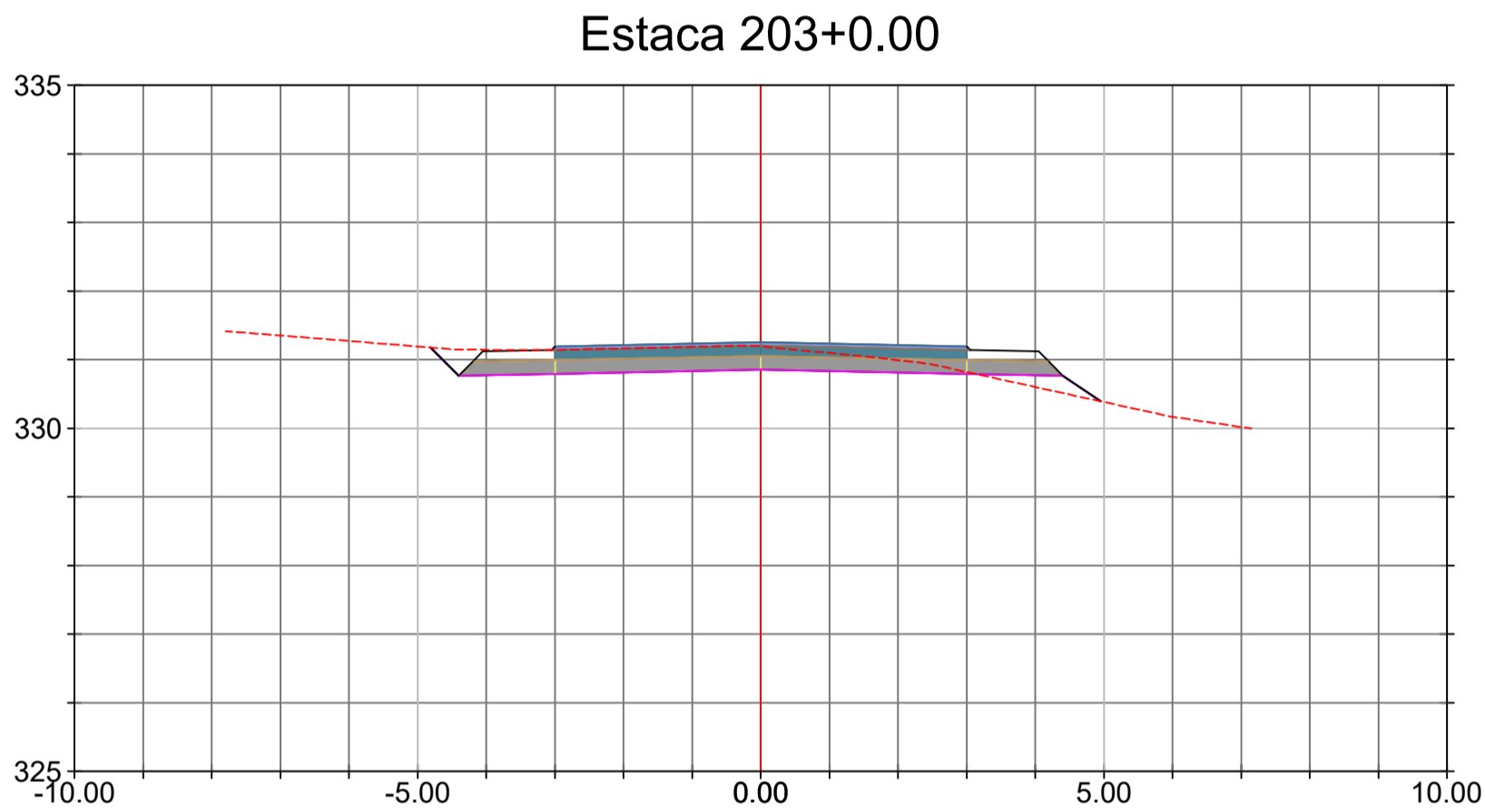
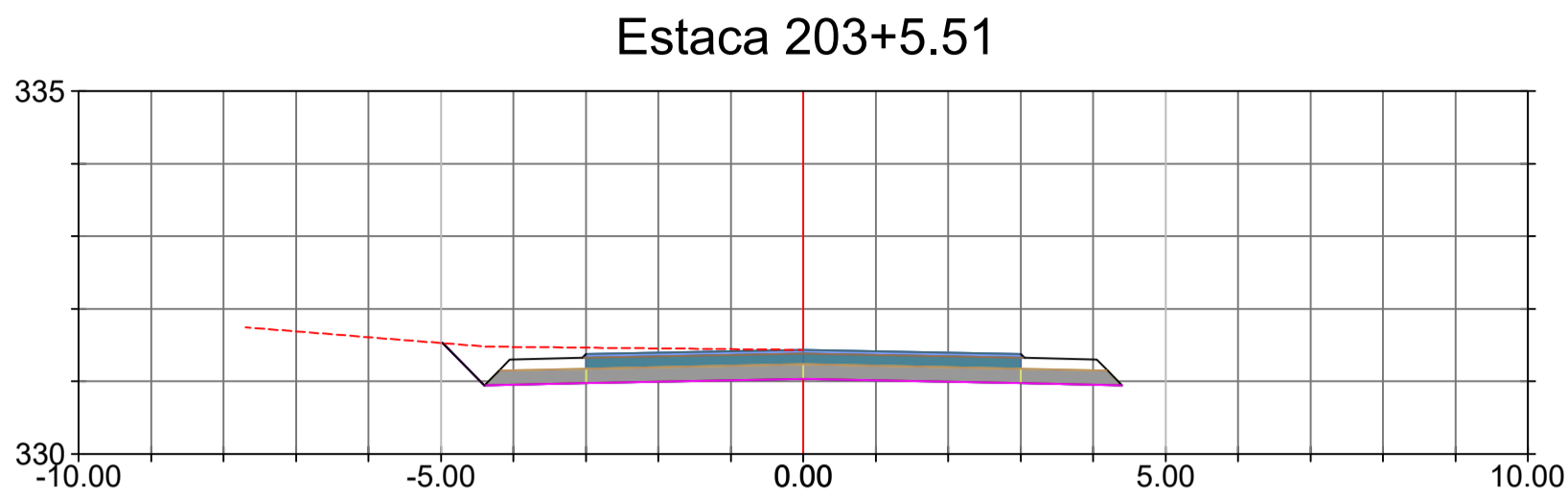








