Idejni projekt lokalne ceste

Vrdoljak, Jelena

SVEUČILIŠTE U SPLITU

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE

ZAVRŠNI RAD

JELENA VRDOLJAK

Split, 2021.

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SVEUČILIŠTE U SPLITU

FAKULTET GRAĐEVINARSTVA, ARHITEKTURE I GEODEZIJE

STUDIJ: **PREDDIPLOMSKI SVEUČILIŠNI STUDIJ GRAĐEVINARSTVA**

KANDIDAT: **Jelena Vrdoljak**

MATIČNI BROJ (JMBAG): **0083221494**

KATEDRA: **Katedra za prometnice**

PREDMET: **Ceste**

ZADATAK ZA ZAVRŠNI RAD

Tema: Idejni projekt lokalne ceste

Opis zadatka: Koristeći program AutoCAD Civil 3D za projektiranje cesta. Potrebno je izraditi idejni projekt ceste. Cesta se polaže na zadanoj geodetskoj podlozi između točaka A i B koja je korištena za izradu programskog zadatka iz kolegija Ceste.

Zadatak treba sadržavati:

1. Kopiju programskog zadatka
2. Tehnički opis s prikazom korištenja programa Civil 3D
3. Građevinsku situaciju u mjerilu 1:1000
4. Uzdužni presjek u mjerilu 1:1000/100
5. Karakteristične poprečne presjeke u mjerilu 1:200
6. Obrada na računalu
7. Računalne ispise koordinatnih točaka osi
8. Proračun količina zemljanih radova
9. Proračun količine radova po presjecima

U Splitu, rujan 2021.

Voditelj završnog rada:

Prof. dr. sc. Dražen Cvitanić

Idejni projekt lokalne ceste

Sažetak:
Idejni projekt lokalne ceste je izrađen na geodetskoj podlozi, prema zadatku iz kolegija Ceste, koristeći se programom AutoCAD Civil 3D. Cesta je projektirana za godišnji dnevni promet (PGDP) od 950 vozila na dan, na brdovitom terenu. Predviđena projektna brzina ceste je 40 km/h. Idejno rješenje izrađeno je prema Pravilniku i osnovnim uvjetima za projektiranje ceste s elementima koji zadovoljavaju važeće propise, kao i sigurnosne i estetske kriterije.

Ključne riječi:

Idejni projekt, lokalna cesta, projektna brzina, os ceste, niveleta, poprečni presjek

Conceptual project of local road

Abstract:
A conceptual project of local road on a geodetic ground according to the task from course „Roads“ is made using software AutoCAD Civil 3D. The road is designed for the annual average daily traffic (AADT) of 950 vehicles per day on the hilly terrain. The predicted project speed of the road is 40 miles per hour. Preliminary design of local road was created according to the Regulations on the basic conditions for the design of public roads with the elements that meet the applicable rules as well as safety and aesthetic criteria.

Keywords:

Conceptual project, local road, design speed, the road axis, profile, cross-section

SADRŽAJ

1. PROGRAMSKI ZADATAK

SVEUČILIŠTE U SPLITU
FAKULTET GRAĐEVINARSTVA, ARHITEKTURE
I GEODEZIJE

Split, ak.god. 2020/2021.

Katedra za prometnice

Studij: Preddiplomski

Nastavni predmet: CESTE

Student/ica: Jelena Vrdoljak

ZADATAK

Treba izraditi idejni projekt dionice ceste između točaka A i B naznačenih na priloženoj geodetskoj podlozi u mjerilu 1:1000.

Zadano je:

- PGDP - prosječni godišnji dnevni promet: **950 voz/dan**
- vrsta terena: **brdoviti.**

Idejni projekt treba sadržavati:

1. Tehnički opis
2. Proračun horizontalne geometrije
3. Proračun proširenja kolnika u krivini
4. Proračun vertikalne geometrije i kota nivelete
5. Proračun vitoperenja kolnika
6. Građevinska situacija MJ. 1:1000
7. Uzdužni presjek MJ. 1:1000/100
8. Normalni poprečni presjek MJ. 1:50
9. Karakteristični poprečni presjeci MJ. 1:100
10. Predmjer radova
11. Aproksimativni troškovnik

Predmetna nastavnica:

izv.prof.dr.sc. Deana Breški, dipl.ing.građ.

2. TEHNIČKI OPIS

2.1. Općenito

Na priloženoj geodetskoj podlozi u mjerilu 1:1000 izrađen je idejni projekt ceste na dionici od točke A koja se nalazi na 240 metara nadmorske visine, do točke B koja se nalazi na 252 metara nadmorske visine.

Cesta je projektirana na brdovitom terenu za prosječni godišnji dnevni promet od 950 vozila na dan.
Predviđena projektna brzina za ovu (V.kategorija) kategoriju ceste je v_p= 40 km/h.

2.2. Horizontalni elementi

Za odabranu projektnu brzinu v_p= 40 km/h prema pravilniku minimalni radijus horizontalne krivine iznosi 45 m,a minimalna prijelaznica 30 m.
Trasa se sastoji od tri pravca i dvije krivine.
Prva krivina ima radijus R=45 m, duljinu prijelaznice L=30 m, a druga krivina ima radijus R=75 m, duljinu prijelaznice L=40 m.

2.3. Vertikalni elementi

Maksimalni dozvoljeni nagib nivelete je 12%.Nagib prvog pravca je S_1=4,35%, a drugog S_2=3,02%.Tangenta je dužine 6,66 m, a radijus vertikalne krivine je 500 m.

2.4. Poprečni presjek

Cesta ove kategorije ima dva kolnička traka širine svakog po 2,95 m i rubni trak širine 0.2 m. U nasipu bankine širine 1,0 m nagiba 4% i berma 6% širine 1,0 m u usjeku. Na usjecima se izvode rigoli za odvodnju vode 0,65 m i drenaža koja je postavljena u glinenu posteljicu.
Cesta se u većem dijelu nalazi u zasjeku.
Nagibi usjeka su 2:1, dok su nagibi nasipa 1:1.5.

2.5. Kolnička konstrukcija

Projektom je predviđena slijedeća kolnička konstrukcija:

-AC surf 11(BIT 50/70) AG4 M4 u debljini od 4cm
-AC base 22(BIT 50/70) AG6 M2 u debljini od 6cm
-Mehanički zbijeni nosivi sloj debljine 30 cm

2.6. Odvodnja

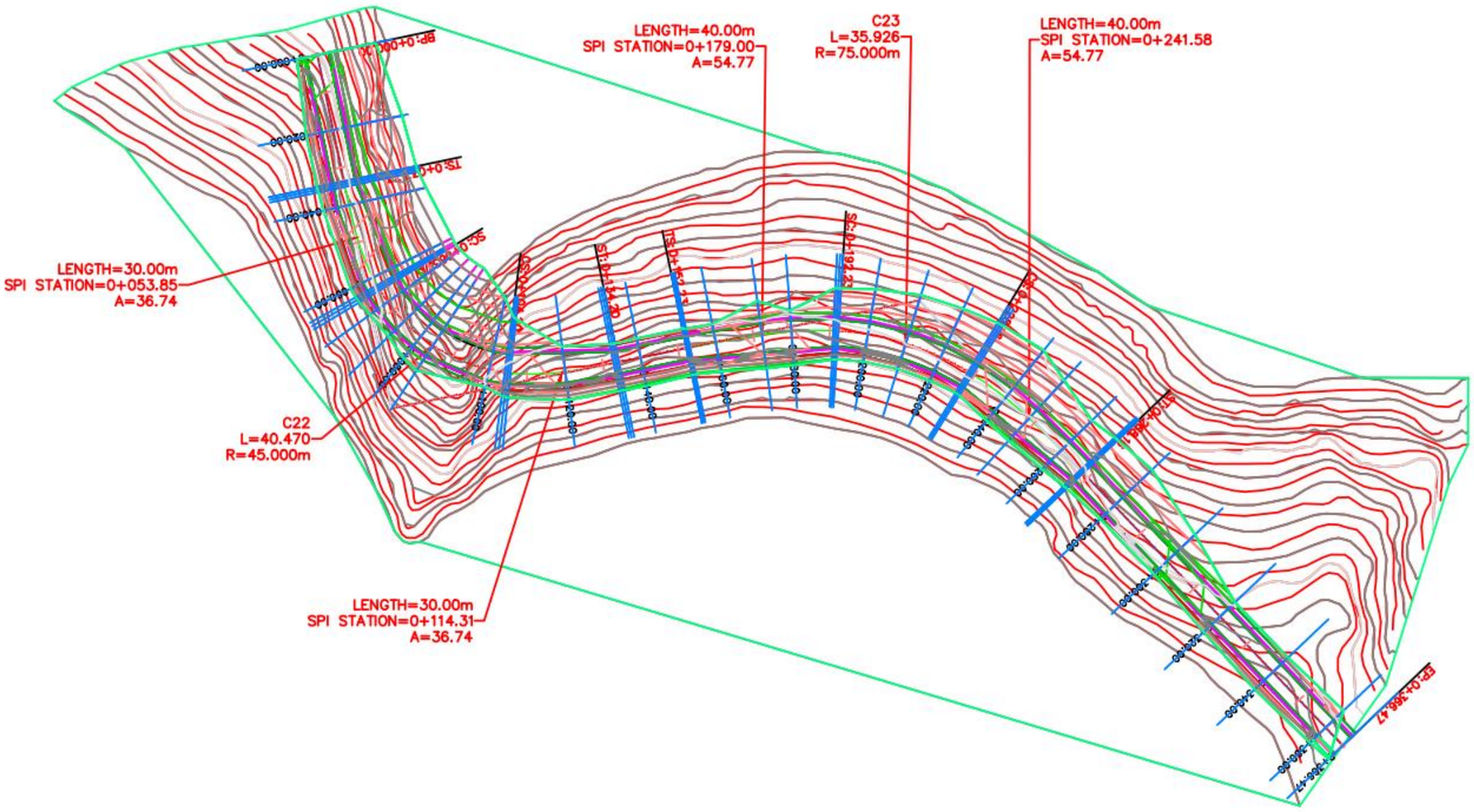
Odvodnja kolnika predviđa se otvorenim sustavom odvodnje prihvaćanjem kolničkih i pribrežnih voda u zasjeku i usjeku u betonske rigole, te kontroliranim ispuštanjem u teren direktno ili betonskim cijevnim propustima kroz trup kolnika

2.7. Oprema ceste

Idejnim rješenjem je predviđena horizontalna signalizacija koja se sastoji od jedne pune razdjelne crte širine 10 cm koja se postavlja u osi prometnice i punih rubnih crta širine 10 cm koje se postavljaju na svaki od rubnih trakova. Na nasip se postavlja jednostrana zaštitna čelična ograda.

