

LONGMONT TO BOULDER REGIONAL TRAIL

JAY ROAD CONNECTION CONCEPTUAL DESIGN

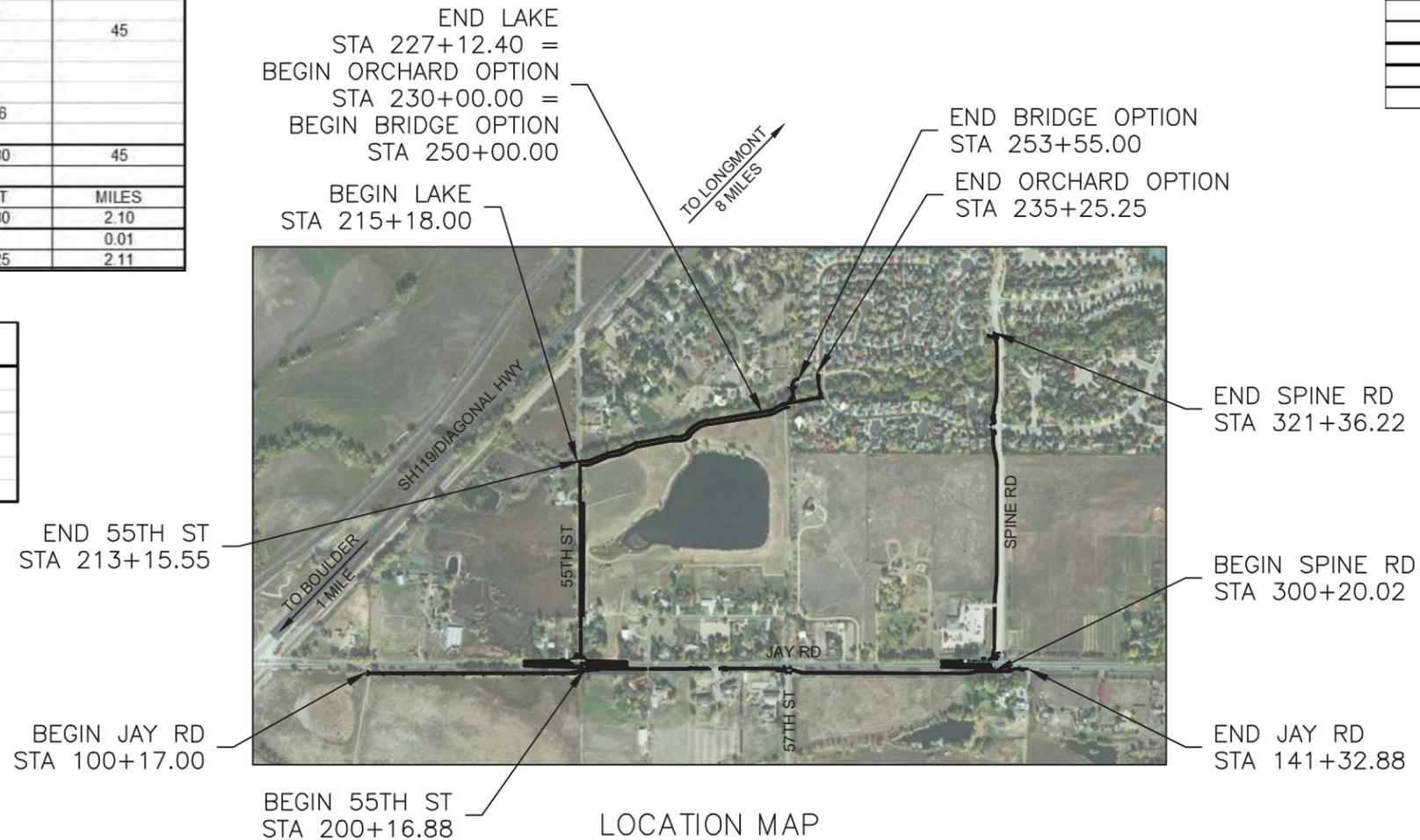
BOULDER COUNTY

(15% DESIGN)
FEBRUARY 19, 2020

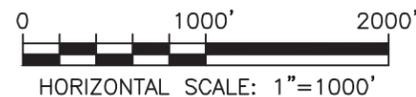
TABULATION OF LENGTH & DESIGN DATA		
STATION	FEET	
	ROADWAY	STRUCTURE
JAY RD		
STA 100+17.00 TO STA 141+32.88	4,116	
55TH ST		
STA 200+16.88 TO STA 213+15.55	1,299	
LAKE		
STA 200+09.22 TO STA 227+12.40	2,703	
ORCHARD		
STA 230+00.00 TO STA 235+25.25	536	
BRIDGE		
STA 250+00.00 TO STA 252+26.00	226	45
STA 252+26.00 TO STA 252+71.00		
STA 252+71.00 TO STA 253+55.00	84	
SPINE RD		
STA 300+20.00 TO STA 321+36.22	2,116	
TOTAL	11,080	45
SUMMARY OF PROJECT LENGTH		
	FEET	MILES
TRAIL (NET LENGTH)	11,080	2.10
STRUCTURE	45	0.01
PROJECT GROSS LENGTH	11,125	2.11

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS
3-8	PLAN AND PROFILES (JAY RD)
9-10	PLAN AND PROFILES (55TH ST)
11-12	PLAN AND PROFILES (LAKE ST)
13	PLAN AND PROFILES (BRIDGE)
14	PLAN AND PROFILES (ORCHARD RD)
15-17	PLAN AND PROFILES (SPINE RD)
18	SIGNING AND STRIPING (55TH ST)
19	SIGNING AND STRIPING (SPINE RD)

DESIGN DATA	LOBO TRAIL	JAY RD
DESIGN SPEED (LOBO TRAIL)	15 MPH	45 MPH
MINIMUM RADIUS OF CURVE	30'	N/A
MAXIMUM GRADE	EXISTING	EXISTING
MINIMUM GRADE	EXISTING	EXISTING
MINIMUM S.S.D. HORIZONTAL	57'	360'
MINIMUM S.S.D. VERTICAL	57'	360'