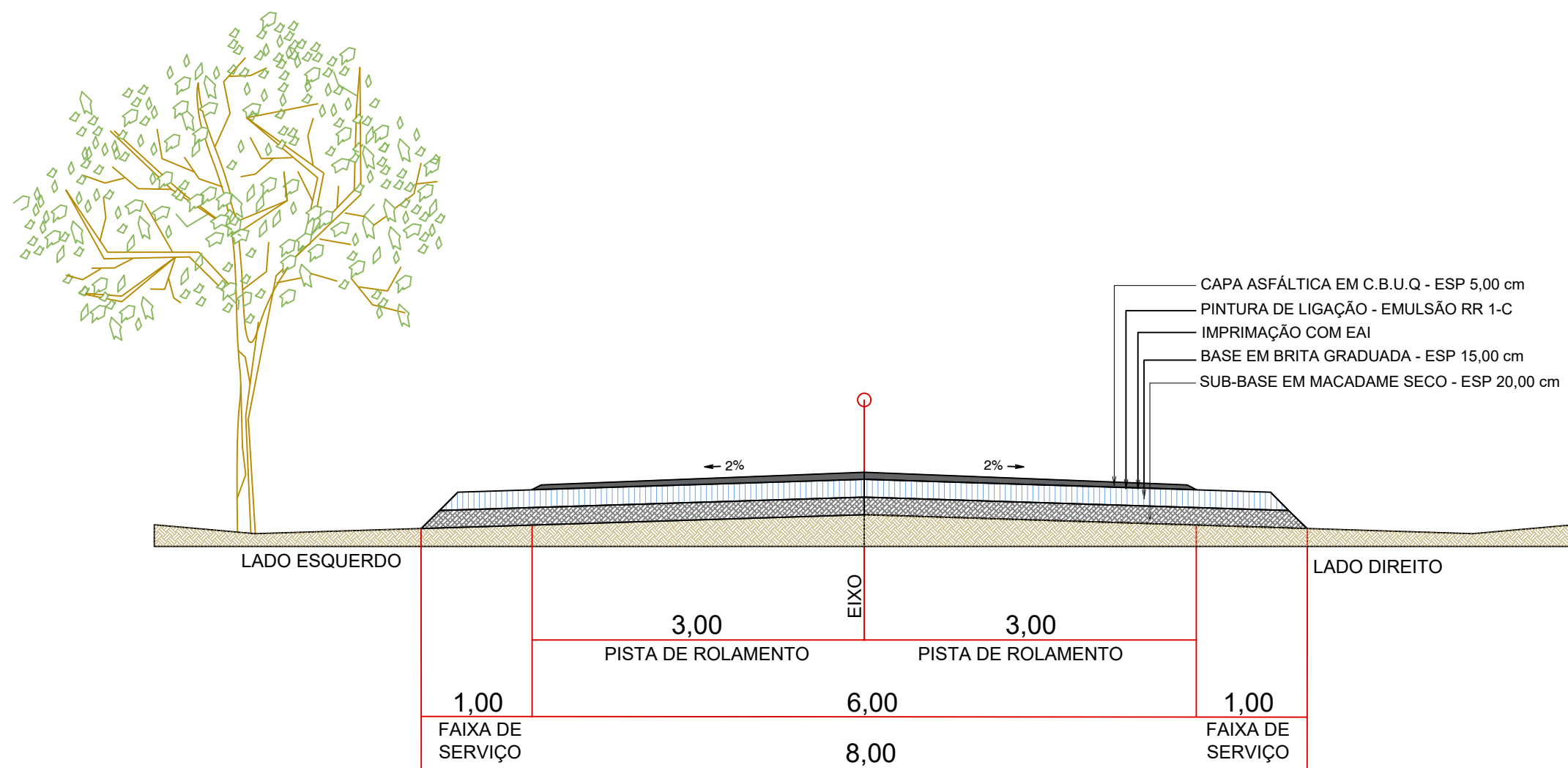






PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

5. PROJETO DE PAVIMENTAÇÃO

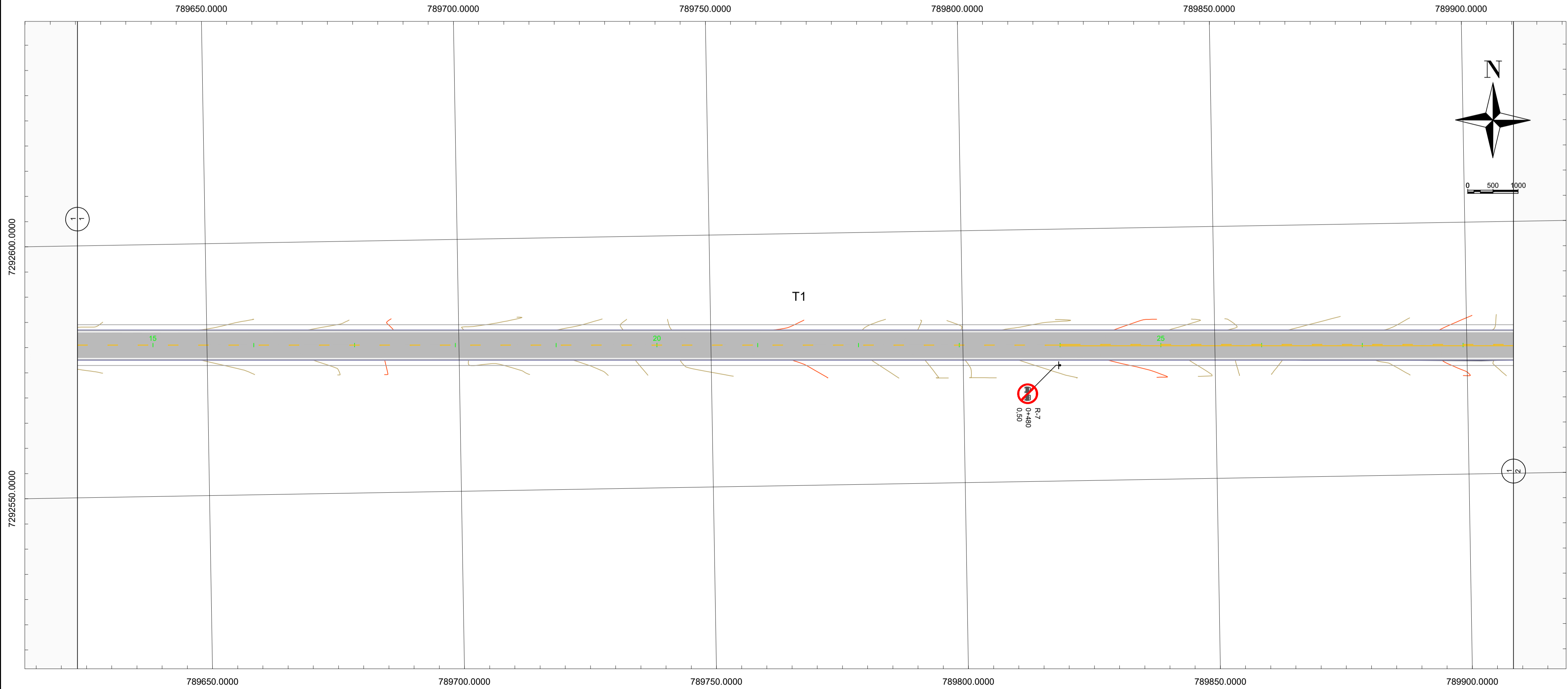
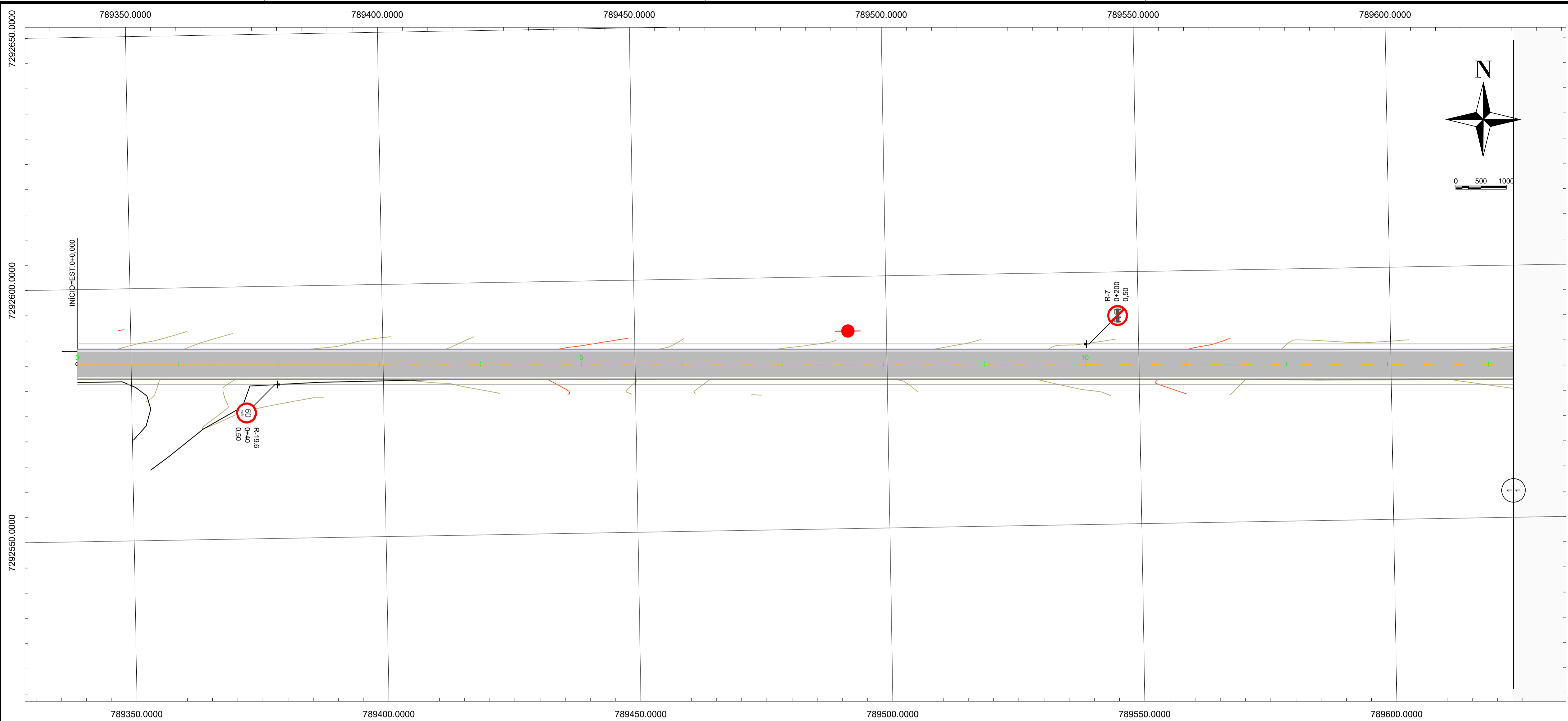


 PREFEITURA DE MERCEDES	PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA		
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA		POLIANA TONIETO CITADELLA Eng. Civil - CREA 162.706/D		
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA		Rua 28 de Novembro, 210, sala 01 Dois Vizininhos, Paraná - 85.660-000		
	PROJETO: PROJETO DE PAVIMENTAÇÃO		e-mail: engenharia@duovias.com.br		
RESPONSABILIDADE TÉCNICA PROJETO: POLIANA TONIETO CITADELLA Eng. Civil - CREA PR 162.706/D		PROPRIETÁRIO: PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 95.719.373/0001-23		EMIÇÃO INICIAL: AGOSTO/2025	PRANCHA: 01
				ÁREA: -	ESCALA: SEM ESCALA



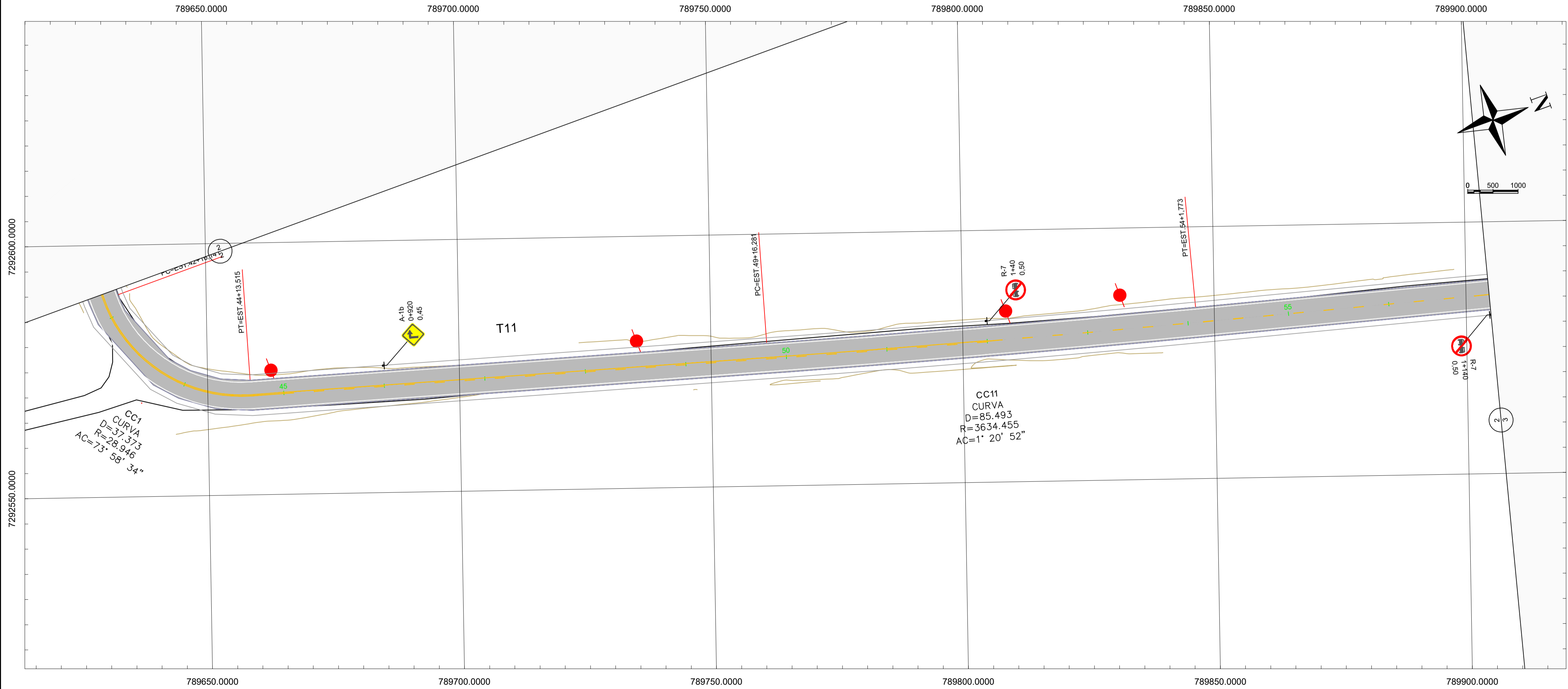
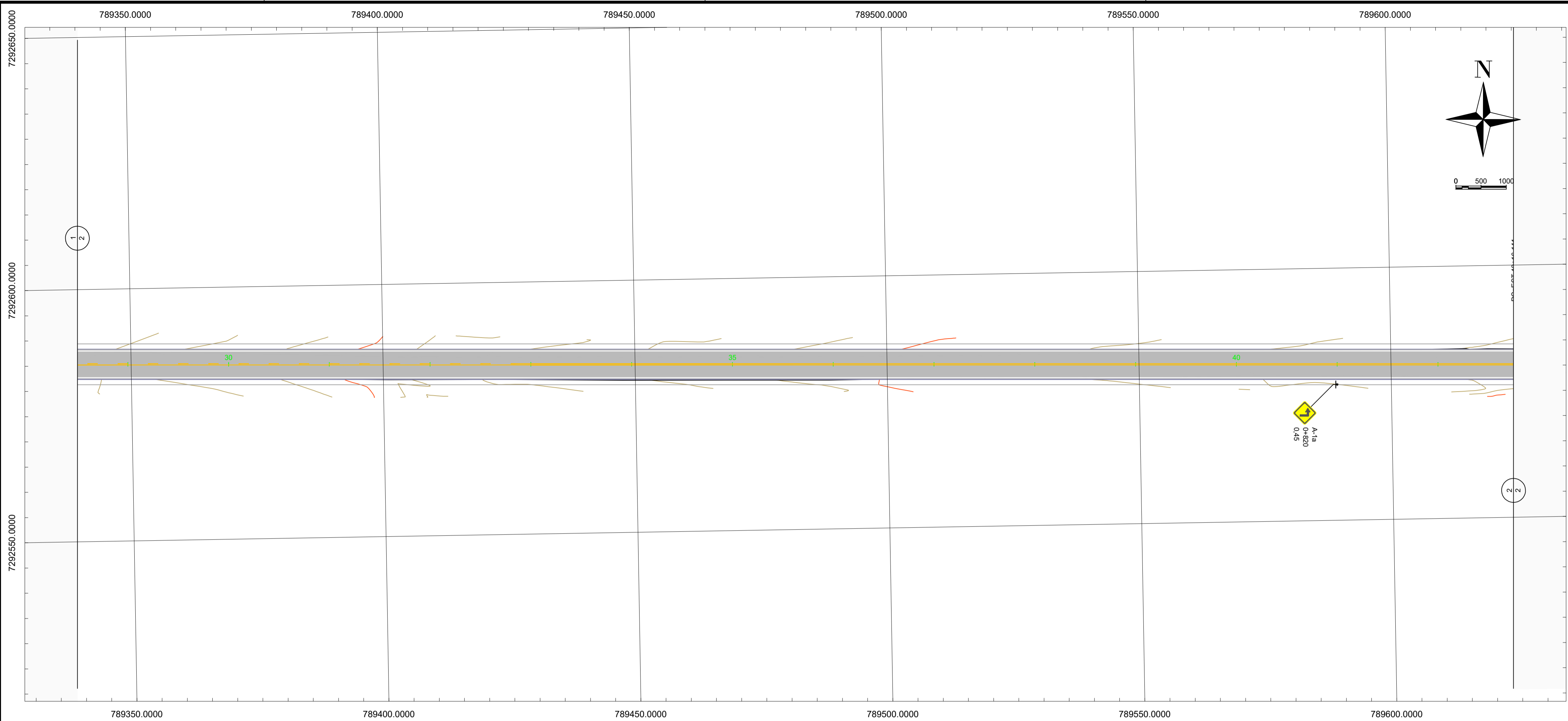
PREFEITURA MUNICIPAL DE MERCEDES
Rua Dr. Osvaldo Cruz, nº 555 – Centro – Fone (45) 3256-8000 – CEP 85.998-000 – Mercedes – PR.