3. GRAFIČKI PRILOZI

3.1. Građevinska situacija M 1:1000



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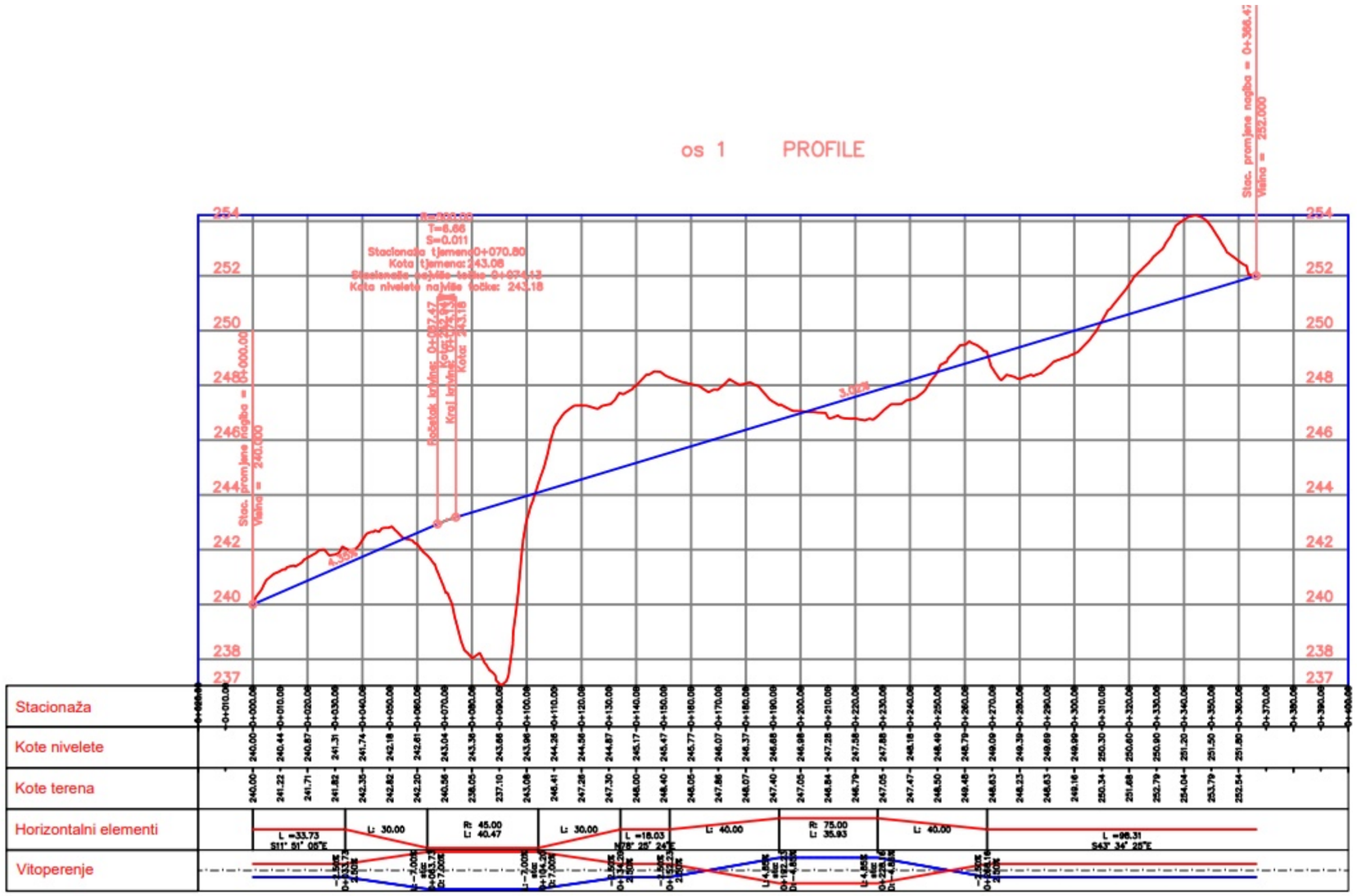
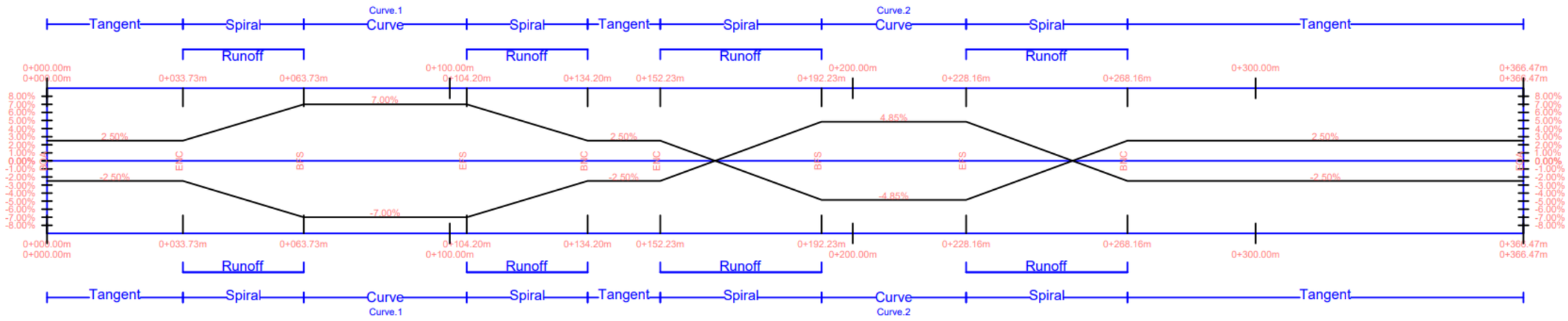
	IDEJNI PROJEKT LOKALNE CESTE	
	STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
	SADRŽAJ LISTA: GRAĐEVINSKA SITUACIJA	M 1:1000
	DATUM: rujan 2021.	PRILOG 1

3.2. Uzdužni presjek M 1:1000/100

os 1 PROFILE



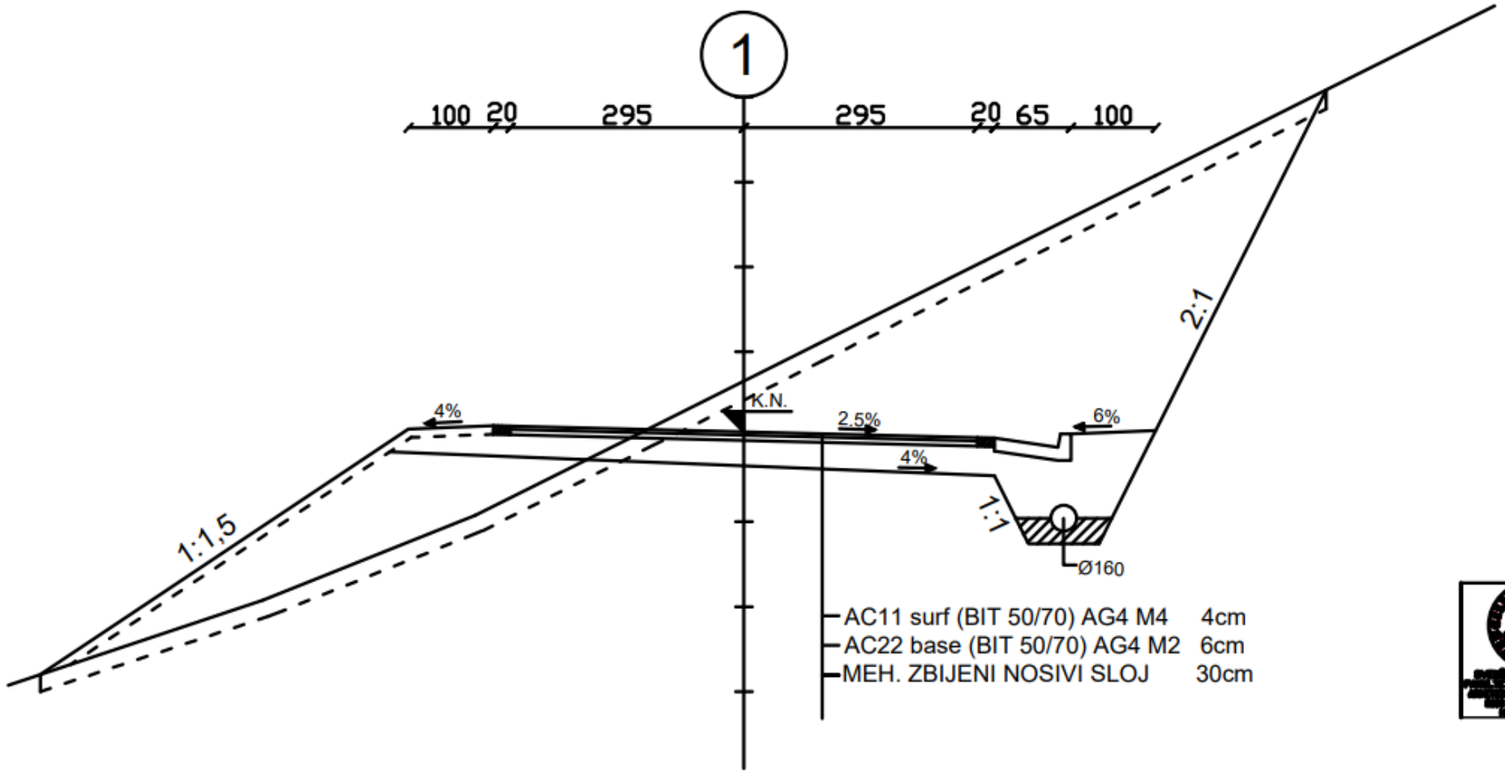
ZAVRŠNI RAD - CESTE	
IDEJNI PROJEKT LOKALNE CESTE	
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
SADRŽAJ LISTA: UZDUŽNI PRESJEK	M 1:1000/100
DATUM: rujan 2021.	PRILOG 2



SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE 2100 SPLIT, MATICE HRVATSKE 15	ZAVRŠNI RAD - CESTE	
	IDEJNI PROJEKT LOKALNE CESTE	
	STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
	SADRŽAJ LISTA: DIJAGRAM VITOPERENJA	M 1:1000
	DATUM: rujan 2021.	PRILOG 3

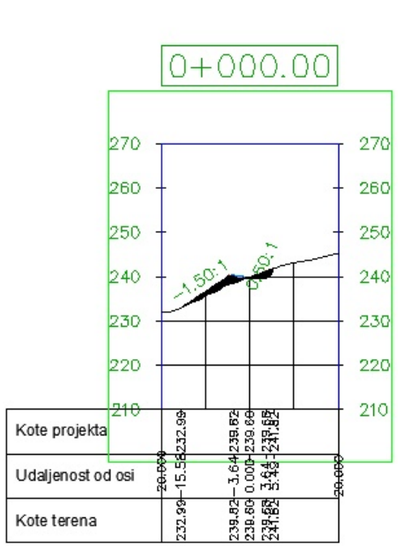
3.3. Normalni poprečni presjek M 1:50

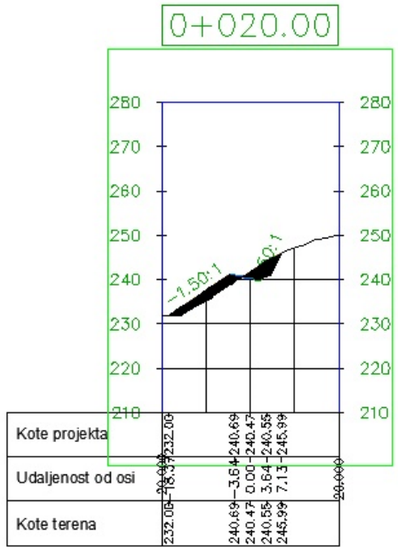
NORMALNI POPREČNI PRESJEK M1:50

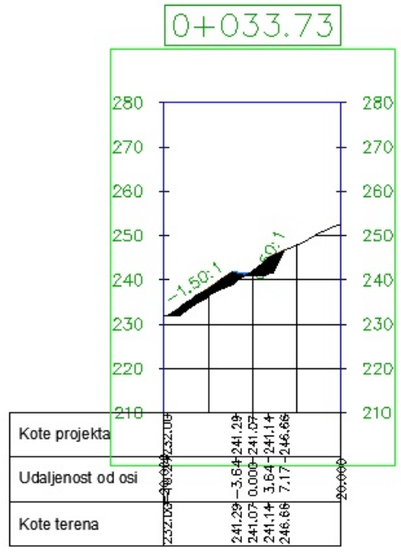


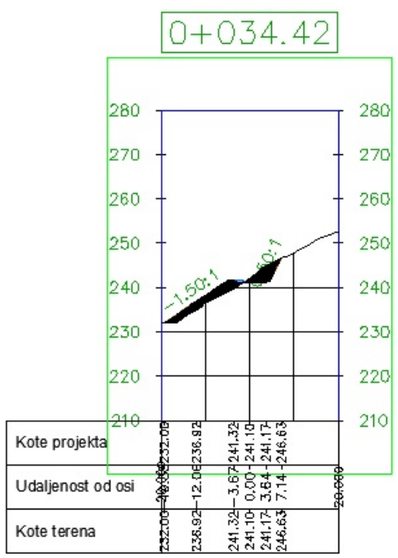
ZAVRŠNI RAD - CESTE		
IDEJNI PROJEKT LOKALNE CESTE		
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić	
SADRŽAJ LISTA: NORMALNI POP.PRESJEK		M 1:50
DATUM: rujan 2021.		PRILOG 4

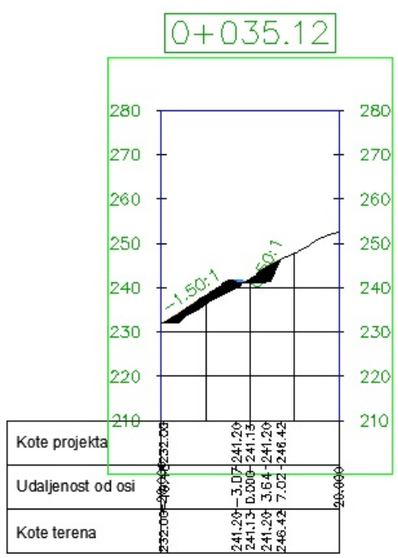
3.4. Karakteristični poprečni presjeci M 1:200

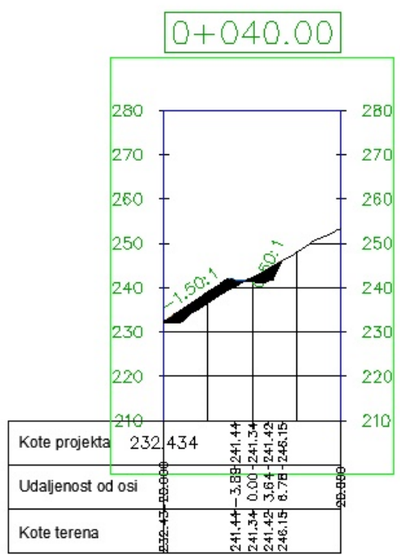












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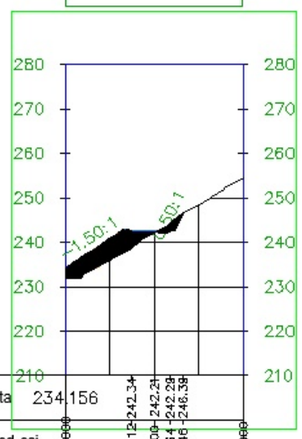
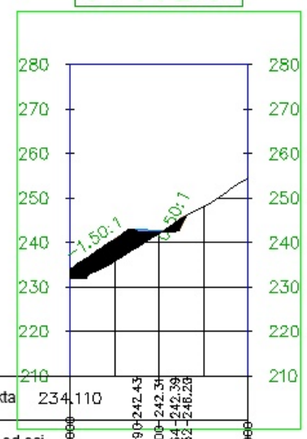
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI	M 1:200
DATUM: rujan 2021.	PRILOG 5