LOCATION MAP

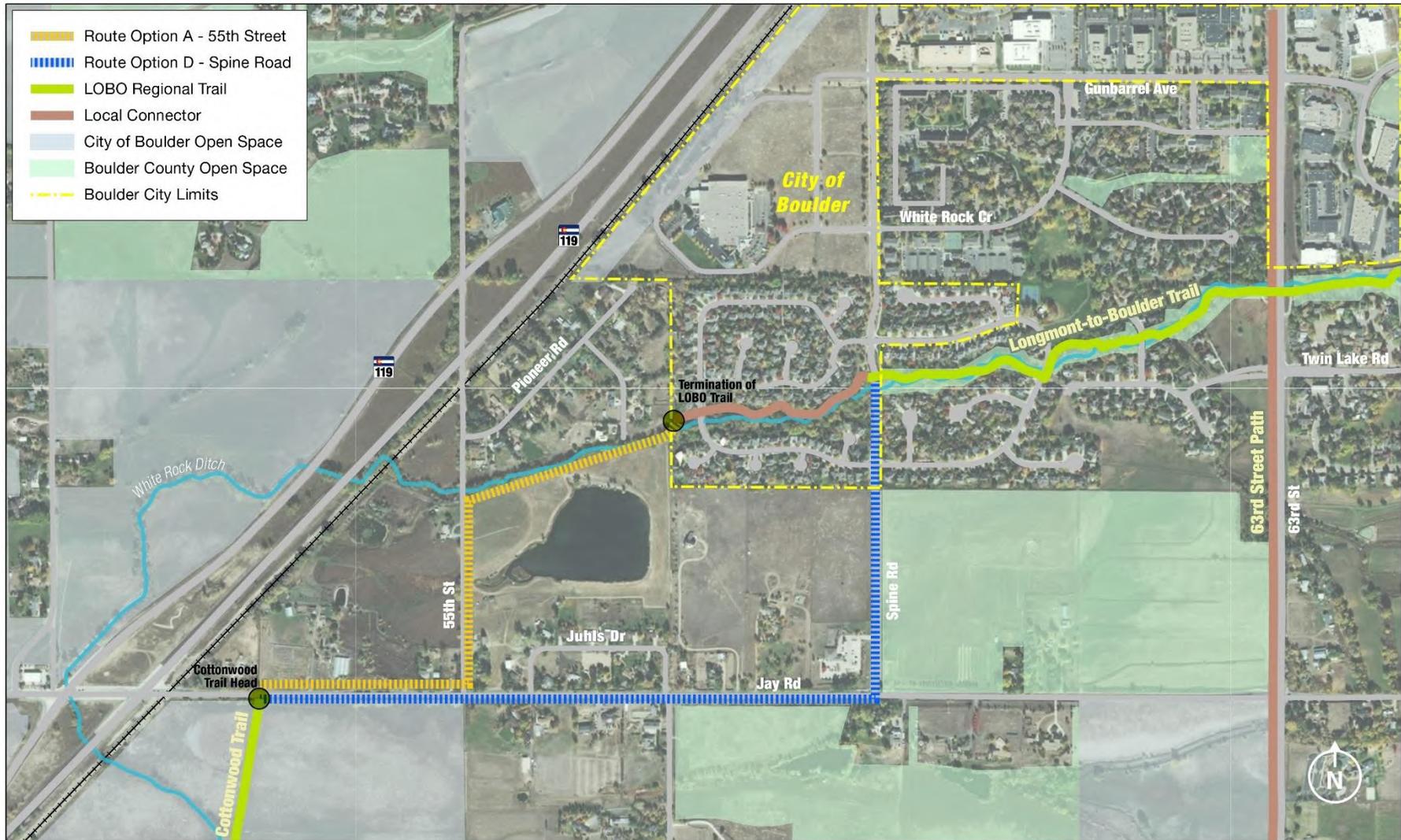


LOBO TRAIL
TITLE SHEET

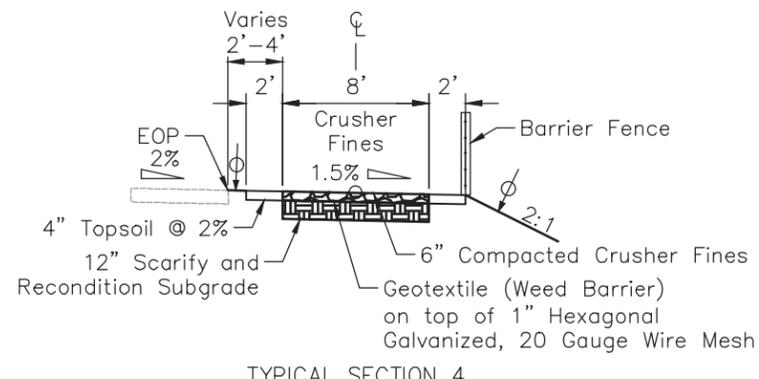
PROJECT NO: 1000445

SHEET NO: 1

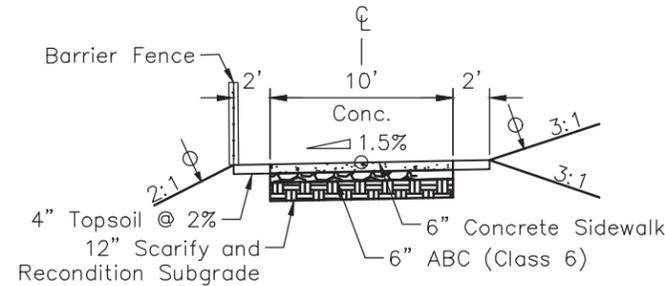
Figure 1: Preferred Route Options



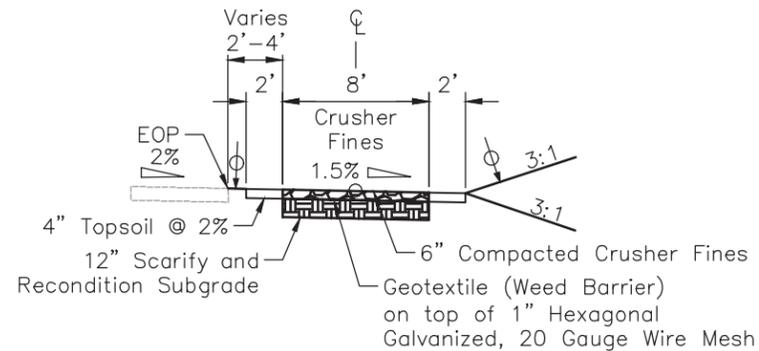
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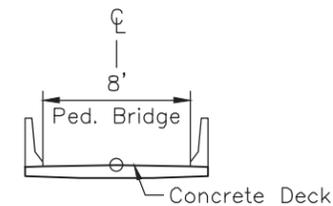
TYPICAL SECTION 4
55th - Sta. 205+20 to Sta. 209+60