6. PROJETO DE SINALIZAÇÃO



LEGENDA:

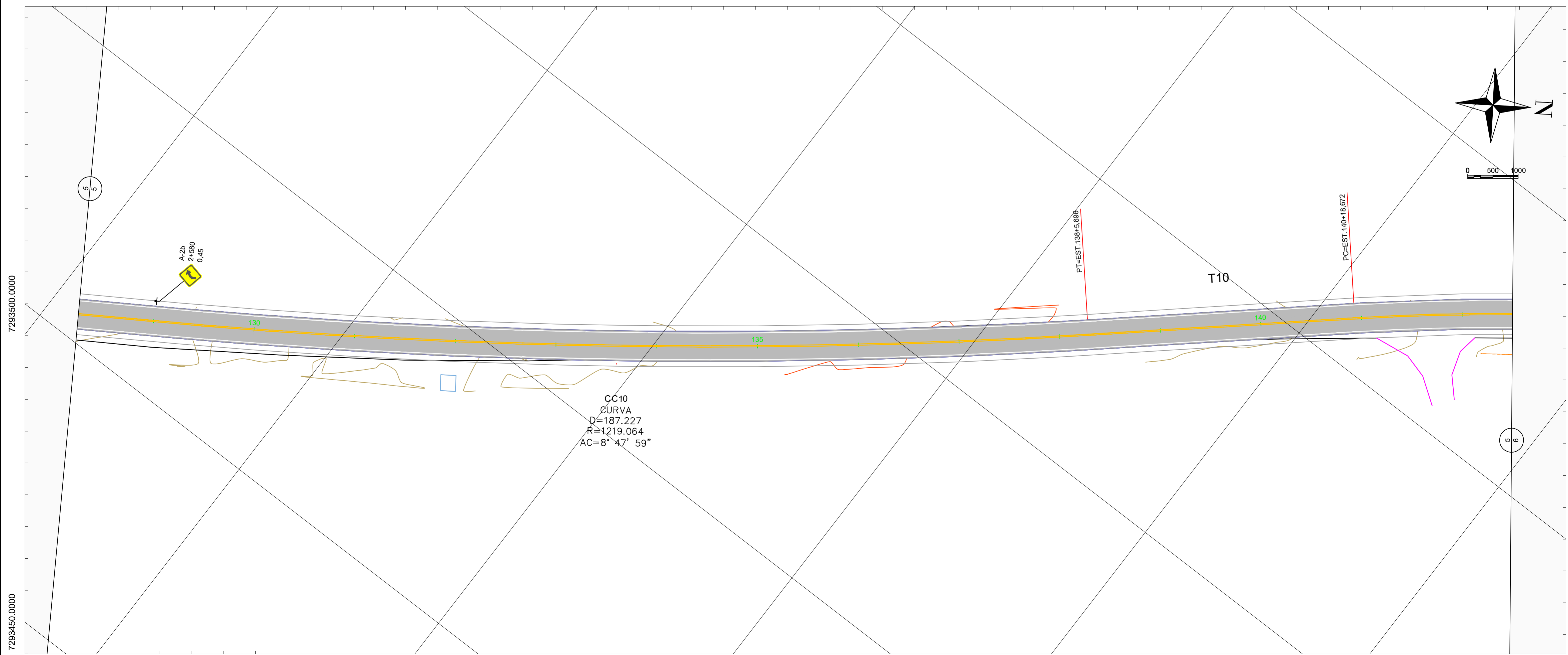
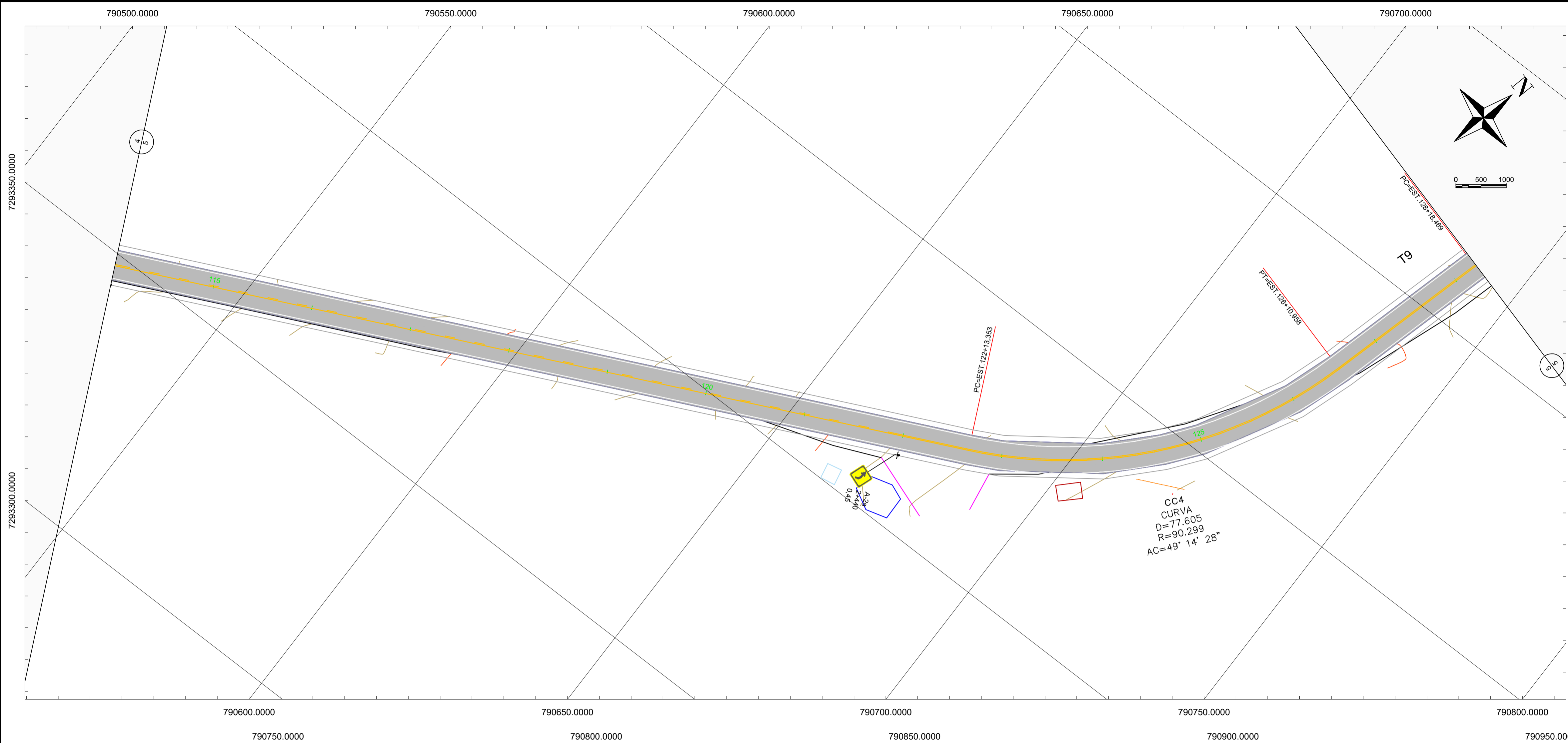
- LCO: LINHA DE CONTINUIDADE (L: 0,10m) (t:e=1:1)
- LFO-2: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, SIMPLES, SECCIONADA (L: 0,10m) (t:e=2:4)
- LFO-3: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA (L: 0,10m)
- LFO-4: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA/SECCIONADA (L: 0,10m) (t:e=2:4)
- LBO: LINHA DE BORDO, SIMPLES, CONTÍNUA (L: 0,10m)
- PLACAS NOVAS - IMPLANTAR
- IMP : Placa a implantar



- LEGENDA:
- LCO: LINHA DE CONTINUIDADE (L: 0,10m) (t:e=1:1)
 - LFO-2: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, SIMPLES, SECCIONADA (L: 0,10m) (t:e=2:4)
 - LFO-3: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA (L: 0,10m)
 - LFO-4: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA/SECCIONADA (L: 0,10m) (t:e=2:4)
 - LBO: LINHA DE BORDO, SIMPLES, CONTÍNUA (L: 0,10m)
 - PLACAS NOVAS - IMPLANTAR
 - IMP : Placa a implantar