0+060.00



Kote projekta	234.156					
Udaljenost od osi		20.000	-5.12	0.000	3.64	6.46	20.000
Kote terena		234.16	242.34	242.21	242.29	246.39	

0+062.31



Kote projekta	234.110					
Udaljenost od osi		20.000	-4.90	0.000	3.64	6.32	20.000
Kote terena		234.11	242.43	242.31	242.39	246.29	

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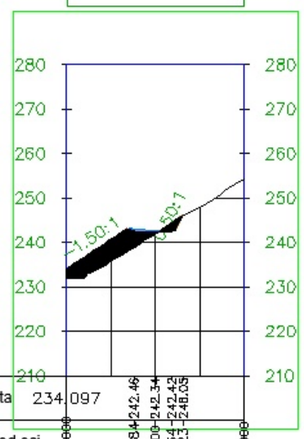

Kote projekta	234.097					
Udaljenost od osi		20.000	-4.84	0.000	3.64	6.23	20.000
Kote terena		234.10	242.46	242.34	242.42	246.05	

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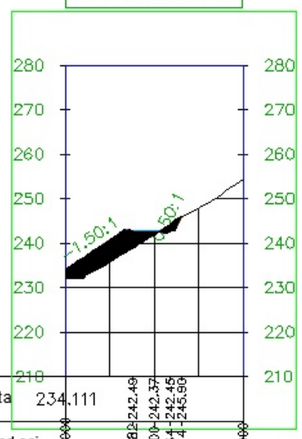

Kote projekta	234.111					
Udaljenost od osi		20.000	-4.82	0.000	3.64	6.14	20.000
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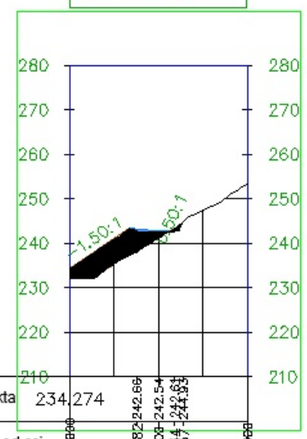
0+067.47



Kote projekta	234.274					
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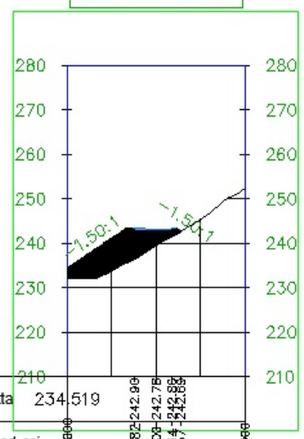
Kote terena		234.27	242.66	242.54	242.61	244.93	

0+074.13



Kote projekta	234.519					
Udaljenost od osi		20.000	-4.82	0.000	3.64	5.23	20.000
Kote terena		234.52	242.90	242.76	242.82	245.89	

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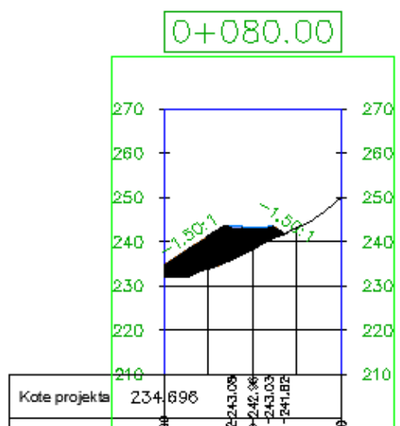
ZAVRŠNI RAD - CESTE	
IDEJNI PROJEKT LOKALNE CESTE	
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI	M 1:200
DATUM: rujan 2021.	PRILOG 6

0+080.00



Kote projekta	234.696						
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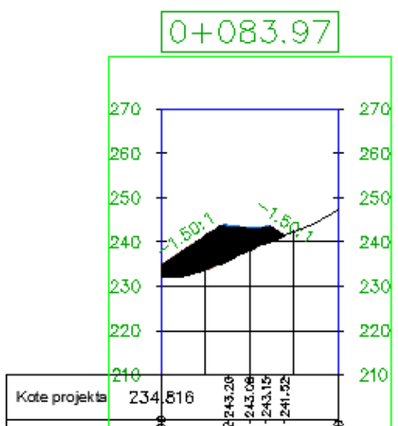
0+083.97



Kote projekta	234.816						
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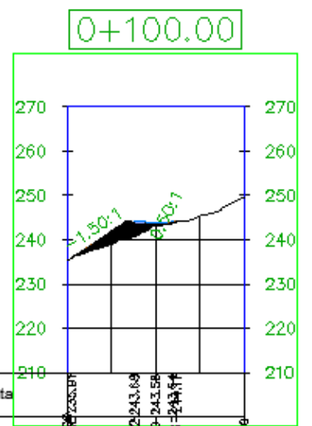
0+100.00



Kote projekta							
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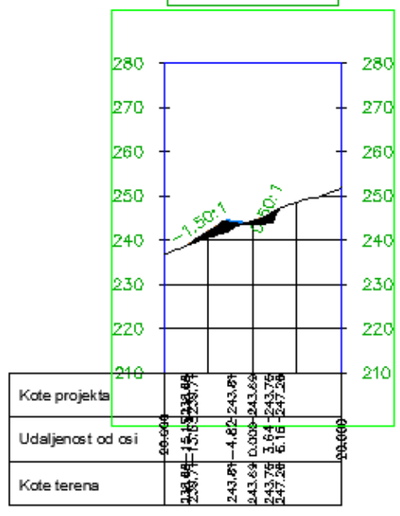
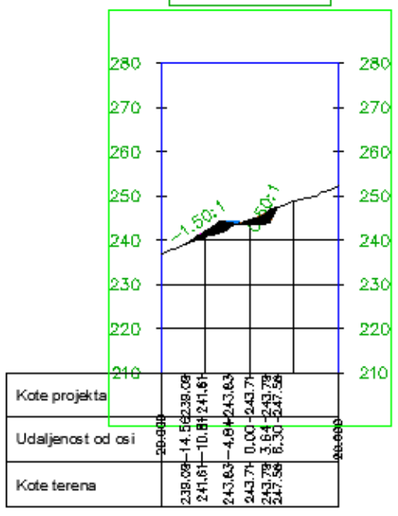


Kote projekta							
Udaljenost od osi		-4.82	0.000	3.64	6.16		
Kote terena		243.69	243.69	243.75	243.26		

0+104.91



Kote projekta							
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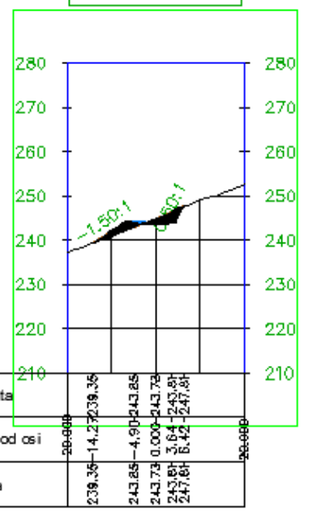
0+105.62



Kote projekta							
Udaljenost od osi		-4.90	0.000	3.64	6.42		
Kote terena		243.85	243.73	243.81	243.61		

SVEUČILIŠTE U SPLITU
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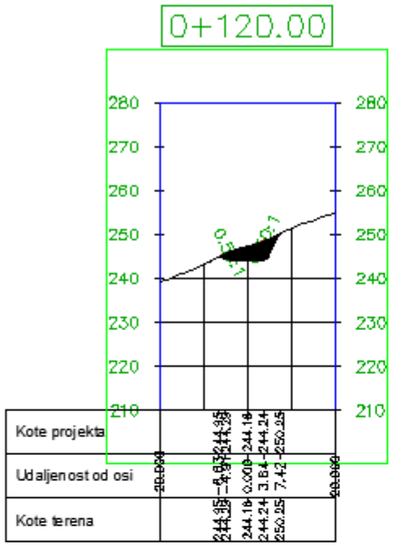
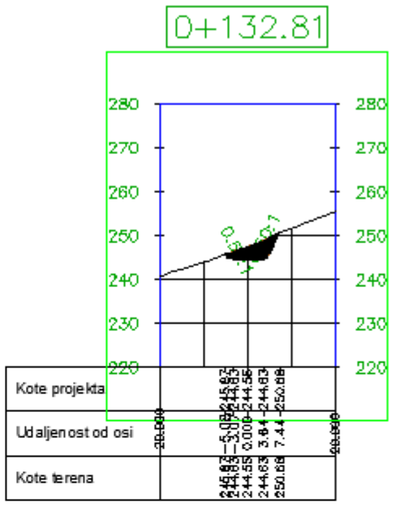
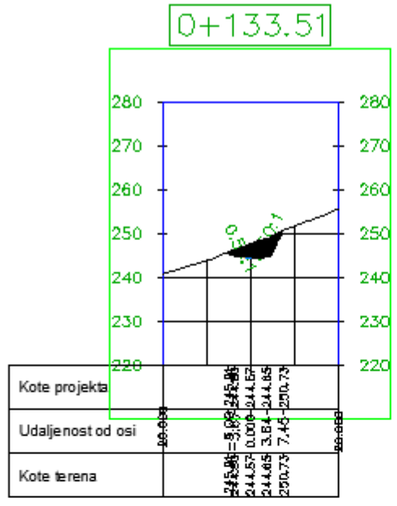
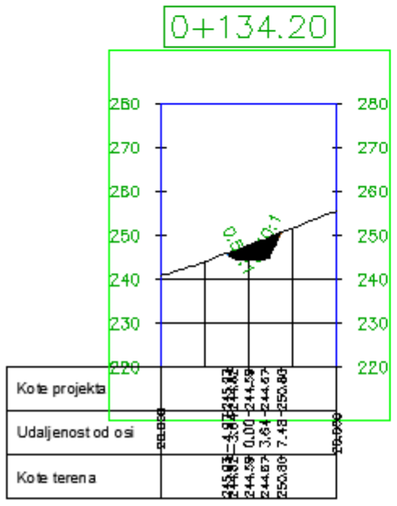
21000 SPLIT, MATICE HRVATSKE 15

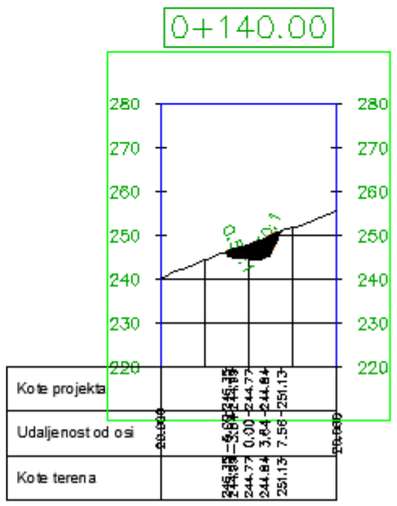
ZAVRŠNI RAD - CESTE		
IDEJNI PROJEKT LOKALNE CESTE		
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić	
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI		M 1:200
DATUM: rujan 2021.		PRILOG 7

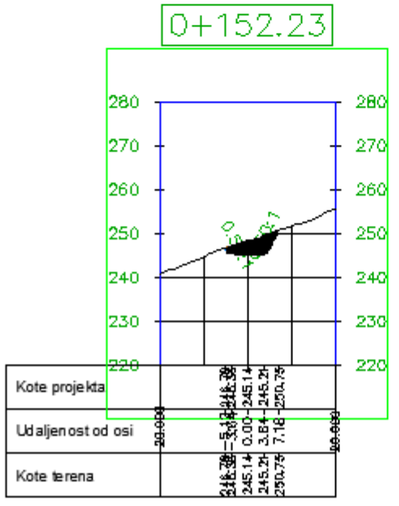












SVEUČILIŠTE U SPLITU
FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE
21000 SPLIT, MATICE HRVATSKE 15

ZAVRŠNI RAD - CESTE

IDEJNI PROJEKT LOKALNE CESTE

STUDENTICA: Jelena Vrdoljak

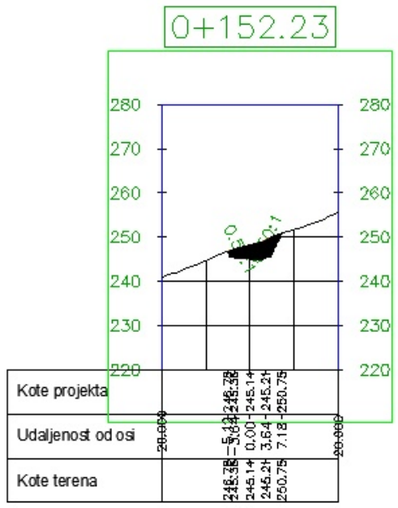
MENTOR: Prof. dr. sc. Dražen Cvitanić

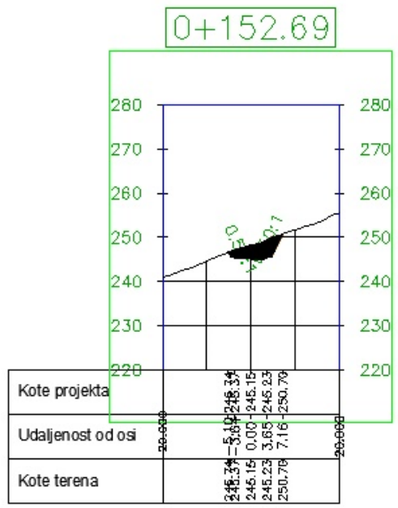
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI

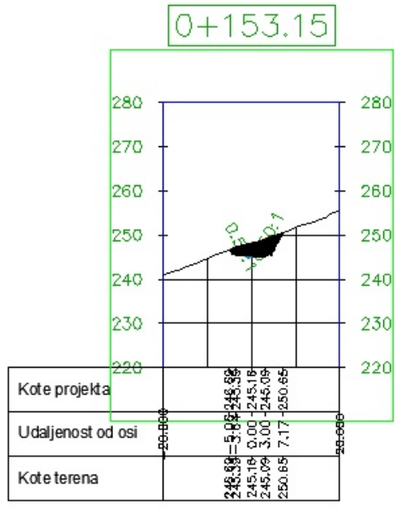
M 1:200

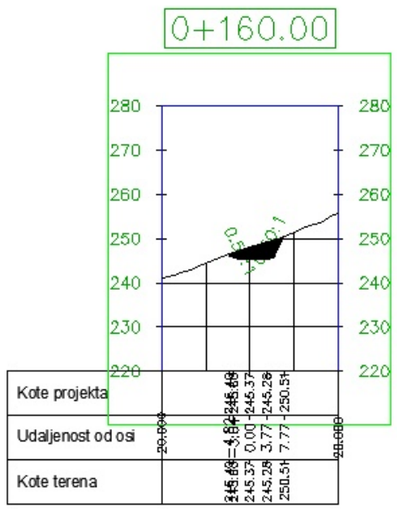
DATUM: rujan 2021.

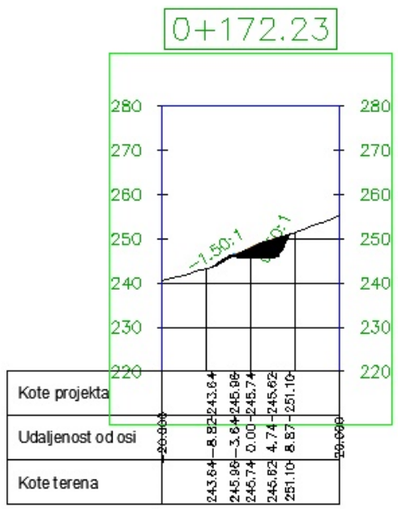
PRILOG 8

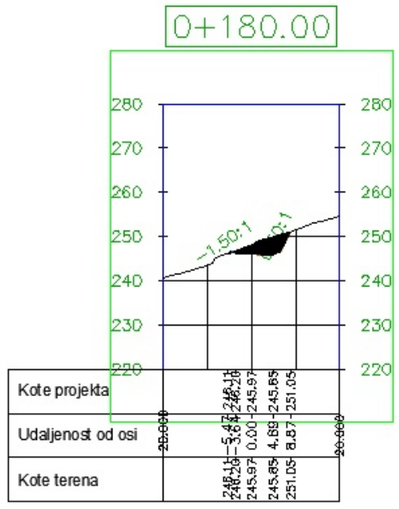






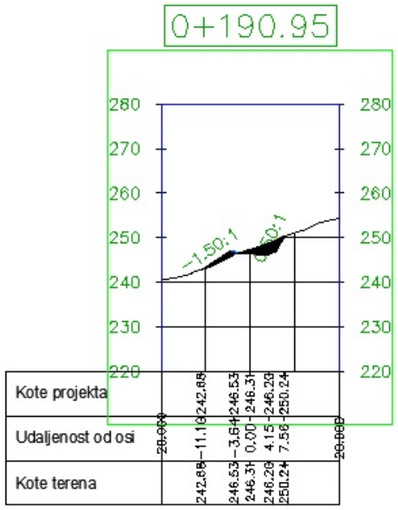


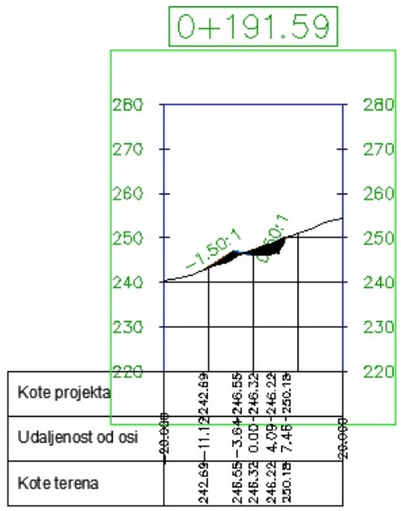


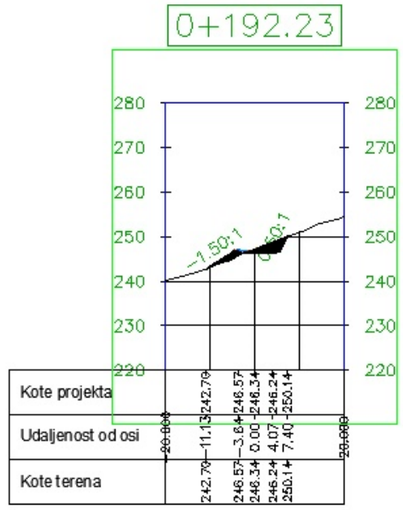


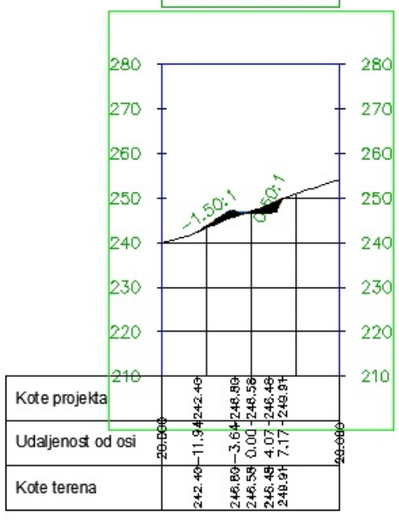
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE 21000 SPLIT, MATICE HRVATSKE 15

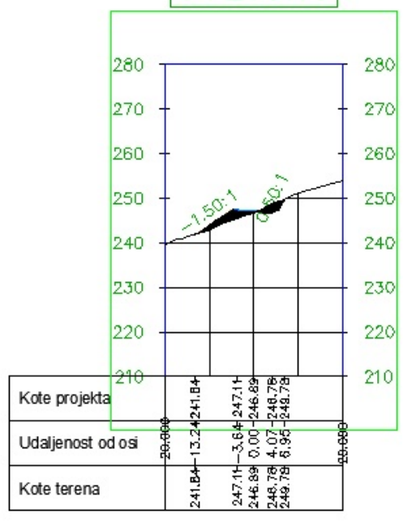
ZAVRŠNI RAD - CESTE		
IDEJNI PROJEKT LOKALNE CESTE		
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Ovitanić	
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI		M 1:200
DATUM: rujan 2021.		PRILOG 9

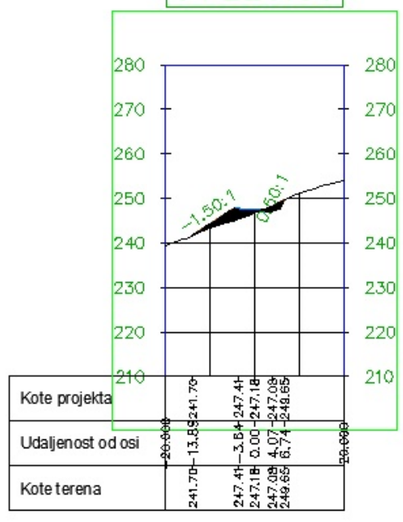






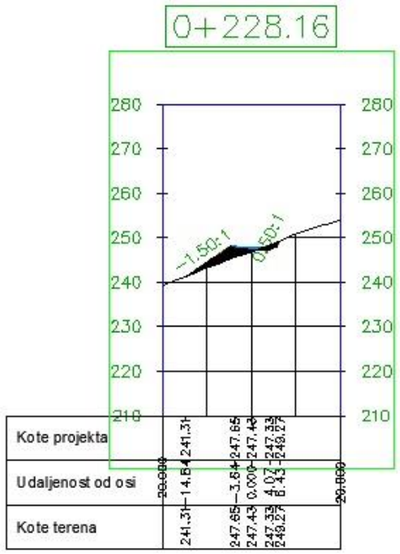


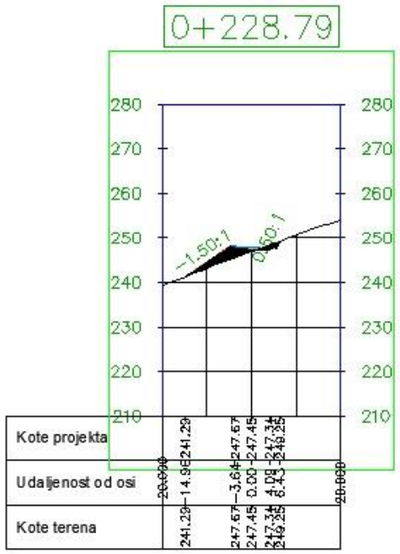


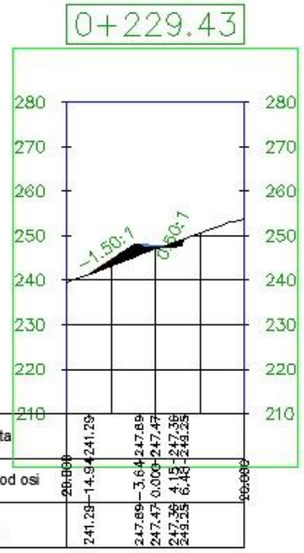


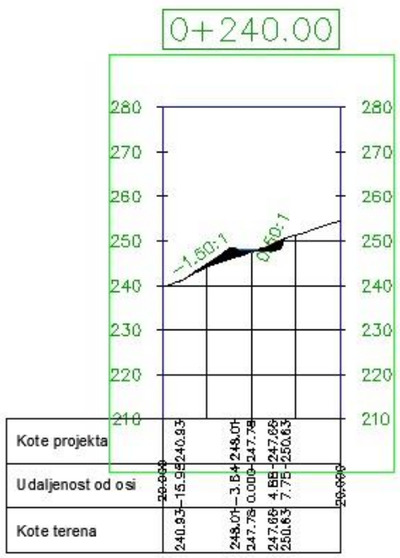
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE 21000 SPLIT, MATICE HRVATSKE 18

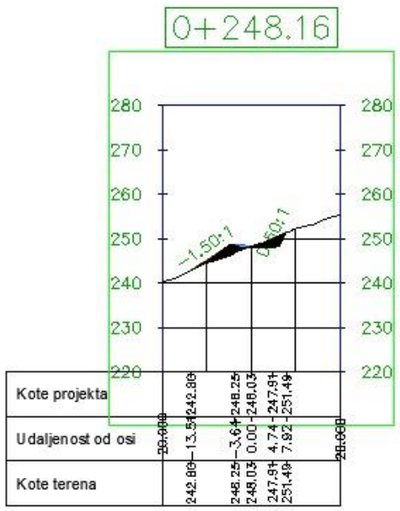
ZAVRŠNI RAD - CESTE	
IDEJNI PROJEKT LOKALNE CESTE	
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI	M 1:200
DATUM: rujan 2021.	PRILOG 10