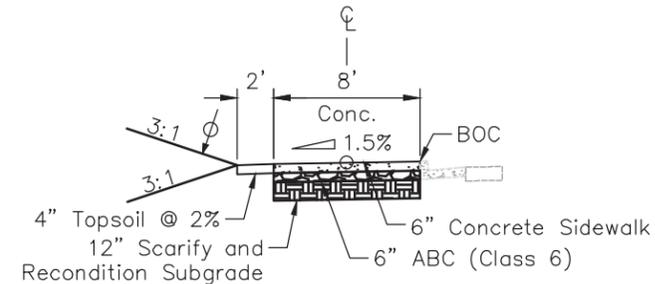
TYPICAL SECTION 8
Bridge - Sta. 252+71 to Sta. 253+20



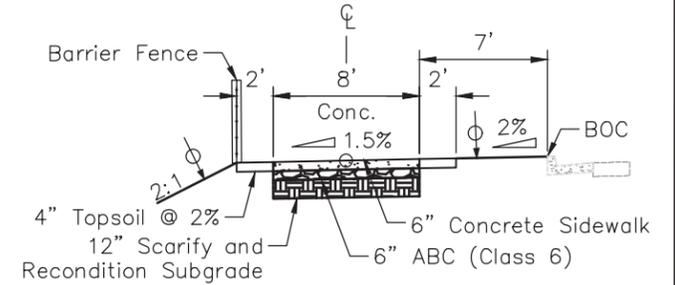
TYPICAL SECTION 3
55th - Sta. 201+18 to Sta. 205+20
55th - Sta. 209+60 to Sta. 213+16



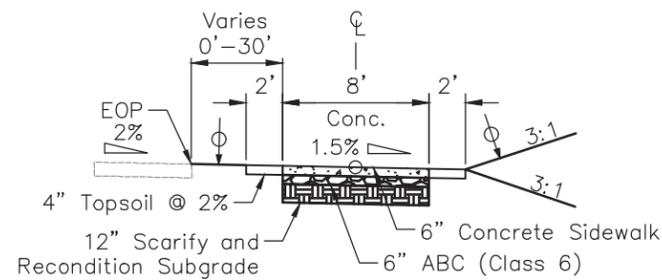
TYPICAL SECTION 7
Bridge - Sta. 252+26 to Sta. 252+71



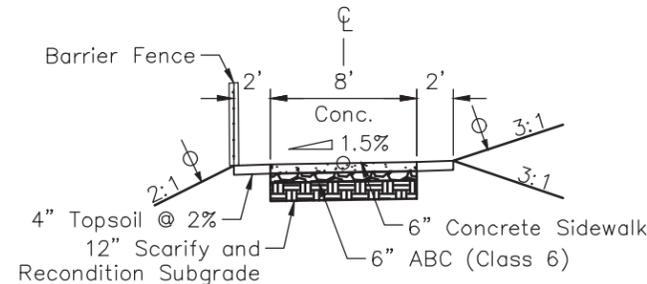
TYPICAL SECTION 11
Orchard - Sta. 234+75 to Sta. 235+25