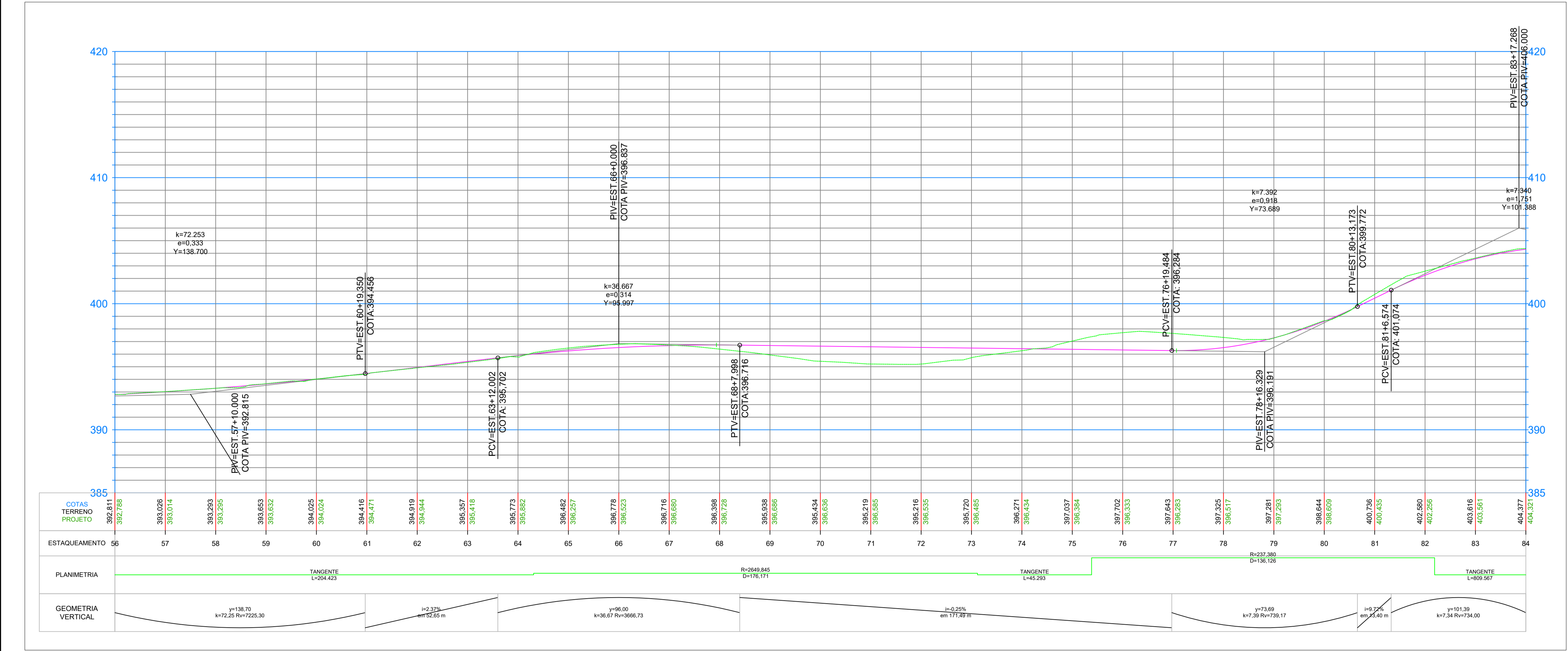
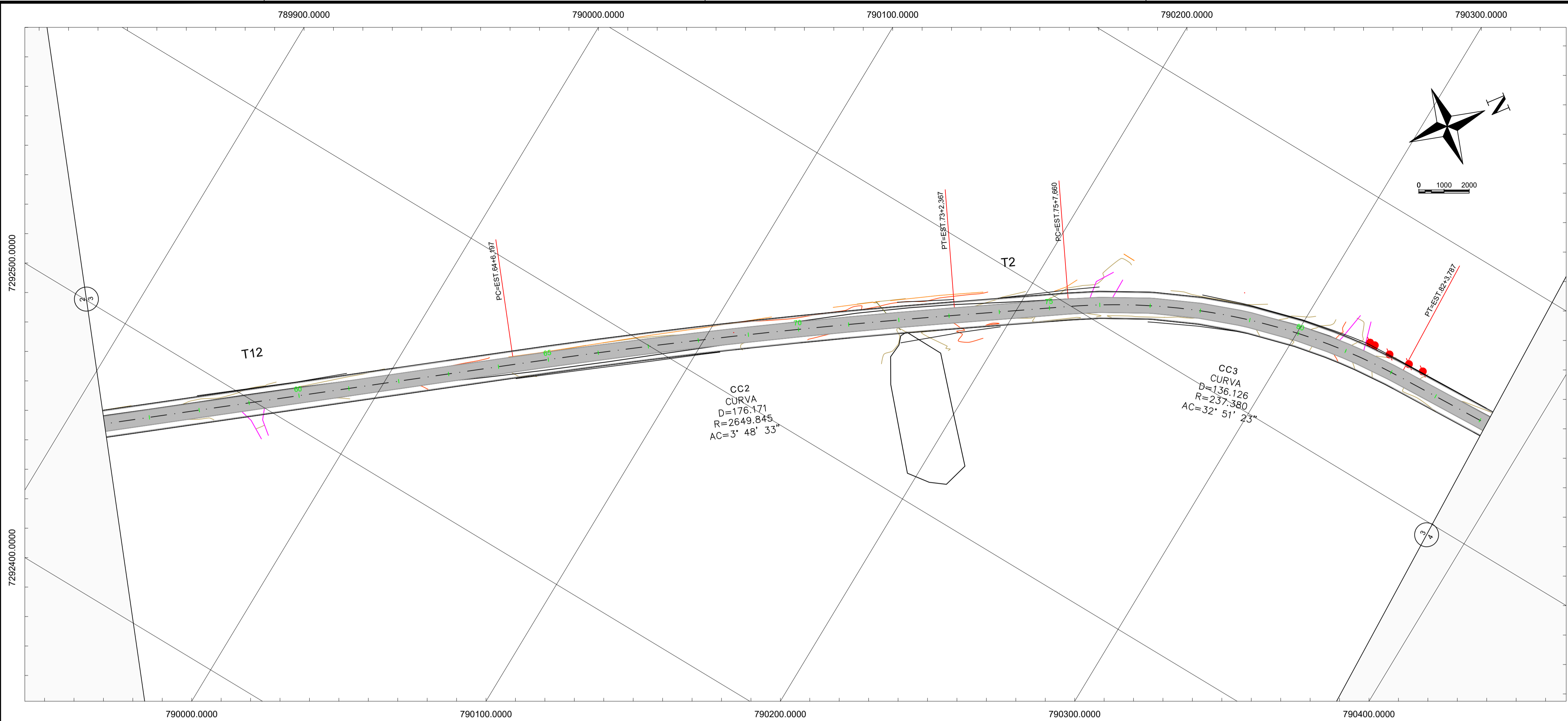
	PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUJOVIAS ENGENHARIA LTDA POLIANA TONETO CITTADELLA Eng. Civil - CREA 162.706/D
	OBRA:	IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA	
	TRECHO:	ESTRADA MUNICIPAL SANGA ITUPORANGA	
	PROJETO:	PROJETO DE SINALIZAÇÃO	
RESPONSABILIDADE TÉCNICA PROJETO:	PROPRIETÁRIO:	EMISSÃO INICIAL: AGOSTO/2025	PRANCHAS: ÁREA: ESCALA: 1:1000
POLIANA TONETO CITTADELLA Eng. Civil - CREA PR 162.706/D		PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 06.719.373/0001-23	

02



- LEGENDA:
- LCO: LINHA DE CONTINUIDADE (L: 0,10m) (t:e=1:1)
 - LFO-2: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, SIMPLES, SECCIONADA (L: 0,10m) (t:e=2:4)
 - LFO-3: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA (L: 0,10m)
 - LFO-4: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA/SECCIONADA (L: 0,10m) (t:e=2:4)
 - LBO: LINHA DE BORDO, SIMPLES, CONTÍNUA (L: 0,10m)
 - PLACAS NOVAS - IMPLANTAR
 - IMP : Placa a implantar

 PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA POLIANA TONETO CITTADELLA Eng. Civil - CREA 162.706/D	
OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA		Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.650-000	
TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA		e-mail: engenharia@duovias.com.br	
PROJETO: PROJETO DE SINALIZAÇÃO		PRANCHAS	
RESPONSABILIDADE TÉCNICA PROJETO:	PROPRIETÁRIO:	EMISSÃO INICIAL: AGOSTO/2025	ÁREA:
POLIANA TONETO CITTADELLA Eng. Civil - CREA PR 162.706/D	PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 06.719.373/0001-23	ESCALA: 1:1000	05



LEGENDA:

- CURVAS DE NIVEIS MESTRAS
- CURVAS DE NIVEIS AUXILIARES
- MURO EXISTENTE
- CERCA EXISTENTE
- TUBULAÇÃO EXISTENTE
- ACESSOS EXISTENTES
- BORDO DA PISTA PROJETADO
- BORDO DA PISTA PROJETADO
- LINHA DE TRANSMISSÃO DE ENERGIA
- ÁREA A PAVIMENTAR
- POLÍEDRO EXISTENTE
- POSTE DE ENERGIA
- ÁRVORES EXISTENTES

OBRA: **IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA**

TRECHO: **ESTRADA MUNICIPAL SANGA ITUPORANGA**

PROJETO: **PROJETO GEOMÉTRICO**

RESPONSABILIDADE TÉCNICA PROJETO: **POLIANA TONETO CITADELLA**
Eng. Civil - CREA PR 162.706/D

PROPRIETÁRIO: **PREFEITURA MUNICIPAL DE MERCEDES**
CNPJ: 06.719.373/0001-23

Coordenação Geral de Projetos: **DUOVIAS ENGENHARIA LTDA**
POLIANA TONETO CITADELLA
Eng. Civil - CREA 162.706/D

Rua 28 de Novembro, 210, sala 01
Dois Vizinhos, Paraná -
85.560-000

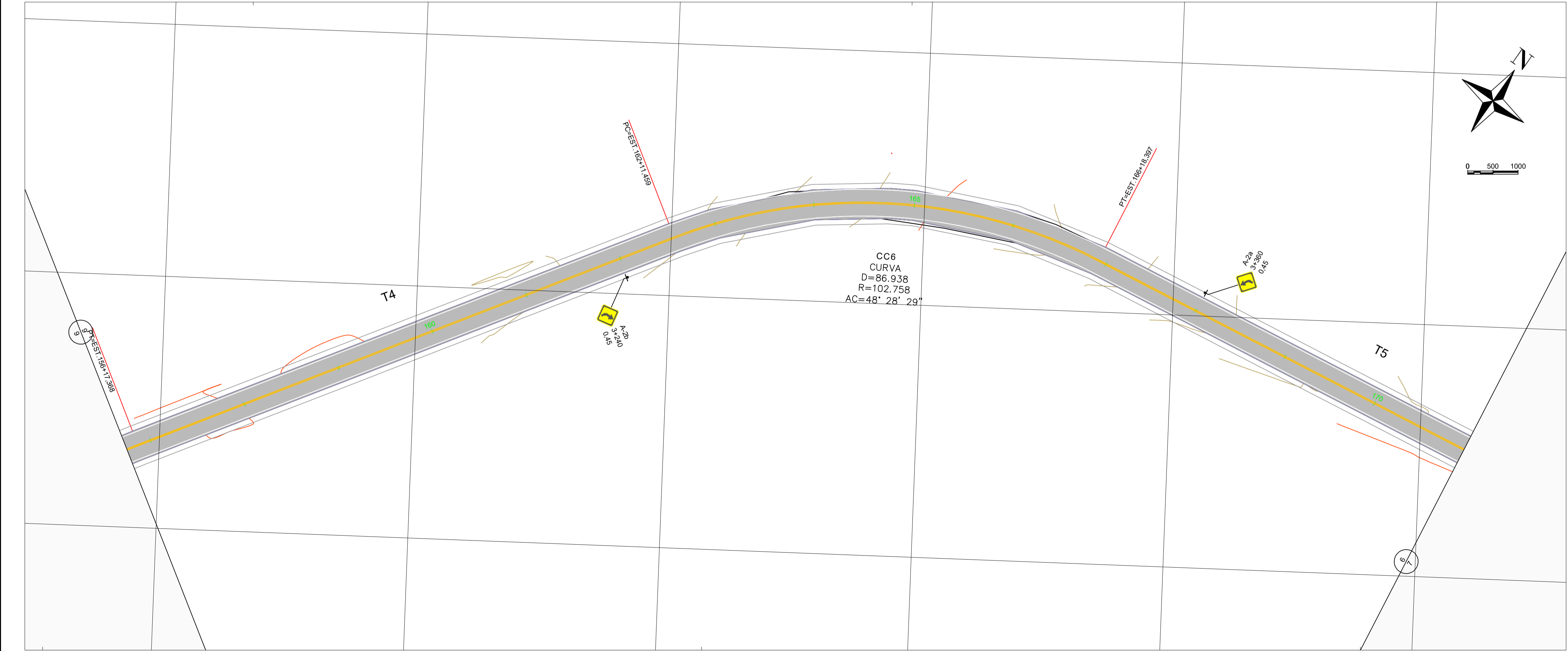
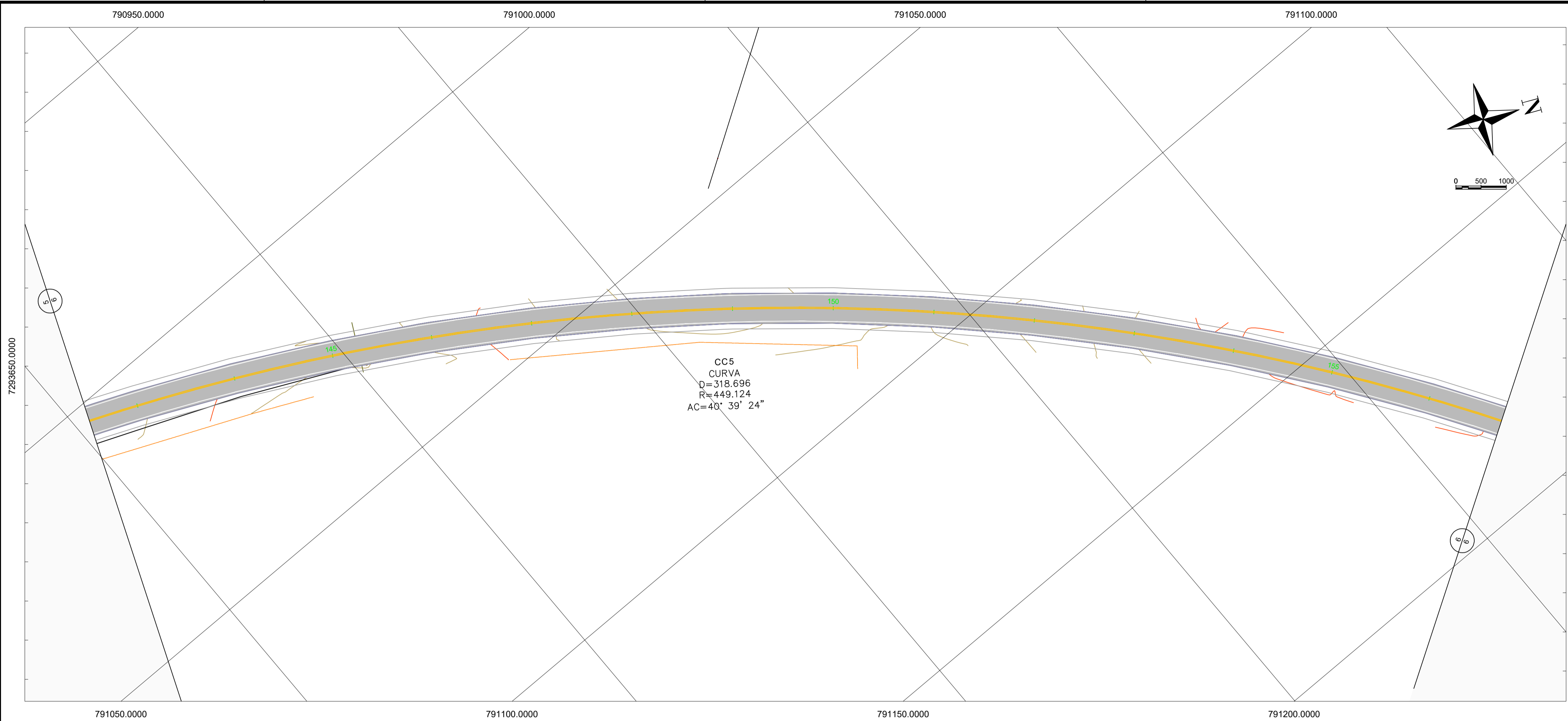
e-mail: engenharia@duovias.com.br