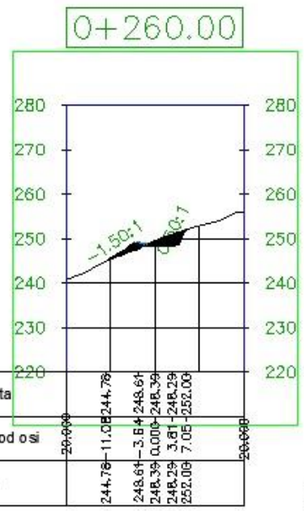






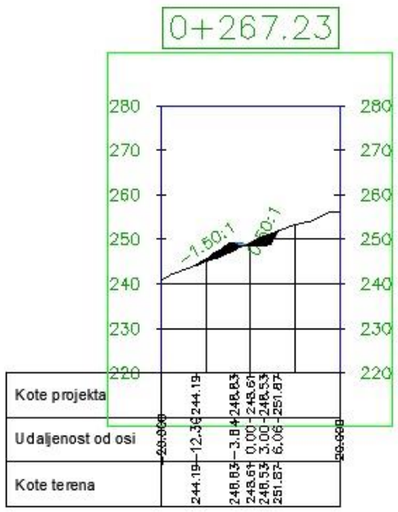


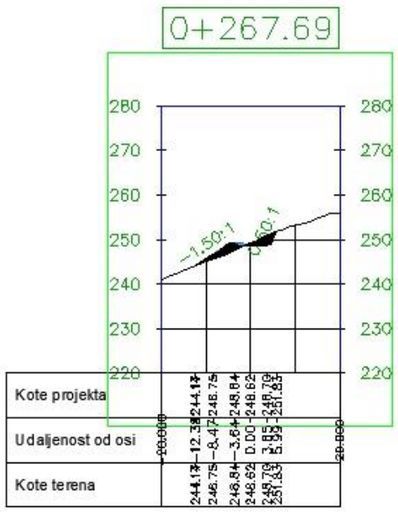


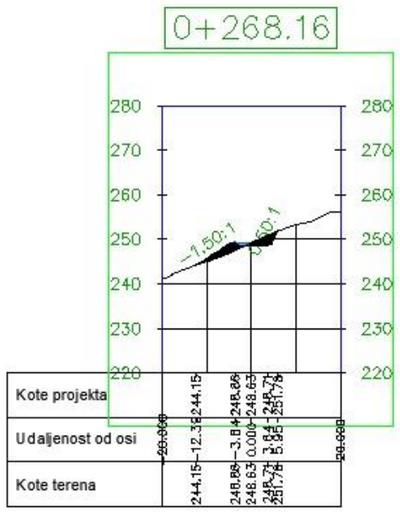


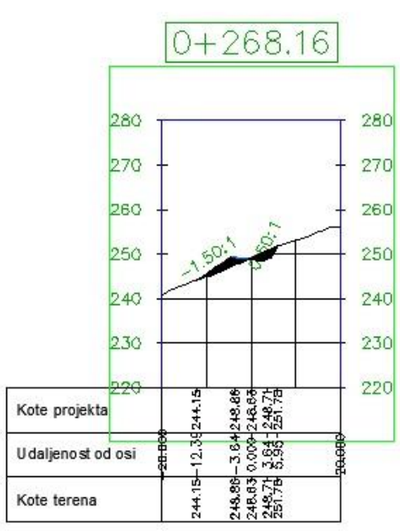
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE 21000 SPLIT, MATICE HRVATSKE 15

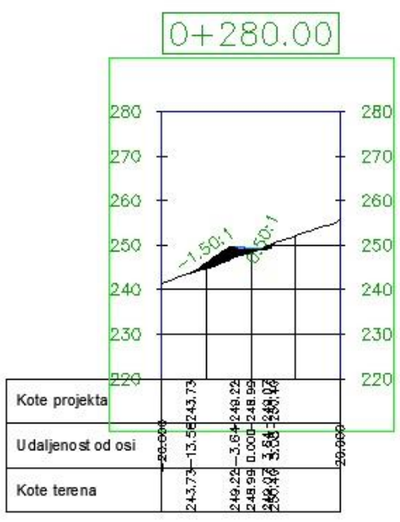
ZAVRŠNI RAD - CESTE		
IDEJNI PROJEKT LOKALNE CESTE		
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić	
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI	M 1:200	
DATUM: rujan 2021.	PRILOG	11

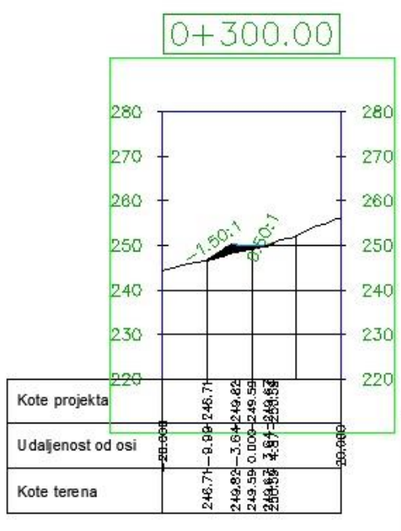






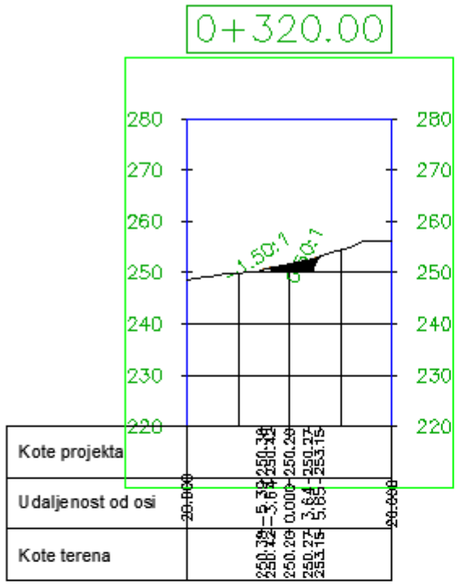


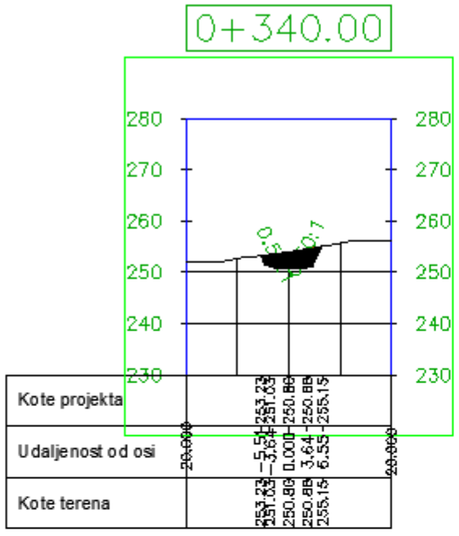


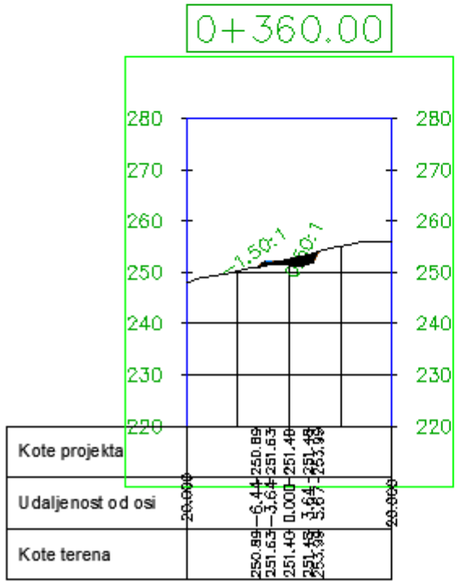


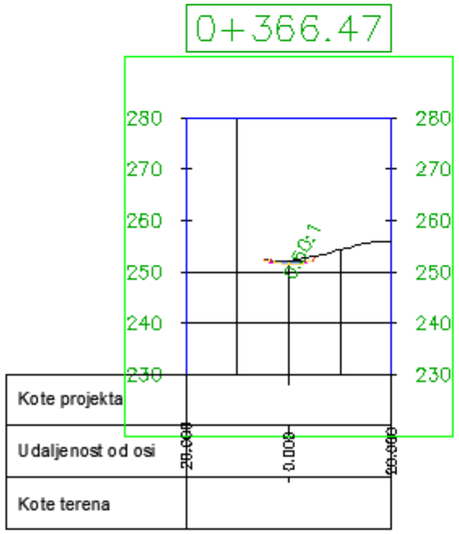
SVEUČILIŠTE U SPLITU, FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE 21000 SPLIT, MATICE HRVATSKE 15

ZAVRŠNI RAD - CESTE	
IDEJNI PROJEKT LOKALNE CESTE	
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI	M 1:200
DATUM: rujan 2021.	PRILOG 12









SVEUČILIŠTE U SPLITU,
FAKULTET GRAĐEVINARSTVA ARHITEKTURE I GEODEZIJE
21000 SPLIT, MATICE HRVATSKE 15

ZAVRŠNI RAD - CESTE	
IDEJNI PROJEKT LOKALNE CESTE	
STUDENTICA: Jelena Vrdoljak	MENTOR: Prof. dr. sc. Dražen Cvitanić
SADRŽAJ LISTA: KARAKT. POPR. PRESJECI	M 1:200
DATUM: rujan 2021.	PRILOG 13

4. TABLICA UKUPNOG VOLUMENA ZEMLJANIH RADOVA

Stacionaža	Površina usjeka	Volumen usjeka	Površina nasipa	Volumen nasipa	Kumulativni volumen usjeka	Kumulativni volumen nasipa	Kumulativni volumen
0+000.000	5.81	0	16.4	0	0	0	0
0+020.000	18.78	245.92	31.28	476.82	245.92	476.82	-230.91
0+033.730	18.46	255.64	30.77	425.98	501.56	902.8	-401.24
0+033.730	18.46	0	30.77	0	501.56	902.8	-401.24
0+034.425	17.75	12.58	31.33	21.57	514.14	924.37	-410.23
0+035.115	16.76	11.92	32.33	21.98	526.06	946.35	-420.29
0+040.000	14.2	75.62	38.4	172.74	601.68	1119.09	-517.41
0+060.000	8.36	234.58	74.57	979.23	836.27	2098.33	-1262.06
0+062.307	7.24	19.37	76.17	135.49	855.63	2233.82	-1378.19
0+063.017	6.89	5.01	77.44	54.48	860.65	2288.3	-1427.65
0+063.730	6.39	4.74	79.36	55.93	865.39	2344.23	-1478.84
0+067.473	1.99	17.03	92.54	247.13	882.42	2591.36	-1708.94
0+074.129	0	7.22	128.46	582.79	889.64	3174.14	-2284.51
0+080.000	0	0	146.44	660.47	889.64	3834.62	-2944.98
0+083.965	0	0	153.74	495.75	889.64	4330.37	-3440.74
0+100.000	0.4	3.47	39.53	1290.75	893.1	5621.12	-4728.02
0+104.200	9.51	22.16	17.05	97.22	915.27	5718.34	-4803.07
0+104.913	11.71	7.57	14.65	11.31	922.83	5729.65	-4806.81
0+105.623	13.72	9.02	12.59	9.66	931.85	5739.31	-4807.46
0+120.000	35.8	365.6	0	78.93	1297.45	5818.24	-4520.79
0+132.815	33.92	450.64	0	0	1748.1	5818.24	-4070.14
0+133.505	34.09	23.48	0	0	1771.58	5818.24	-4046.66
0+134.200	34.33	23.76	0	0	1795.34	5818.24	-4022.9
0+140.000	37	206.86	0	0	2002.2	5818.24	-3816.04
0+152.229	34.2	435.37	0	0	2437.58	5818.24	-3380.66
0+152.230	34.2	0.02	0	0	2437.59	5818.24	-3380.64
0+152.690	33.78	15.65	0	0	2453.24	5818.24	-3364.99
0+153.150	33.48	15.46	0	0	2468.71	5818.24	-3349.53
0+160.000	31.34	221.99	0	0	2690.7	5818.24	-3127.54
0+172.229	33.03	388.59	2.37	14.87	3079.28	5833.11	-2753.82
0+180.000	32.02	246.05	0.11	10.07	3325.34	5843.18	-2517.84
0+190.954	16.48	255.78	6.6	39.35	3581.11	5882.53	-2301.42
0+191.590	15.71	10.24	7.47	4.48	3591.36	5887.01	-2295.65
0+192.229	15.09	9.85	8.3	5.04	3601.21	5892.05	-2290.85
0+200.000	10.51	94.75	9.04	72.91	3695.96	5964.96	-2269
0+210.192	8.48	91.74	16.57	141.38	3787.69	6106.35	-2318.65
0+220.000	5.54	64.94	19.35	190.39	3852.63	6296.74	-2444.11
0+228.155	3.54	34.92	21.93	181.86	3887.55	6478.59	-2591.05
0+228.795	3.57	2.27	21.95	14.03	3889.82	6492.63	-2602.8
0+229.431	3.65	2.3	21.97	13.98	3892.12	6506.6	-2614.48

0+240.000	7.67	56.66	16.28	216.16	3948.77	6722.76	-2773.99
0+248.155	11.15	73.87	12.84	124.63	4022.65	6847.4	-2824.75
0+260.000	14.78	150.84	7.38	123.21	4173.49	6970.61	-2797.12
0+267.235	9.82	88.95	12.33	71.3	4262.44	7041.9	-2779.46
0+267.694	9.35	4.41	12.6	5.73	4266.85	7047.63	-2780.79
0+268.155	8.85	4.19	13.18	5.94	4271.04	7053.58	-2782.53
0+268.160	8.84	0.04	13.19	0.06	4271.08	7053.64	-2782.55
0+280.000	1.51	61.31	22.31	210.17	4332.39	7263.81	-2931.42
0+300.000	0.87	23.79	12.07	343.88	4356.18	7607.69	-3251.51
0+320.000	14.25	151.17	0.11	121.84	4507.35	7729.53	-3222.18
0+340.000	33.2	474.49	0	1.11	4981.84	7730.64	-2748.8
0+360.000	10.79	439.92	1.01	10.14	5421.76	7740.78	-2319.03
0+366.470	0	34.92	0	3.28	5456.67	7744.07	-2287.39

5. OBRADA NA RAČUNALU

Za izradu idejnog projekta lokalne ceste korišten je AutoCAD Civil 3D koji znatno olakšava izradu programskog zadatka. U odnosu na ručno rješavanje, postupak na računalu je znatno brži i jednostavniji.