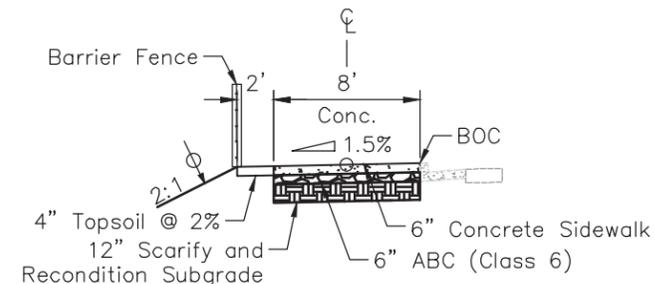
TYPICAL SECTION 14
Spine - Sta. 320+00 to Sta. 320+90



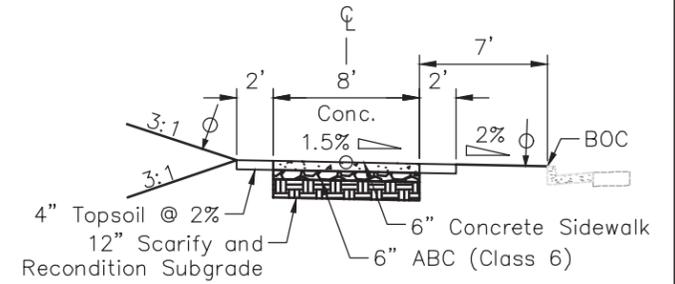
TYPICAL SECTION 2
Jay Rd - Sta. 113+10 to Sta. 141+33
55th - Sta. 200+80 to Sta. 201+18



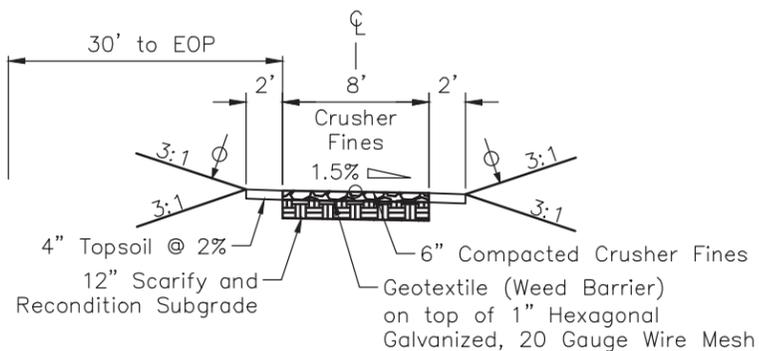
TYPICAL SECTION 6
Orchard - Sta. 233+30 to Sta. 234+03
Bridge - Sta. 251+80 to Sta. 252+26



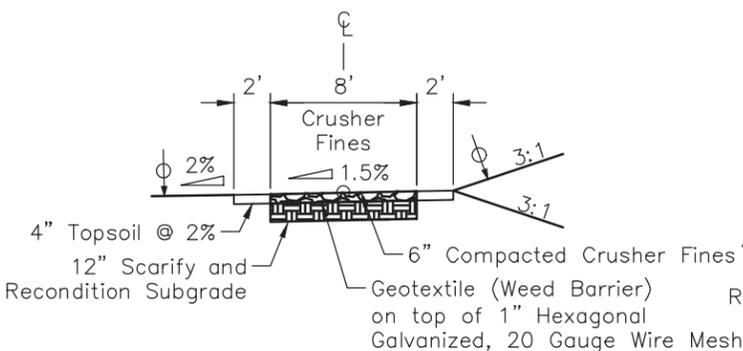
TYPICAL SECTION 10
Orchard - Sta. 233+30 to Sta. 234+75



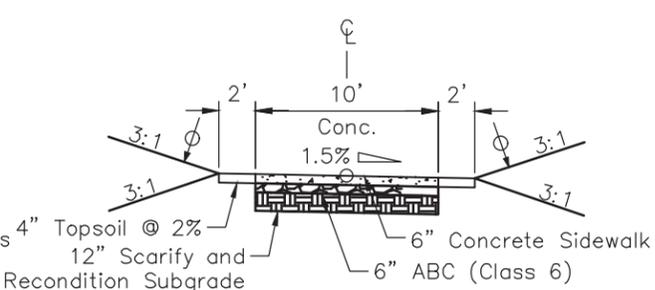
TYPICAL SECTION 13
Spine - Sta. 313+90 to Sta. 317+80