PRANCHA: **03**

EMISSÃO INICIAL: **AGOSTO 2025**

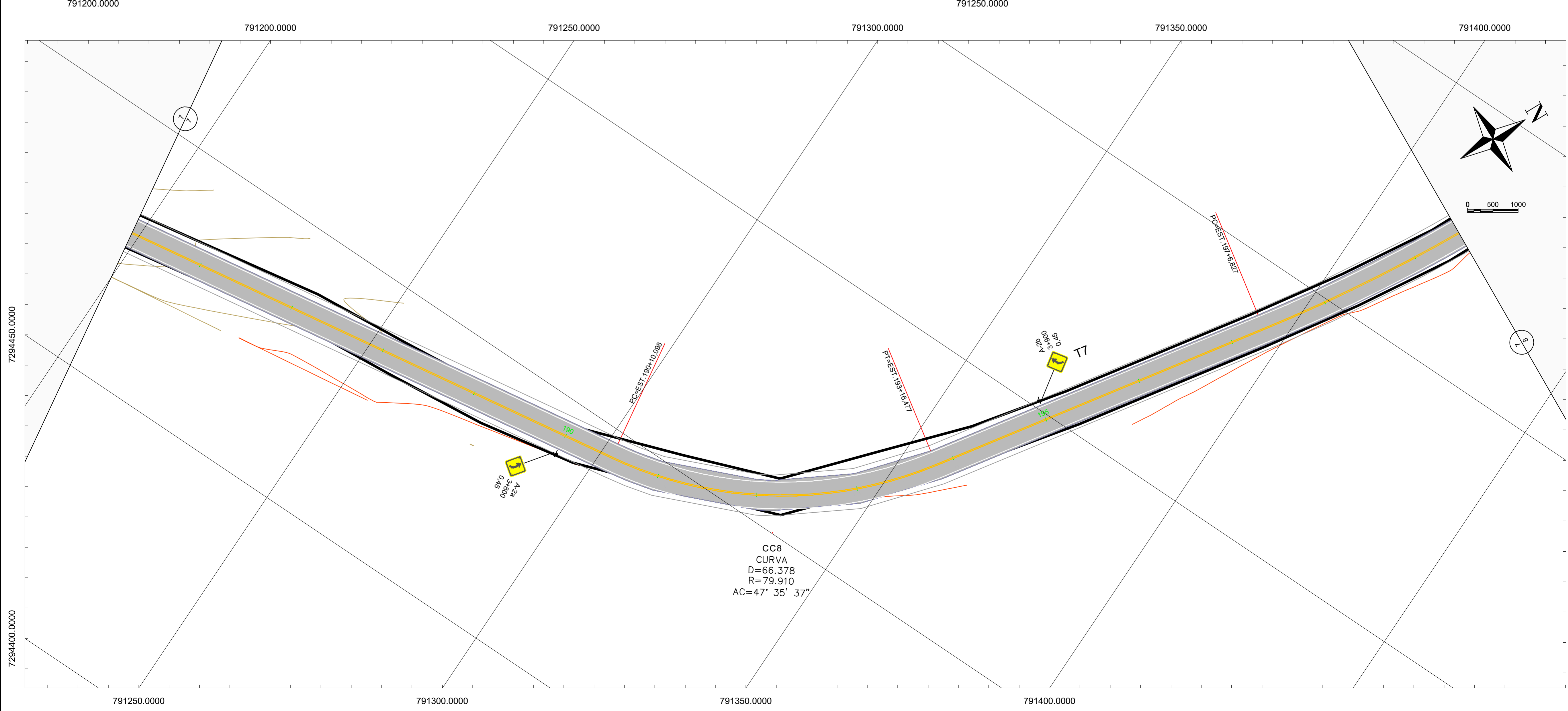
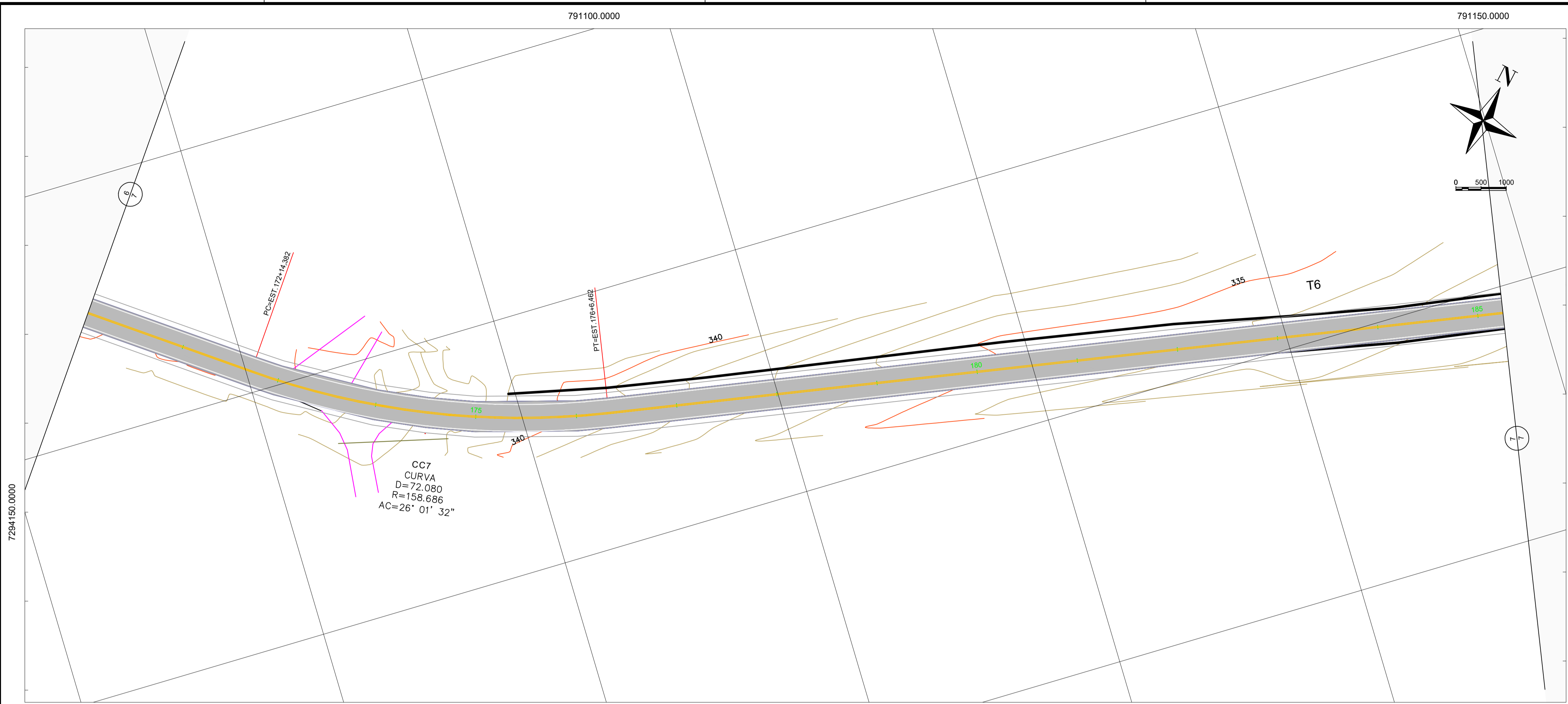
ÁREA:

ESCALA: **1:1000**



- LEGENDA:
- LCO: LINHA DE CONTINUIDADE (L: 0,10m) (t:e=1:1)
 - LFO-2: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, SIMPLES, SECCIONADA (L: 0,10m) (t:e=2:4)
 - LFO-3: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA (L: 0,10m)
 - LFO-4: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA/SECCIONADA (L: 0,10m) (t:e=2:4)
 - LBO: LINHA DE BORDO, SIMPLES, CONTÍNUA (L: 0,10m)
 - PLACAS NOVAS - IMPLANTAR
IMP : Placa a implantar