Prvi korak pri izradi idejnog rješenja je skeniranje geodetske podloge te slijedi iscrtavanje slojnica. Slojnice se iscrtavaju pomoću 3D poligonalnih linija te se postupkom triangulacije na tim linijama dobije trodimenzionalni model terena. Zatim definiramo koordinate točaka tangenti (dvije točke ta svaku tangentu) te ih definiramo na terenu. Na sjecištima tangenti definiramo kružne lukove i prijelazne krivine te na taj način definiramo horizontalni tok ceste.

Slijedi izrada uzdužnog presjeka ceste kojeg definira niveleta. Niveleta se postavlja tako da se zadovolje geometrijski i sigurnosni elementi te odvodnja. Između tangenti se ubacuje kružna krivina određenog radijusa.

Sljedeći korak je definiranje poprečnog profila prometnice. Poprečnim presjekom su definirani: poprečni nagib i širina kolnika te pokosi usjeka i nasipa.

Na temelju definiranih horizontalnih i vertikalnih elemenata te osi ceste, izrađujemo koridor. Koridor omogućuje uvid u poprečne presjeke u svim karakterističnim i zadanim točkama osi ceste. Time smo definirali cijelu dionicu ceste.

Izlazni podaci su računalni ispisi koordinatnih točaka osi, točaka svakog poprečnog presjeka te količina zemljanih radova po presjeku.

6. IZLAZNI PODACI IZ PROGRAMA

6.1. Koordinatni račun glavnih točaka

Alignment: os_1

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	151.896	595.606
End:	0+33.730	118.885	602.534

Tangent Data

Parameter	Value	Parameter	Value
Length:	33.730	Course:	S 11° 51' 05.0837" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	0+33.730	118.885	602.534
SPI:		99.196	606.665
SC:	0+63.730	90.528	611.863

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.118
Radius:	45.000	S Tan:	10.107
Theta:	19° 05' 54.9354"	P:	0.830
X:	29.668	K:	14.945
Y:	3.307	A:	36.742
Chord:	29.852	Course:	S 18° 12' 41.7798" E

Curve Point Data

Description	Station	Northing	Easting
SC:	0+63.730	90.528	611.863
RP:		113.671	650.456
CS:	1+04.200	69.059	644.565

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	51° 31' 40.5684"	Type:	LEFT
Radius:	45.000		
Length:	40.470	Tangent:	21.719
Mid-Ord:	4.473	External:	4.967
Chord:	39.120	Course:	S 56° 42' 50.3033" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	1+04.200	69.059	644.565
SPI:		67.736	654.585
ST:	1+34.200	71.773	674.294

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.000	L Tan:	20.118
Radius:	45.000	S Tan:	10.107
Theta:	19° 05' 54.9354"	P:	0.830
X:	29.668	K:	14.945
Y:	3.307	A:	36.742
Chord:	29.852	Course:	N 84° 47' 01.1732" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+34.200	71.773	674.294
End:	1+52.229	75.391	691.956

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.029	Course:	N 78° 25' 24.4771" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	1+52.229	75.391	691.956
SPI:		80.762	718.179
SC:	1+92.229	79.895	731.575

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	40.000	L Tan:	26.767
Radius:	75.000	S Tan:	13.424
Theta:	15° 16' 43.9483"	P:	0.887
X:	39.716	K:	19.953
Y:	3.538	A:	54.772
Chord:	39.874	Course:	N 83° 30' 48.0701" E

Curve Point Data

Description	Station	Northing	Easting
SC:	1+92.229	79.895	731.575
RP:		5.052	726.732
CS:	2+28.155	69.240	765.525

Circular Curve Data

Parameter	Value	Parameter	Value

Delta:	27° 26' 43.0338"	Type:	RIGHT
Radius:	75.000		
Length:	35.926	Tangent:	18.314
Mid-Ord:	2.141	External:	2.204
Chord:	35.583	Course:	S 72° 34' 30.0577" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	2+28.155	69.240	765.525
SPI:		62.296	777.014
ST:	2+68.155	42.904	795.464

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	40.000	L Tan:	26.767
Radius:	75.000	S Tan:	13.424
Theta:	15° 16' 43.9483"	P:	0.887
X:	39.716	K:	19.953
Y:	3.538	A:	54.772
Chord:	39.874	Course:	S 48° 39' 48.1854" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+68.155	42.904	795.464
End:	3+66.470	-28.324	863.231

Tangent Data

Parameter	Value	Parameter	Value
Length:	98.315	Course:	S 43° 34' 24.5924" E

Alignment: os 1 (2)-Left-2.950

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	152.502	598.494
End:	0+33.730	119.491	605.421

Tangent Data

Parameter	Value	Parameter	Value
Length:	33.730	Course:	S 11° 51' 05.0837" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+33.730	119.491	605.421
RP:		121.134	613.250
PT:	0+35.120	118.162	605.823

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 57' 19.8703"	Type:	LEFT
Radius:	8.000		
Length:	1.390	Tangent:	0.697
Mid-Ord:	0.030	External:	0.030
Chord:	1.388	Course:	S 16° 49' 45.0188" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+35.120	118.162	605.823
End:	0+60.983	94.150	615.430

Tangent Data

Parameter	Value	Parameter	Value
Length:	25.863	Course:	S 21° 48' 24.9540" E

Curve Point Data

Description	Station	Northing	Easting
PC:	0+60.983	94.150	615.430
RP:		97.122	622.858
PCC:	0+62.260	93.007	615.997

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 08' 35.0651"	Type:	LEFT
Radius:	8.000		
Length:	1.277	Tangent:	0.640
Mid-Ord:	0.025	External:	0.026
Chord:	1.275	Course:	S 26° 22' 42.4865" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	0+62.260	93.007	615.997
RP:		113.671	650.456
PCC:	0+98.395	73.837	645.196

Circular Curve Data

Parameter	Value	Parameter	Value

Delta:	51° 31' 40.5684"	Type:	LEFT
Radius:	40.180		
Length:	36.135	Tangent:	19.393
Mid-Ord:	3.994	External:	4.435
Chord:	34.930	Course:	S 56° 42' 50.3033" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	0+98.395	73.837	645.196
RP:		81.768	646.243
PT:	0+99.672	73.772	646.470

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 08' 35.0651"	Type:	LEFT
Radius:	8.000		
Length:	1.277	Tangent:	0.640
Mid-Ord:	0.025	External:	0.026
Chord:	1.275	Course:	S 87° 02' 58.1200" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+99.672	73.772	646.470
End:	1+25.535	74.503	672.323

Tangent Data

Parameter	Value	Parameter	Value
Length:	25.863	Course:	N 88° 22' 44.3474" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+25.535	74.503	672.323
RP:		82.500	672.096
PT:	1+26.925	74.663	673.702

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 57' 19.8703"	Type:	LEFT
Radius:	8.000		
Length:	1.390	Tangent:	0.697
Mid-Ord:	0.030	External:	0.030
Chord:	1.388	Course:	N 83° 24' 04.4123" E

Tangent Data

Description	PT Station	Northing	Easting

Start:	1+26.925	74.663	673.702
End:	1+44.954	78.281	691.364

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.029	Course:	N 78° 25' 24.4771" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	1+44.954	78.281	691.364
SPI:		83.732	717.974
SC:	1+85.741	82.839	731.765

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	40.787	L Tan:	27.289
Radius:	77.950	S Tan:	13.685
Theta:	14° 59' 23.1424"	P:	0.887
X:	40.508	K:	20.347
Y:	3.540	A:	56.385
Chord:	40.657	Course:	N 83° 33' 45.0759" E

Curve Point Data

Description	Station	Northing	Easting
SC:	1+85.741	82.839	731.765
RP:		5.052	726.732
CS:	2+23.080	71.764	767.051

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	27° 26' 43.0338"	Type:	RIGHT
Radius:	77.950		
Length:	37.339	Tangent:	19.035
Mid-Ord:	2.225	External:	2.290
Chord:	36.983	Course:	S 72° 34' 30.0577" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	2+23.080	71.764	767.051
SPI:		64.616	778.879
ST:	2+63.867	44.937	797.601

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	40.787	L Tan:	27.289
Radius:	77.950	S Tan:	13.685

Theta:	14° 59' 23.1424"	P:	0.887
X:	40.508	K:	20.347
Y:	3.540	A:	56.385
Chord:	40.657	Course:	S 48° 42' 45.1912" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+63.867	44.937	797.601
End:	3+62.181	-26.291	865.368

Tangent Data

Parameter	Value	Parameter	Value
Length:	98.315	Course:	S 43° 34' 24.5924" E

Alignment: os 1 (2)-Right-2.950

Description:

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	151.290	592.719
End:	0+33.730	118.279	599.647

Tangent Data

Parameter	Value	Parameter	Value
Length:	33.730	Course:	S 11° 51' 05.0837" E

Spiral Point Data

Description	Station	Northing	Easting
TS:	0+33.730	118.279	599.647
SPI:		98.105	603.880
SC:	0+64.713	89.011	609.333

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.983	L Tan:	20.770
Radius:	47.950	S Tan:	10.432
Theta:	18° 30' 39.9504"	P:	0.831
X:	30.661	K:	15.438
Y:	3.312	A:	38.544
Chord:	30.829	Course:	S 18° 18' 46.0887" E

Curve Point Data

Description	Station	Northing	Easting
SC:	0+64.713	89.011	609.333
RP:		113.671	650.456
CS:	1+07.836	66.134	644.179

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	51° 31' 40.5684"	Type:	LEFT
Radius:	47.950		
Length:	43.123	Tangent:	23.143
Mid-Ord:	4.767	External:	5.293
Chord:	41.684	Course:	S 56° 42' 50.3033" E

Spiral Point Data

Description	Station	Northing	Easting
CS:	1+07.836	66.134	644.179
SPI:		64.746	654.691
ST:	1+38.820	68.883	674.886

Spiral Curve Data: clothoid

Parameter	Value	Parameter	Value
Length:	30.983	L Tan:	20.770
Radius:	47.950	S Tan:	10.432
Theta:	18° 30' 39.9504"	P:	0.831
X:	30.661	K:	15.438
Y:	3.312	A:	38.544
Chord:	30.829	Course:	N 84° 53' 05.4821" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+38.820	68.883	674.886
End:	1+56.849	72.501	692.548

Tangent Data

Parameter	Value	Parameter	Value
Length:	18.029	Course:	N 78° 25' 24.4771" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+56.849	72.501	692.548
RP:		64.664	694.154
PT:	1+57.771	72.633	693.461

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 36' 19.9303"	Type:	RIGHT

Radius:	8.000		
Length:	0.922	Tangent:	0.462
Mid-Ord:	0.013	External:	0.013
Chord:	0.922	Course:	N 81° 43' 34.4423" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	1+57.771	72.633	693.461
End:	1+94.551	75.821	730.102

Tangent Data

Parameter	Value	Parameter	Value
Length:	36.780	Course:	N 85° 01' 44.4074" E

Curve Point Data

Description	Station	Northing	Easting
PC:	1+94.551	75.821	730.102
RP:		67.851	730.795
PCC:	1+95.763	75.834	731.312

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	08° 40' 24.0181"	Type:	RIGHT
Radius:	8.000		
Length:	1.211	Tangent:	0.607
Mid-Ord:	0.023	External:	0.023
Chord:	1.210	Course:	N 89° 21' 56.4164" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	1+95.763	75.834	731.312
RP:		5.052	726.732
PCC:	2+29.739	65.757	763.420

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	27° 26' 43.0338"	Type:	RIGHT
Radius:	70.930		
Length:	33.976	Tangent:	17.321
Mid-Ord:	2.025	External:	2.084
Chord:	33.652	Course:	S 72° 34' 30.0577" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	2+29.739	65.757	763.420

RP:		58.910	759.282
PT:	2+30.950	65.054	764.405

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	08° 40' 24.0181"	Type:	RIGHT
Radius:	8.000		
Length:	1.211	Tangent:	0.607
Mid-Ord:	0.023	External:	0.023
Chord:	1.210	Course:	S 54° 30' 56.5318" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+30.950	65.054	764.405
End:	2+67.730	41.501	792.654