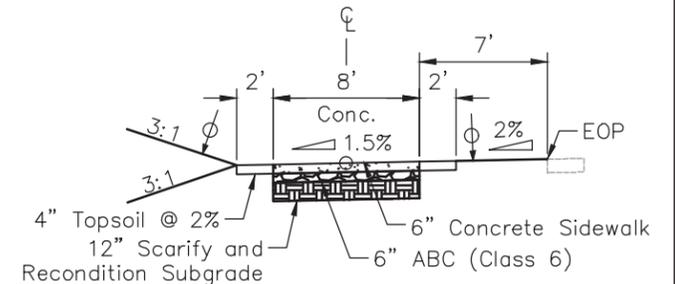
TYPICAL SECTION 1
Jay Rd - Sta. 100+20 to Sta. 113+10



TYPICAL SECTION 5
Lake - Sta. 215+18 to Sta. 227+12.40
Orchard - Sta. 230+00 to Sta. 233+30
Bridge - Sta. 250+00 to Sta. 251+80

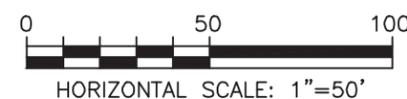


TYPICAL SECTION 9
Bridge - Sta. 253+20 to Sta. 253+55



TYPICAL SECTION 12
Spine - Sta. 301+10 to Sta. 313+90
Spine - Sta. 317+80 to Sta. 320+00
Spine - Sta. 320+90 to Sta. 321+36

- TYPICAL SECTION NOTES:
- See roadway plans for additional information.
 - ▲ Break points in slopes shall be rounded during construction for a pleasing appearance.
 - ▽ Cross slope.
 - Vertical alignment control points.
 - ⊕ Minimum 4" Topsoil or Specified Alternative.
 - BOC = Back of Curb
 - EOP = Edge of Pavement