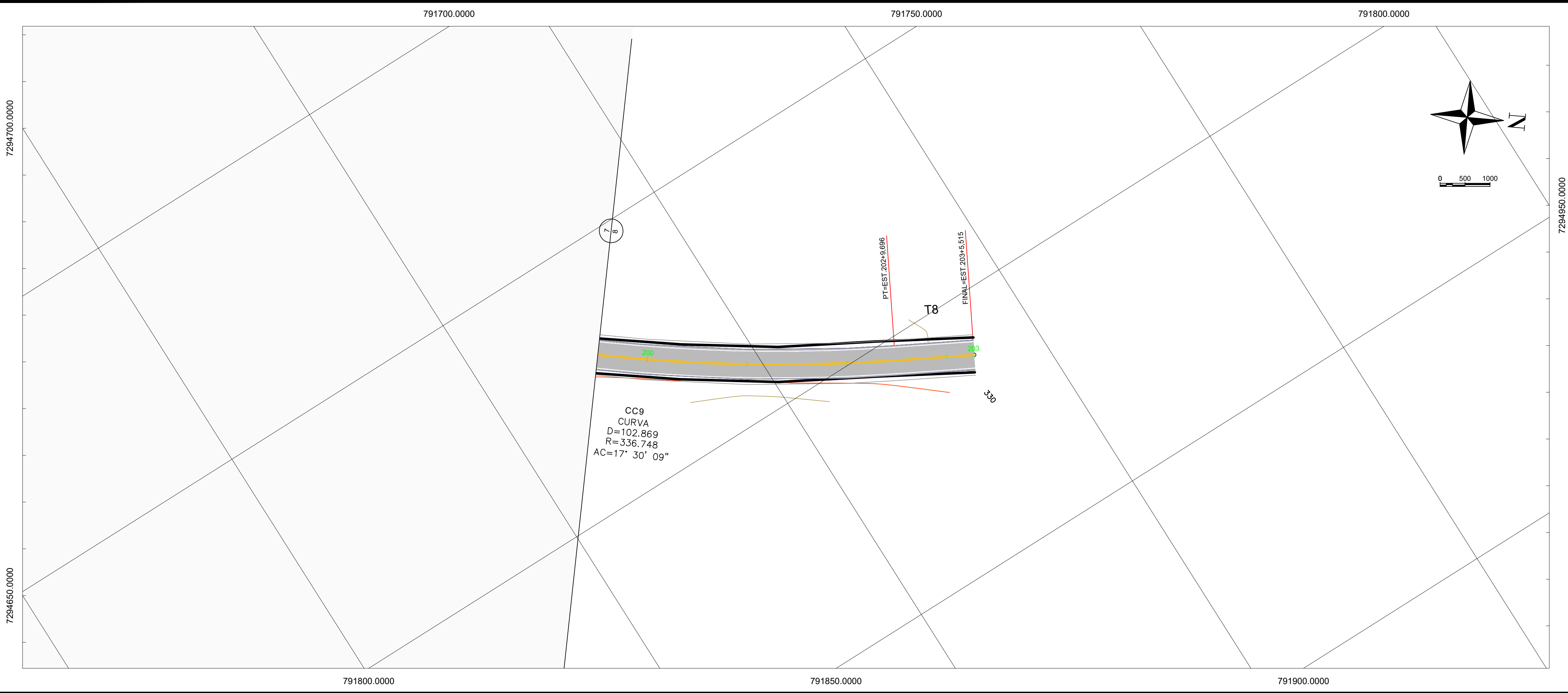
	PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA POLIANA TONETO CITTADELLA Eng. Civil - CREA 162.706/D	
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA		Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.600-000	
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA		e-mail: engenharia@duovias.com.br	
	PROJETO: PROJETO DE SINALIZAÇÃO		PRANCHA: AGOSTO/2025 ÁREA: ESCALA: 1:1000	
RESPONSABILIDADE TÉCNICA PROJETO: POLIANA TONETO CITTADELLA Eng. Civil - CREA PR 162.706/D		PROPRIETÁRIO: PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 06.719.373/0001-23		06



- LEGENDA:
- LCO: LINHA DE CONTINUIDADE (L: 0,10m) (t:e=1:1)
 - LFO-2: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, SIMPLES, SECCIONADA (L: 0,10m) (t:e=2:4)
 - LFO-3: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA (L: 0,10m)
 - LFO-4: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA/SECCIONADA (L: 0,10m) (t:e=2:4)
 - LBO: LINHA DE BORDO, SIMPLES, CONTÍNUA (L: 0,10m)
 - PLACAS NOVAS - IMPLANTAR
IMP : Placa a implantar

	PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUJOVIAS ENGENHARIA LTDA POLIANA TONETO CITTADELLA Eng. Civil - CREA 162.706/D	
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA		Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.600-000	
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA		e-mail: engenharia@duovias.com.br	
	PROJETO: PROJETO DE SINALIZAÇÃO		PRANCHAS	
RESPONSABILIDADE TÉCNICA PROJETO:		PROPRIETÁRIO:		EMISSÃO INICIAL: AGOSTO/2025
POLIANA TONETO CITTADELLA Eng. Civil - CREA PR 162.706/D		PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 06.719.373/0001-23		ÁREA:
				ESCALA: 1:1000

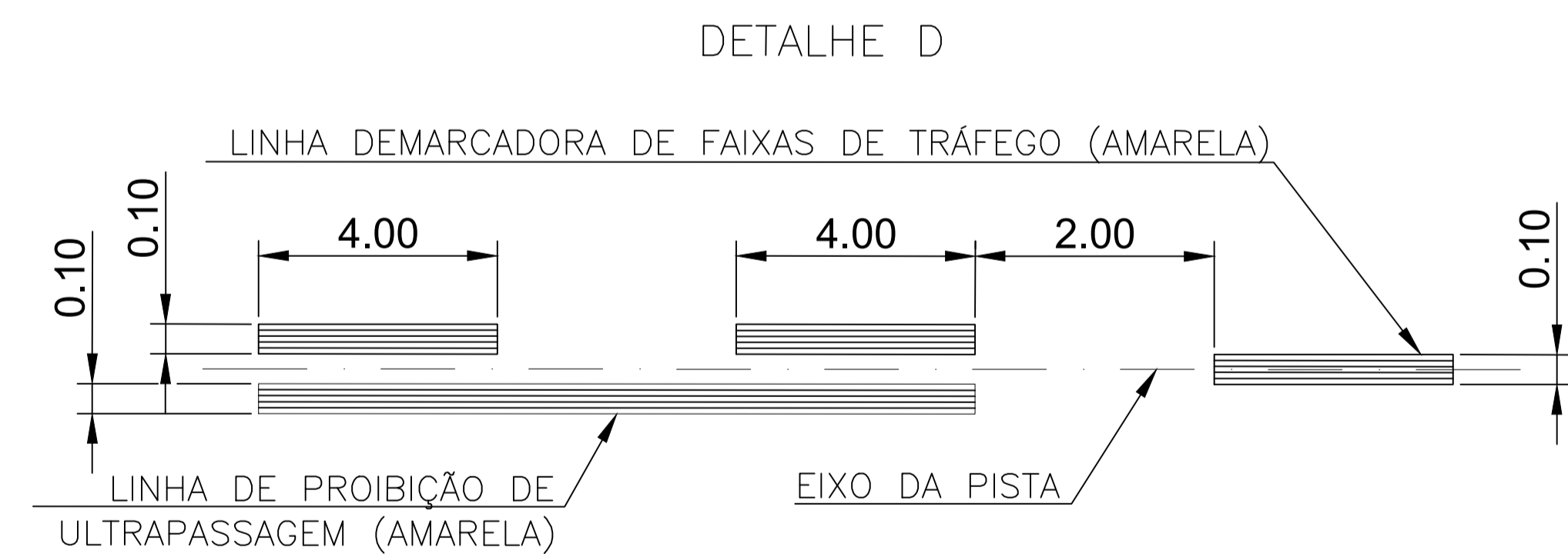
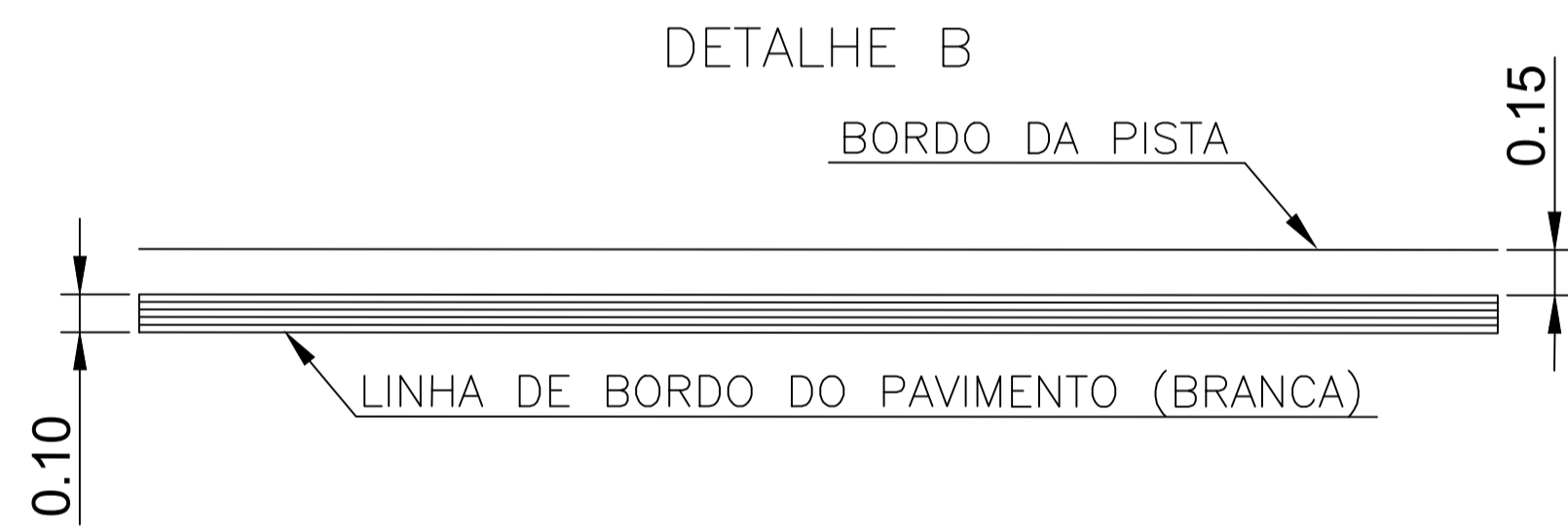
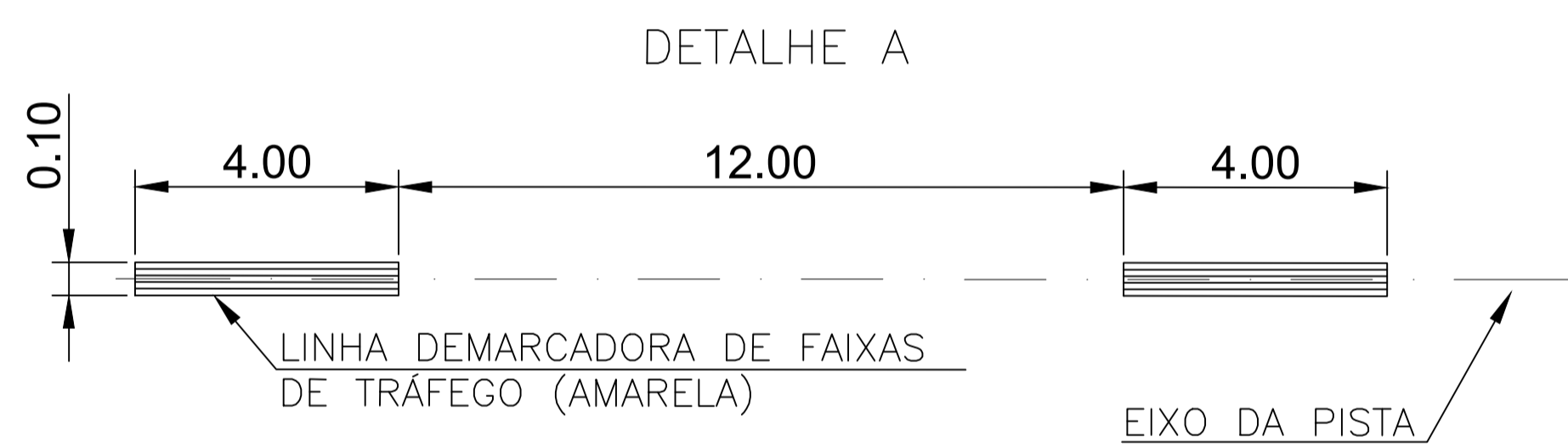
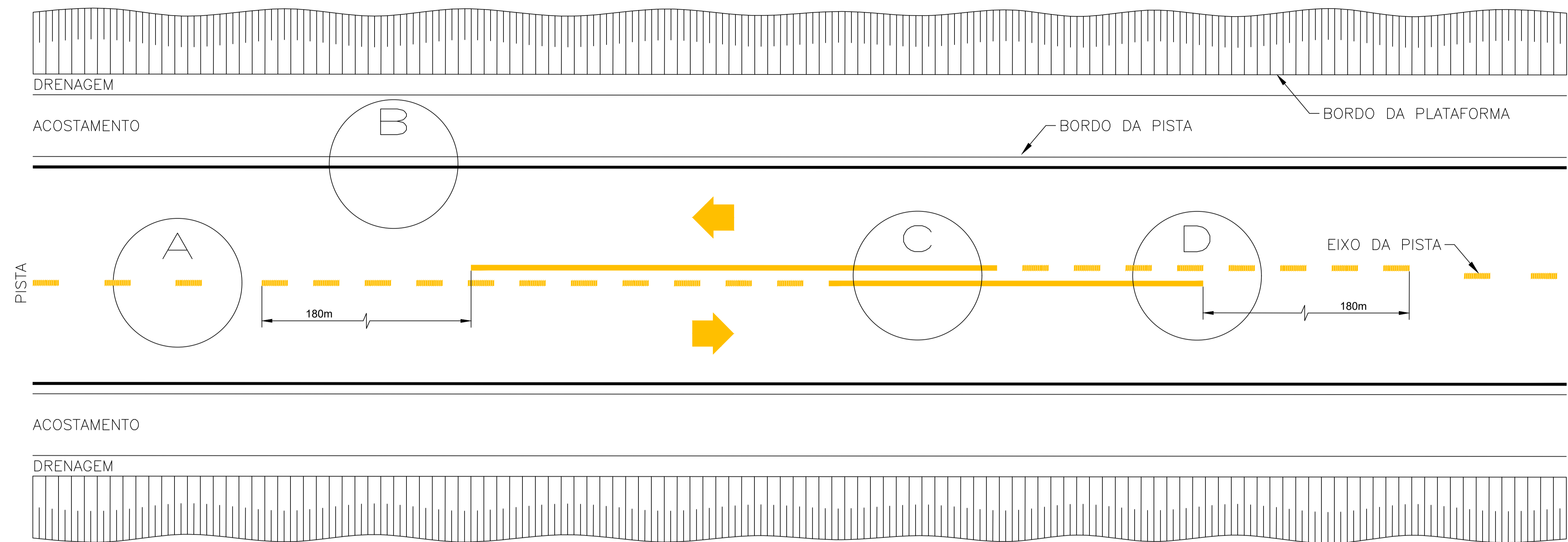
07