Tangent Data

Parameter	Value	Parameter	Value
Length:	36.780	Course:	S 50° 10' 44.5227" E

Curve Point Data

Description	Station	Northing	Easting
PC:	2+67.730	41.501	792.654
RP:		35.356	787.531
PT:	2+68.652	40.871	793.327

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 36' 19.9303"	Type:	RIGHT
Radius:	8.000		
Length:	0.922	Tangent:	0.462
Mid-Ord:	0.013	External:	0.013
Chord:	0.922	Course:	S 46° 52' 34.5576" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+68.652	40.871	793.327
End:	3+66.967	-30.358	861.094

Tangent Data

Parameter	Value	Parameter	Value
Length:	98.315	Course:	S 43° 34' 24.5924" E

6.2. Koordinatni račun detaljnih točaka osi

Alignment Name: os 1

Description:

Station Range: Start: 0+000.00, End: 0+366.47

Station Increment: 20.00

Station	Northing	Easting	Tangential Direction
0+000.00	151.8963m	595.6064m	S11° 51' 05"E
0+020.00	132.3226m	599.7139m	S11° 51' 05"E
0+040.00	112.7553m	603.8511m	S12° 41' 08"E
0+060.00	93.8003m	610.0740m	S26° 29' 45"E
0+080.00	78.3733m	622.5447m	S51° 39' 56"E
0+100.00	69.8019m	640.4330m	S77° 07' 49"E
0+120.00	69.2709m	660.3193m	N82° 42' 09"E
0+140.00	72.9367m	679.9756m	N78° 25' 24"E
0+160.00	76.9246m	699.5739m	N79° 00' 00"E
0+180.00	79.7903m	719.3555m	N85° 47' 16"E
0+200.00	78.9932m	739.2893m	S80° 21' 41"E
0+220.00	73.0706m	758.3302m	S65° 04' 57"E
0+240.00	62.4129m	775.1937m	S51° 08' 36"E
0+260.00	48.7915m	789.8210m	S44° 12' 31"E
0+280.00	34.3225m	803.6284m	S43° 34' 25"E
0+300.00	19.8327m	817.4141m	S43° 34' 25"E
0+320.00	5.3429m	831.1998m	S43° 34' 25"E
0+340.00	-9.1469m	844.9855m	S43° 34' 25"E
0+360.00	-23.6367m	858.7712m	S43° 34' 25"E
0+366.47	-28.3242m	863.2309m	S43° 34' 25"E

6.3. Račun kota kolnika

Corridor Name: koridor0
Description:
Base Alignment Name: os 1
Station Range: Start: 0+000.00, End: 0+366.47

CHAINAGE 0+000.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	610.8508	155.0953	232.9940	-15.576m	Daylight
2	600.1492	152.8496	240.2838	-4.642m	Hinge
3	600.1482	152.8494	240.0838	-4.641m	EPS_Sub
4	599.1705	152.6442	240.3238	-3.642m	Back_Curb
5	599.0237	152.6134	240.3238	-3.492m	Top_Curb
6	598.9829	152.6048	240.0238	-3.450m	Flowline_Gutter
7	598.4935	152.5021	240.0738	-2.950m	ETW
8	598.4935	152.5021	239.6738	-2.950m	ETW_SubBase
9	592.7193	151.2904	239.9263	2.950m	Flange
10	592.7193	151.2904	239.5263	2.950m	ETW_SubBase
11	592.2300	151.1878	239.8763	3.450m	Flowline_Gutter
12	592.1891	151.1792	240.1763	3.492m	Top_Curb
13	592.0423	151.1484	240.1763	3.642m	Back_Curb
14	591.0646	150.9432	239.9363	4.641m	EPS_Sub
15	591.0637	150.9430	240.1363	4.642m	Hinge_Cut
16	590.2375	150.7696	241.8246	5.486m	Daylight

CHAINAGE 0+020.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	617.6948	136.0959	232.0000	-18.373m	Daylight
2	604.2567	133.2759	241.1539	-4.642m	Hinge
3	604.2557	133.2757	240.9539	-4.641m	EPS_Sub
4	603.2780	133.0705	241.1939	-3.642m	Back_Curb
5	603.1312	133.0397	241.1939	-3.492m	Top_Curb
6	603.0904	133.0312	240.8939	-3.450m	Flowline_Gutter
7	602.6010	132.9285	240.9439	-2.950m	ETW
8	602.6010	132.9285	240.5439	-2.950m	ETW_SubBase
9	596.8268	131.7168	240.7964	2.950m	Flange
10	596.8268	131.7168	240.3964	2.950m	ETW_SubBase
11	596.3374	131.6141	240.7464	3.450m	Flowline_Gutter
12	596.2966	131.6055	241.0464	3.492m	Top_Curb
13	596.1498	131.5747	241.0464	3.642m	Back_Curb
14	595.1721	131.3695	240.8064	4.641m	EPS_Sub
15	595.1711	131.3693	241.0064	4.642m	Hinge_Cut
16	592.7320	130.8575	245.9909	7.134m	Daylight

CHAINAGE 0+040.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	623.9982	117.2904	232.0000	-20.651m	Daylight
2	609.2949	113.9807	242.0475	-5.580m	Hinge
3	609.2939	113.9805	241.8475	-5.579m	EPS_Sub
4	608.3193	113.7611	242.0875	-4.580m	Back_Curb
5	608.1730	113.7282	242.0875	-4.430m	Top_Curb
6	608.1323	113.7190	241.7875	-4.388m	Flowline_Gutter
7	607.6445	113.6092	241.8375	-3.888m	ETW
8	607.6445	113.6092	241.4375	-3.888m	ETW_SubBase
9	600.9732	112.1075	241.6665	2.950m	Flange
10	600.9732	112.1075	241.2665	2.950m	ETW_SubBase
11	600.4854	111.9977	241.6165	3.450m	Flowline_Gutter
12	600.4447	111.9886	241.9165	3.492m	Top_Curb
13	600.2984	111.9556	241.9165	3.642m	Back_Curb
14	599.3238	111.7362	241.6765	4.641m	EPS_Sub
15	599.3228	111.7360	241.8765	4.642m	Hinge_Cut
16	597.2403	111.2673	246.1457	6.776m	Daylight

CHAINAGE 0+060.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	630.8680	104.1660	232.0000	-23.234m	Daylight
2	616.1703	96.8392	242.9484	-6.812m	Hinge
3	616.1694	96.8388	242.7484	-6.811m	EPS_Sub
4	615.2754	96.3931	242.9884	-5.812m	Back_Curb
5	615.1411	96.3262	242.9884	-5.662m	Top_Curb
6	615.1038	96.3076	242.6884	-5.620m	Flowline_Gutter
7	614.6563	96.0845	242.7384	-5.120m	ETW
8	614.6563	96.0845	242.3384	-5.120m	ETW_SubBase
9	607.4344	92.4844	242.5367	2.949m	Flange
10	607.4344	92.4844	242.1367	2.949m	ETW_SubBase
11	606.9869	92.2614	242.4867	3.449m	Flowline_Gutter
12	606.9496	92.2428	242.7867	3.491m	Top_Curb
13	606.8153	92.1758	242.7867	3.641m	Back_Curb
14	605.9213	91.7301	242.5467	4.640m	EPS_Sub
15	605.9204	91.7297	242.7467	4.641m	Hinge_Cut
16	604.2890	90.9165	246.3924	6.464m	Daylight

CHAINAGE 0+080.00

POINT	X	Y	Z	OFFSET	STRING CUT

1	637.4582	97.2337	232.0000	-24.044m	Daylight
2	626.5836	83.4811	243.6884	-6.512m	Hinge
3	626.5830	83.4803	243.4884	-6.511m	EPS_Sub
4	625.9634	82.6967	243.7284	-5.512m	Back_Curb
5	625.8703	82.5791	243.7284	-5.362m	Top_Curb
6	625.8445	82.5463	243.4284	-5.320m	Flowline_Gutter
7	625.5343	82.1541	243.0784	-4.820m	ETW_SubBase
8	625.5343	82.1541	243.4784	-4.820m	Flange
9	620.7150	76.0593	243.2841	2.950m	Flange
10	620.7150	76.0593	242.8841	2.950m	ETW_SubBase
11	620.4048	75.6671	243.2341	3.450m	Flowline_Gutter
12	620.3790	75.6344	243.5341	3.492m	Top_Curb
13	620.2859	75.5168	243.5341	3.642m	Back_Curb
14	619.6663	74.7332	243.2941	4.641m	EPS_Sub
15	619.6657	74.7324	243.4941	4.642m	EPS
16	618.1039	72.7573	241.8155	7.160m	Daylight

CHAINAGE 0+100.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	644.6826	88.4017	235.9134	-19.079m	Daylight
2	641.8833	76.1500	244.2917	-6.512m	Hinge
3	641.8831	76.1490	244.0917	-6.511m	EPS_Sub
4	641.6606	75.1751	244.3317	-5.512m	Back_Curb
5	641.6272	75.0289	244.3317	-5.362m	Top_Curb
6	641.6179	74.9883	244.0317	-5.320m	Flowline_Gutter
7	641.5065	74.5008	244.0817	-4.820m	ETW
8	641.5065	74.5008	243.6817	-4.820m	ETW_SubBase
9	639.7759	66.9260	243.8875	2.950m	Flange
10	639.7759	66.9260	243.4875	2.950m	ETW_SubBase
11	639.6645	66.4386	243.8375	3.450m	Flowline_Gutter
12	639.6552	66.3979	244.1375	3.492m	Top_Curb
13	639.6218	66.2517	244.1375	3.642m	Back_Curb
14	639.3993	65.2778	243.8975	4.641m	EPS_Sub
15	639.3991	65.2768	244.0975	4.642m	Hinge_Cut
16	639.3981	65.2724	244.1065	4.646m	Daylight

CHAINAGE 0+120.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	659.4769	75.8493	244.9488	-6.632m	Daylight
2	659.4802	75.8238	244.8974	-6.606m	EPS
3	659.4803	75.8228	244.6974	-6.605m	EPS_Sub

4	659.6072	74.8319	244.9374	-5.606m	Back_Curb
5	659.6262	74.6832	244.9374	-5.456m	Top_Curb
6	659.6315	74.6418	244.6374	-5.415m	Flowline_Gutter
7	659.6950	74.1458	244.6874	-4.915m	ETW
8	659.6950	74.1458	244.2874	-4.915m	ETW_SubBase
9	660.6940	66.3455	244.0908	2.949m	ETW_SubBase
10	660.6940	66.3455	244.4908	2.949m	ETW
11	660.7575	65.8495	244.4408	3.449m	Flowline_Gutter
12	660.7628	65.8082	244.7408	3.491m	Top_Curb
13	660.7818	65.6594	244.7408	3.641m	Back_Curb
14	660.9087	64.6685	244.5008	4.640m	EPS_Sub
15	660.9088	64.6675	244.7008	4.641m	Hinge_Cut
16	661.2613	61.9151	250.2506	7.416m	Daylight

CHAINAGE 0+140.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	678.9540	77.9239	246.3500	-5.091m	Daylight
2	679.0442	77.4839	245.4517	-4.642m	EPS
3	679.0444	77.4830	245.2517	-4.641m	EPS_Sub
4	679.2448	76.5043	245.4917	-3.642m	Back_Curb
5	679.2749	76.3573	245.4917	-3.492m	Top_Curb
6	679.2833	76.3165	245.1917	-3.450m	Flowline_Gutter
7	679.3836	75.8266	245.2417	-2.950m	ETW
8	679.3836	75.8266	244.8417	-2.950m	ETW_SubBase
9	680.5676	70.0467	244.6942	2.950m	ETW_SubBase
10	680.5676	70.0467	245.0942	2.950m	ETW
11	680.6680	69.5568	245.0442	3.450m	Flowline_Gutter
12	680.6763	69.5160	245.3442	3.492m	Top_Curb
13	680.7064	69.3690	245.3442	3.642m	Back_Curb
14	680.9069	68.3904	245.1042	4.641m	EPS_Sub
15	680.9071	68.3894	245.3042	4.642m	Hinge_Cut
16	681.4921	65.5337	251.1341	7.557m	Daylight

CHAINAGE 0+160.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	698.6551	81.6518	246.4029	-4.816m	Daylight
2	698.6883	81.4811	246.0550	-4.642m	EPS
3	698.6885	81.4801	245.8550	-4.641m	EPS_Sub
4	698.8791	80.4994	246.0950	-3.642m	Back_Curb
5	698.9077	80.3522	246.0950	-3.492m	Top_Curb
6	698.9156	80.3113	245.7950	-3.450m	Flowline_Gutter

7	699.0111	79.8204	245.8450	-2.950m	ETW
8	699.0111	79.8204	245.4450	-2.950m	ETW_SubBase
9	700.2925	73.2277	245.2771	3.766m	ETW_SubBase
10	700.2925	73.2277	245.6771	3.766m	ETW
11	700.3879	72.7369	245.6271	4.266m	Flowline_Gutter
12	700.3959	72.6960	245.9271	4.308m	Top_Curb
13	700.4245	72.5487	245.9271	4.458m	Back_Curb
14	700.6151	71.5681	245.6871	5.457m	EPS_Sub
15	700.6153	71.5671	245.8871	5.458m	Hinge_Cut
16	701.0566	69.2969	250.5124	7.770m	Daylight