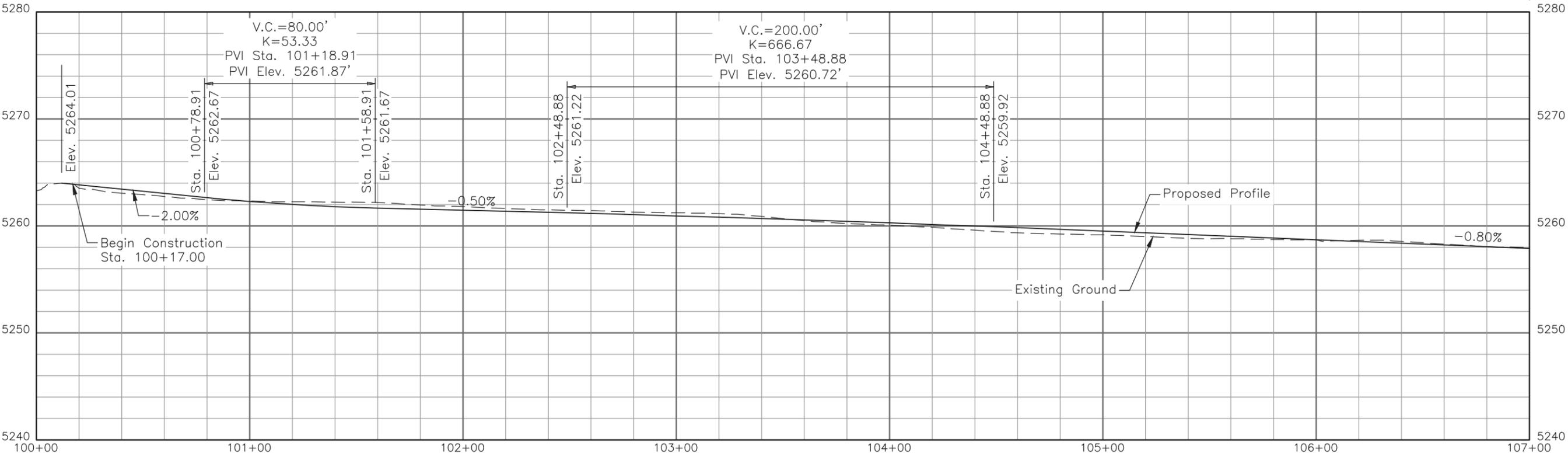
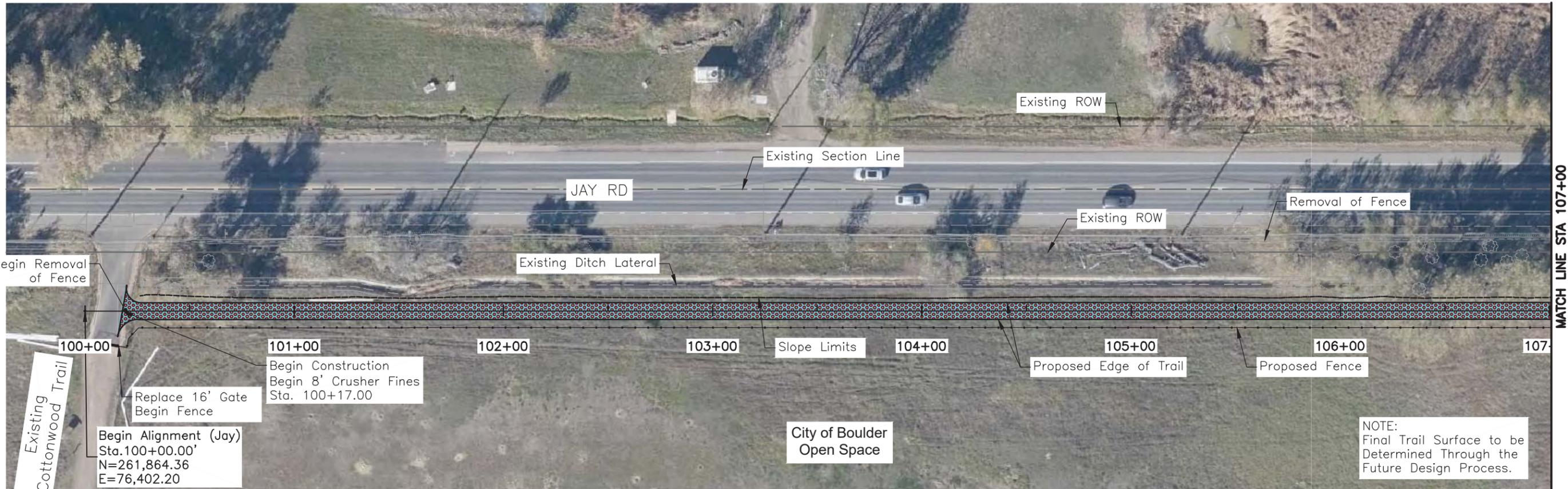


LOBO TRAIL
TYPICAL SECTIONS

PROJECT NO: 1000445

SHEET NO: 2

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 COMPACTED CRUSHER FINES
 CONCRETE SIDEWALK (6 INCH)