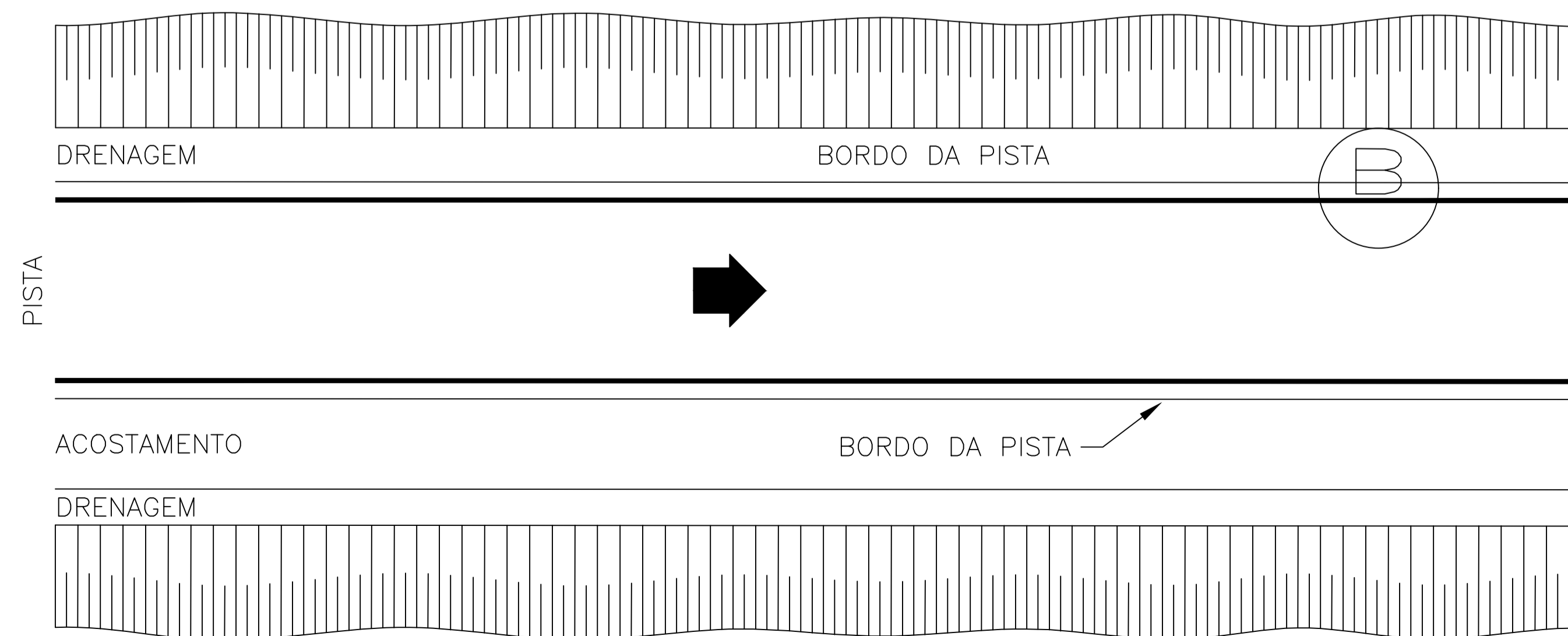
- LEGENDA:
- LCO: LINHA DE CONTINUIDADE (L: 0,10m) (t:e=1:1)
 - LFO-2: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, SIMPLES, SECCIONADA (L: 0,10m) (t:e=2:4)
 - LFO-3: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA (L: 0,10m)
 - LFO-4: LINHA DE DIVISÃO DE FLUXOS OPOSTOS, DUPLA, CONTÍNUA/SECCIONADA (L: 0,10m) (t:e=2:4)
 - LBO: LINHA DE BORDO, SIMPLES, CONTÍNUA (L: 0,10m)
 - PLACAS NOVAS - IMPLANTAR
IMP : Placa a implantar

	PREFEITURA MUNICIPAL DE MERCEDES		Coordenação Geral de Projetos: DUOVIAS ENGENHARIA LTDA POLIANA TONIETO CITTADELLA Eng. Civil - CREA 162.706/D	
	OBRA: IMPLANTAÇÃO DE PAVIMENTAÇÃO ASFÁLTICA		Rua 28 de Novembro, 210, sala 01 Dois Vizinhos, Paraná - 85.660-000	
	TRECHO: ESTRADA MUNICIPAL SANGA ITUPORANGA		e-mail: engenharia@duovias.com.br	
	PROJETO: PROJETO DE SINALIZAÇÃO		PRANCHA: 08	
RESPONSABILIDADE TÉCNICA PROJETO: POLIANA TONIETO CITTADELLA Eng. Civil - CREA PR 162.706/D		PROPRIETÁRIO: PREFEITURA MUNICIPAL DE MERCEDES CNPJ: 95.719.373/0001-23		EMIÇÃO INICIAL: AGOSTO/2025 ÁREA: - ESCALA: 1:1000