CHAINAGE 0+180.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	718.9539	85.2429	246.1076	-5.467m	Daylight
2	719.0146	84.4190	246.6584	-4.641m	Hinge
3	719.0147	84.4180	246.4584	-4.640m	EPS_Sub
4	719.0881	83.4217	246.6984	-3.641m	Back_Curb
5	719.0991	83.2721	246.6984	-3.491m	Top_Curb
6	719.1021	83.2305	246.3984	-3.450m	Flowline_Gutter
7	719.1389	82.7318	246.4484	-2.950m	ETW
8	719.1389	82.7318	246.0484	-2.950m	ETW_SubBase
9	719.7144	74.9170	246.2525	4.886m	Flange
10	719.7144	74.9170	245.8525	4.886m	ETW_SubBase
11	719.7511	74.4184	246.2025	5.386m	Flowline_Gutter
12	719.7542	74.3768	246.5025	5.428m	Top_Curb
13	719.7652	74.2272	246.5025	5.578m	Back_Curb
14	719.8386	73.2309	246.2625	6.577m	EPS_Sub
15	719.8387	73.2299	246.4625	6.578m	Hinge_Cut
16	720.0071	70.9427	251.0493	8.872m	Daylight

CHAINAGE 0+200.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	741.2881	90.7630	242.3973	-11.938m	Daylight
2	740.0664	83.5694	247.2617	-4.642m	Hinge
3	740.0663	83.5684	247.0617	-4.641m	EPS_Sub
4	739.8990	82.5835	247.3017	-3.642m	Back_Curb
5	739.8739	82.4356	247.3017	-3.492m	Top_Curb
6	739.8669	82.3945	247.0017	-3.450m	Flowline_Gutter
7	739.7832	81.9016	247.0517	-2.950m	ETW
8	739.7832	81.9016	246.6517	-2.950m	ETW_SubBase
9	738.6078	74.9807	246.8762	4.070m	Flange

10	738.6078	74.9807	246.4762	4.070m	ETW_SubBase
11	738.5241	74.4877	246.8262	4.570m	Flowline_Gutter
12	738.5171	74.4466	247.1262	4.612m	Top_Curb
13	738.4920	74.2987	247.1262	4.762m	Back_Curb
14	738.3247	73.3138	246.8862	5.761m	EPS_Sub
15	738.3246	73.3129	247.0862	5.762m	Hinge_Cut
16	738.0883	71.9216	249.9086	7.173m	Daylight

CHAINAGE 0+220.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	764.1810	85.6650	241.7016	-13.887m	Daylight
2	760.2858	77.2803	247.8651	-4.642m	Hinge
3	760.2854	77.2794	247.6651	-4.641m	EPS_Sub
4	759.8645	76.3734	247.9051	-3.642m	Back_Curb
5	759.8013	76.2373	247.9051	-3.492m	Top_Curb
6	759.7837	76.1995	247.6051	-3.450m	Flowline_Gutter
7	759.5731	75.7460	247.6551	-2.950m	ETW
8	759.5731	75.7460	247.2551	-2.950m	ETW_SubBase
9	756.6155	69.3795	247.4796	4.070m	Flange
10	756.6155	69.3795	247.0796	4.070m	ETW_SubBase
11	756.4048	68.9260	247.4296	4.570m	Flowline_Gutter
12	756.3873	68.8882	247.7296	4.612m	Top_Curb
13	756.3241	68.7522	247.7296	4.762m	Back_Curb
14	755.9032	67.8462	247.4896	5.761m	EPS_Sub
15	755.9027	67.8453	247.6896	5.762m	Hinge_Cut
16	755.4888	66.9541	249.6547	6.744m	Daylight

CHAINAGE 0+240.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	785.1976	74.8302	240.9323	-15.946m	Daylight
2	778.1056	66.0274	248.4684	-4.641m	Hinge
3	778.1050	66.0266	248.2684	-4.640m	EPS_Sub
4	777.4783	65.2486	248.5084	-3.641m	Back_Curb
5	777.3842	65.1318	248.5084	-3.491m	Top_Curb
6	777.3580	65.0994	248.2084	-3.450m	Flowline_Gutter
7	777.0443	64.7100	248.2584	-2.950m	ETW
8	777.0443	64.7100	247.8584	-2.950m	ETW_SubBase
9	772.1315	58.6121	248.0627	4.881m	Flange
10	772.1315	58.6121	247.6627	4.881m	ETW_SubBase
11	771.8178	58.2227	248.0127	5.381m	Flowline_Gutter
12	771.7917	58.1902	248.3127	5.423m	Top_Curb

13	771.6976	58.0734	248.3127	5.573m	Back_Curb
14	771.0708	57.2955	248.0727	6.572m	EPS_Sub
15	771.0702	57.2947	248.2727	6.573m	Hinge_Cut
16	770.3293	56.3751	250.6346	7.754m	Daylight

CHAINAGE 0+260.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	797.7660	56.5200	244.7770	-11.084m	Daylight
2	793.1482	52.0280	249.0718	-4.642m	Hinge
3	793.1475	52.0273	248.8718	-4.641m	EPS_Sub
4	792.4314	51.3307	249.1118	-3.642m	Back_Curb
5	792.3239	51.2261	249.1118	-3.492m	Top_Curb
6	792.2940	51.1971	248.8118	-3.450m	Flowline_Gutter
7	791.9356	50.8484	248.8618	-2.950m	ETW
8	791.9356	50.8484	248.4618	-2.950m	ETW_SubBase
9	787.0927	46.1376	248.6929	3.806m	Flange
10	787.0927	46.1376	248.2929	3.806m	ETW_SubBase
11	786.7343	45.7889	248.6429	4.306m	Flowline_Gutter
12	786.7044	45.7599	248.9429	4.348m	Top_Curb
13	786.5969	45.6553	248.9429	4.498m	Back_Curb
14	785.8808	44.9587	248.7029	5.497m	EPS_Sub
15	785.8801	44.9580	248.9029	5.498m	Hinge_Cut
16	784.7704	43.8785	251.9991	7.046m	Daylight

CHAINAGE 0+280.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	813.4490	43.6658	243.7329	-13.555m	Daylight
2	806.9913	37.5220	249.6751	-4.642m	Hinge
3	806.9906	37.5213	249.4751	-4.641m	EPS_Sub
4	806.2668	36.8327	249.7151	-3.642m	Back_Curb
5	806.1581	36.7293	249.7151	-3.492m	Top_Curb
6	806.1279	36.7005	249.4151	-3.450m	Flowline_Gutter
7	805.7657	36.3559	249.4651	-2.950m	ETW
8	805.7657	36.3559	249.0651	-2.950m	ETW_SubBase
9	801.4912	32.2891	249.3176	2.950m	Flange
10	801.4912	32.2891	248.9176	2.950m	ETW_SubBase
11	801.1289	31.9445	249.2676	3.450m	Flowline_Gutter
12	801.0987	31.9157	249.5676	3.492m	Top_Curb
13	800.9901	31.8123	249.5676	3.642m	Back_Curb
14	800.2663	31.1237	249.3276	4.641m	EPS_Sub
15	800.2656	31.1231	249.5276	4.642m	Hinge_Cut

16	799.9491	30.8220	250.4012	5.078m	Daylight

CHAINAGE 0+300.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	824.6530	26.7198	246.7119	-9.992m	Daylight
2	820.7770	23.0321	250.2785	-4.642m	Hinge
3	820.7763	23.0315	250.0785	-4.641m	EPS_Sub
4	820.0525	22.3429	250.3185	-3.642m	Back_Curb
5	819.9438	22.2395	250.3185	-3.492m	Top_Curb
6	819.9136	22.2107	250.0185	-3.450m	Flowline_Gutter
7	819.5514	21.8661	250.0685	-2.950m	ETW
8	819.5514	21.8661	249.6685	-2.950m	ETW_SubBase
9	815.2769	17.7993	249.9210	2.950m	Flange
10	815.2769	17.7993	249.5210	2.950m	ETW_SubBase
11	814.9146	17.4547	249.8710	3.450m	Flowline_Gutter
12	814.8844	17.4259	250.1710	3.492m	Top_Curb
13	814.7758	17.3225	250.1710	3.642m	Back_Curb
14	814.0520	16.6339	249.9310	4.641m	EPS_Sub
15	814.0513	16.6332	250.1310	4.642m	Hinge_Cut
16	813.8851	16.4752	250.5896	4.871m	Daylight

CHAINAGE 0+320.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	835.1030	9.0564	250.3846	-5.388m	Daylight
2	834.5627	8.5423	250.8819	-4.642m	Hinge
3	834.5620	8.5416	250.6819	-4.641m	EPS_Sub
4	833.8382	7.8530	250.9219	-3.642m	Back_Curb
5	833.7295	7.7497	250.9219	-3.492m	Top_Curb
6	833.6993	7.7209	250.6219	-3.450m	Flowline_Gutter
7	833.3371	7.3763	250.6719	-2.950m	ETW
8	833.3371	7.3763	250.2719	-2.950m	ETW_SubBase
9	829.0626	3.3095	250.5244	2.950m	Flange
10	829.0626	3.3095	250.1244	2.950m	ETW_SubBase
11	828.7003	2.9648	250.4744	3.450m	Flowline_Gutter
12	828.6701	2.9361	250.7744	3.492m	Top_Curb
13	828.5614	2.8327	250.7744	3.642m	Back_Curb
14	827.8377	2.1441	250.5344	4.641m	EPS_Sub
15	827.8370	2.1434	250.7344	4.642m	Hinge_Cut
16	826.9604	1.3095	253.1541	5.852m	Daylight

CHAINAGE 0+340.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	848.9793	-5.3472	253.2270	-5.513m	Daylight
2	848.3484	-5.9475	251.4852	-4.642m	EPS
3	848.3477	-5.9482	251.2852	-4.641m	EPS_Sub
4	847.6239	-6.6368	251.5252	-3.642m	Back_Curb
5	847.5152	-6.7402	251.5252	-3.492m	Top_Curb
6	847.4850	-6.7689	251.2252	-3.450m	Flowline_Gutter
7	847.1228	-7.1135	251.2752	-2.950m	ETW
8	847.1228	-7.1135	250.8752	-2.950m	ETW_SubBase
9	842.8483	-11.1803	250.7277	2.950m	ETW_SubBase
10	842.8483	-11.1803	251.1277	2.950m	ETW
11	842.4860	-11.5250	251.0777	3.450m	Flowline_Gutter
12	842.4558	-11.5537	251.3777	3.492m	Top_Curb
13	842.3471	-11.6571	251.3777	3.642m	Back_Curb
14	841.6234	-12.3457	251.1377	4.641m	EPS_Sub
15	841.6226	-12.3464	251.3377	4.642m	Hinge_Cut
16	840.2403	-13.6616	255.1538	6.550m	Daylight

CHAINAGE 0+360.00

POINT	X	Y	Z	OFFSET	STRING CUT
1	863.4375	-19.1972	250.8892	-6.441m	Daylight
2	862.1341	-20.4373	252.0886	-4.642m	Hinge
3	862.1333	-20.4380	251.8886	-4.641m	EPS_Sub
4	861.4096	-21.1266	252.1286	-3.642m	Back_Curb
5	861.3009	-21.2300	252.1286	-3.492m	Top_Curb
6	861.2707	-21.2587	251.8286	-3.450m	Flowline_Gutter
7	860.9084	-21.6034	251.8786	-2.950m	ETW
8	860.9084	-21.6034	251.4786	-2.950m	ETW_SubBase
9	856.6340	-25.6701	251.7311	2.950m	Flange
10	856.6340	-25.6701	251.3311	2.950m	ETW_SubBase
11	856.2717	-26.0148	251.6811	3.450m	Flowline_Gutter
12	856.2415	-26.0435	251.9811	3.492m	Top_Curb
13	856.1328	-26.1469	251.9811	3.642m	Back_Curb
14	855.4091	-26.8355	251.7411	4.641m	EPS_Sub
15	855.4083	-26.8362	251.9411	4.642m	Hinge_Cut
16	854.6655	-27.5429	253.9917	5.667m	Daylight

6.4. Vertikalni tok trase

Vertical Alignment: niveleta
Description:
Station Range: Start: 0+000.00, End: 0+366.47

PVI	Station	Grade Out	Curve Length
0.00	0+000.00	4.35%	
1.00	0+070.80	3.02%	6.656m

Vertical Curve Information:(crest curve)

PVC Station:	0+067.47	Elevation:	242.936m
PVI Station:	0+070.80	Elevation:	243.080m
PVT Station:	0+074.13	Elevation:	243.181m
High Point:	0+074.13	Elevation:	243.181m
Grade in:	4.35%	Grade out:	3.02%
Change:	1.33%	K:	
Curve Length:	6.656m		
Passing Distance:		Stopping Distance:	

2.00	0+366.47

7. LITERATURA

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