PISTA SIMPLES – DOIS SENTIDOS DE TRÁFEGO



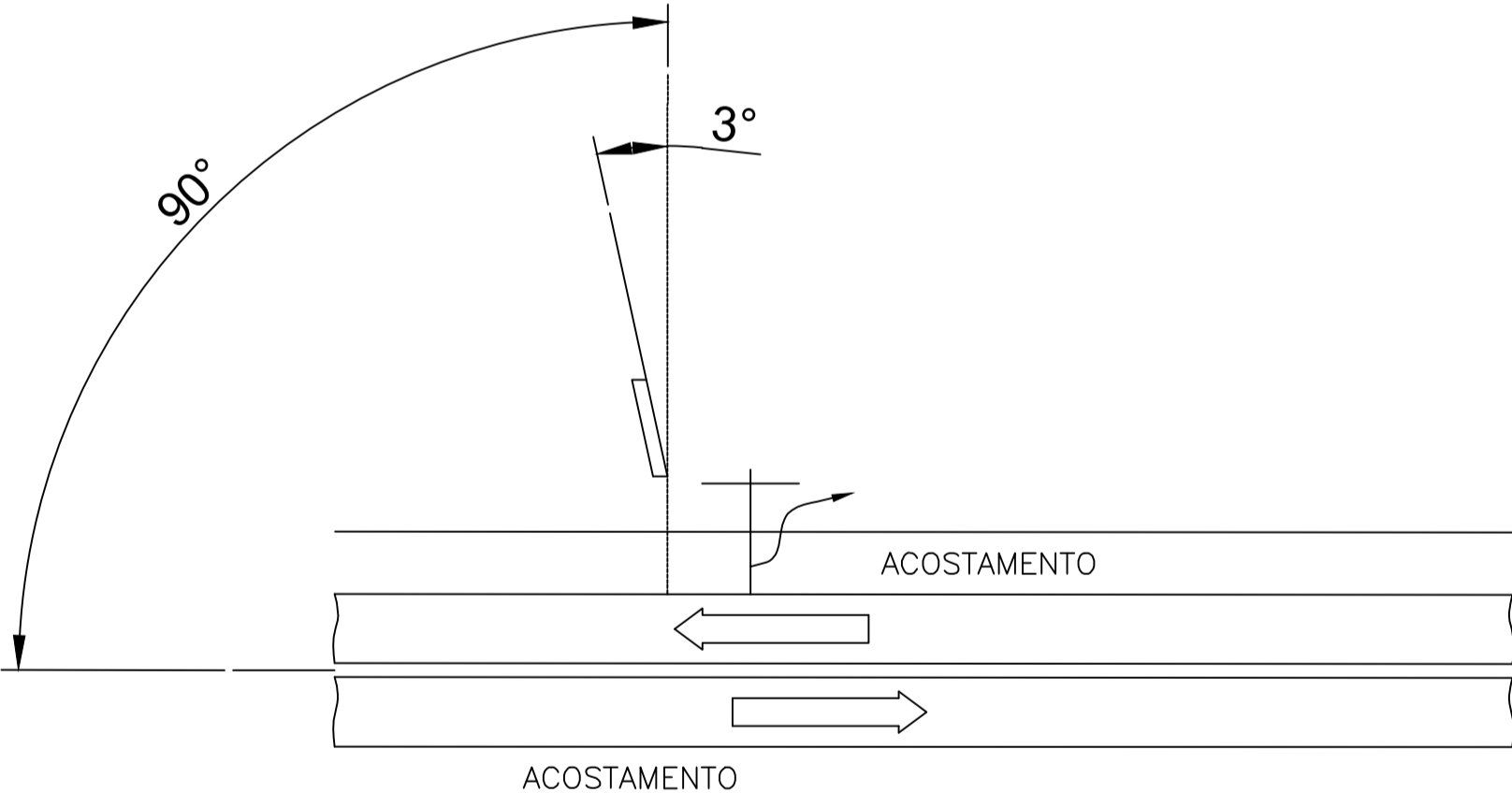
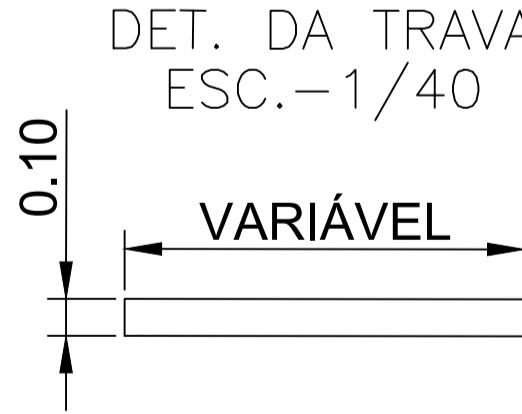
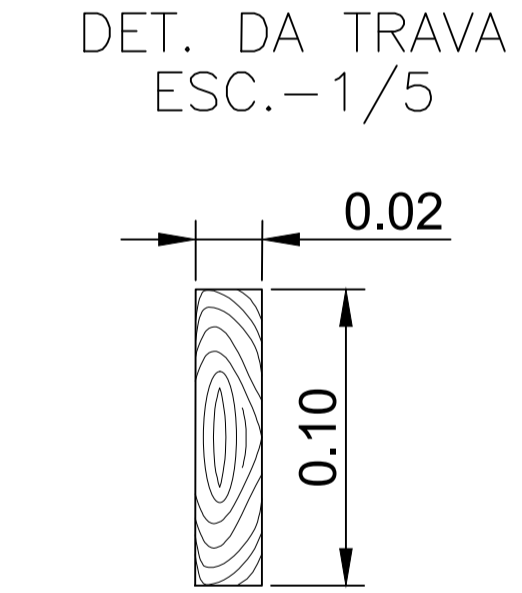
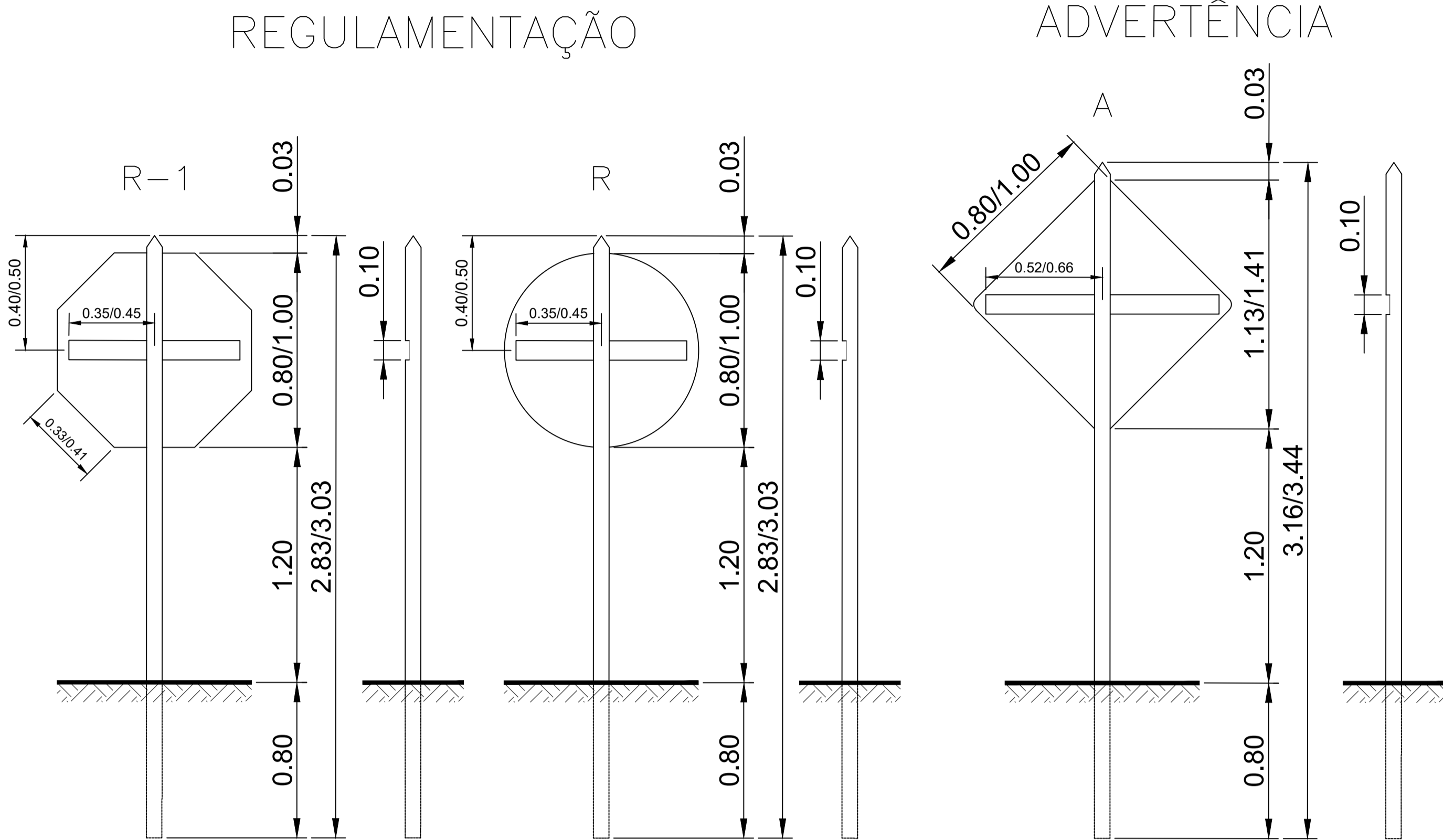
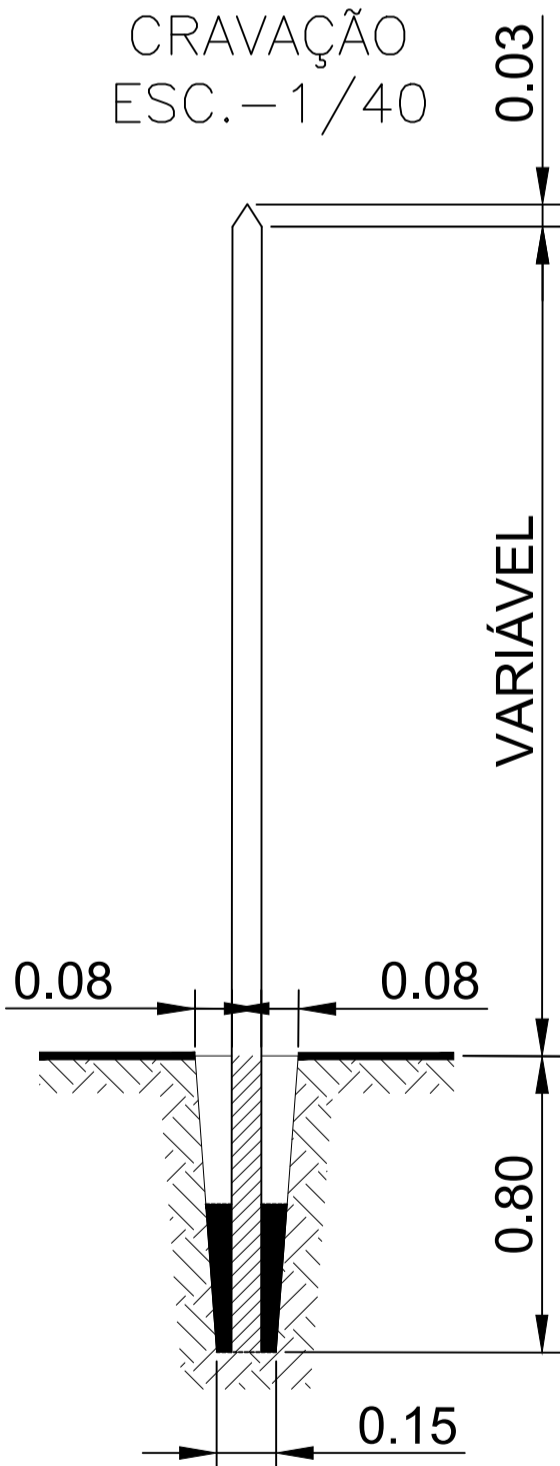
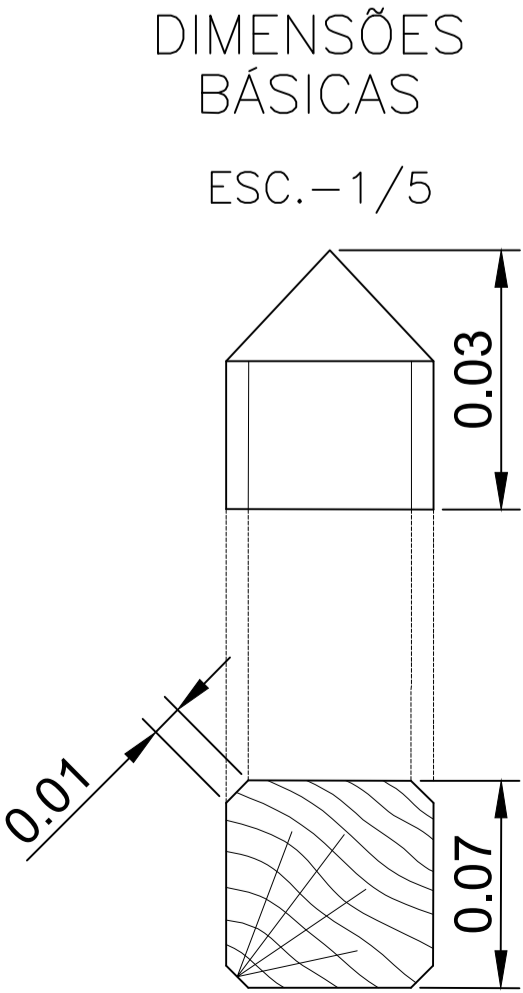
RAMO DE INTERSEÇÃO – UM SENTIDO DE TRÁFEGO



PARADA OBRIGATÓRIA	PROIBIDO ULTRAPASSAR	VELOCIDADE MÁXIMA PERMITIDA	VELOCIDADE MÁXIMA PERMITIDA
CÓDIGO R-1	CÓDIGO R-7	CÓDIGO R-19	CÓDIGO R-19
LADO = 400 mm ORLA INTERNA = 32 mm ORLA EXTERNA = 16 mm	DIÂMETRO MÍNIMO = 750 mm TARJA MÍNIMA = 75 mm ORLA MÍNIMA = 75 mm	DIÂMETRO MÍNIMO = 750 mm ORLA MÍNIMA = 75 mm	DIÂMETRO MÍNIMO = 750 mm ORLA MÍNIMA = 75 mm
FUNDO: VERMELHO ORLA INTERNA: BRANCO ORLA EXTERNA: VERMELHO LETRAS: BRANCO VERSO: PRETO FOSCO	FUNDO: BRANCO SÍMBOLO: PRETO TARJA: VERMELHO ORLA: VERMELHO LETRAS: PRETO VERSO: PRETO FOSCO	FUNDO: BRANCO ORLA: VERMELHO LETRA: PRETO ALGARISMO: PRETO SÍMBOLO: PRETO VERSO: PRETO FOSCO	FUNDO: BRANCO ORLA: VERMELHO LETRA: PRETO ALGARISMO: PRETO SÍMBOLO: PRETO VERSO: PRETO FOSCO
ÁREA: 0,60 m²	ÁREA: 0,44 m²	ÁREA: 0,44 m²	ÁREA: 0,44 m²
PINTURA REFLETIVA	PINTURA REFLETIVA	PINTURA REFLETIVA	PINTURA REFLETIVA

CURVA ACENTUADA À ESQUERDA	CURVA ACENTUADA À DIREITA
CÓDIGO A-2a	CÓDIGO A-2b
LADO MÍNIMO = 600 mm ORLA INTERNA = 24 mm ORLA EXTERNA = 12 mm	LADO MÍNIMO = 600 mm ORLA INTERNA = 24 mm ORLA EXTERNA = 12 mm
FUNDO: AMARELO ORLA EXTERNA: AMARELO ORLA INTERNA: PRETO SÍMBOLO: PRETO VERSO: PRETO FOSCO SETA: SR1	FUNDO: AMARELO ORLA EXTERNA: AMARELO ORLA INTERNA: PRETO SÍMBOLO: PRETO VERSO: PRETO FOSCO SETA: SR1
ÁREA: 0,36 m²	ÁREA: 0,36 m²
PINTURA REFLETIVA	PINTURA REFLETIVA

OBS.:
DIMENSÕES EM METRO



POSIÇÃO COM RELAÇÃO A DIREÇÃO DO TRÂNSITO