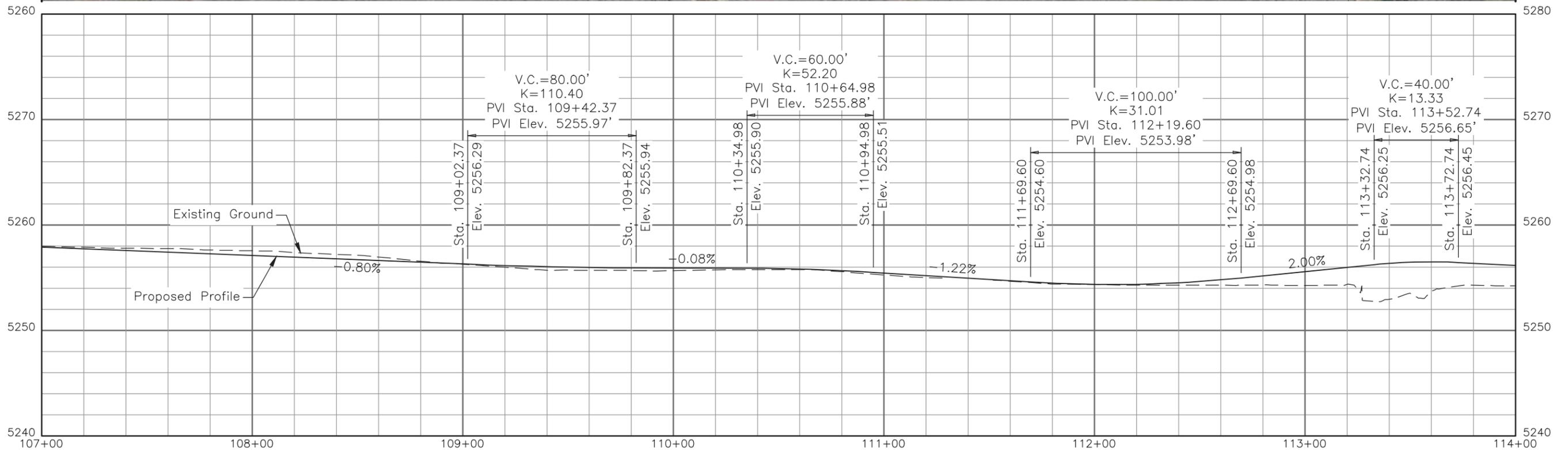
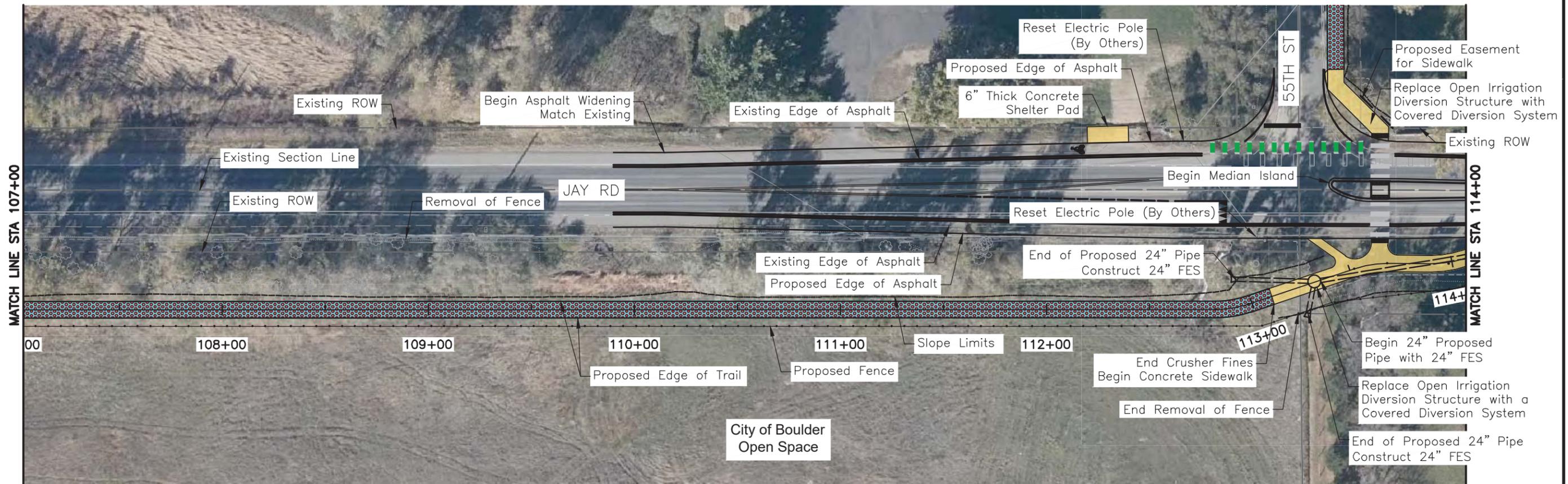
0 50 100
 HORIZONTAL SCALE: 1"=50'






LOBO TRAIL
 PLAN & PROFILE (JAY RD)
 PROJECT NO: 1000445 SHEET NO: 3

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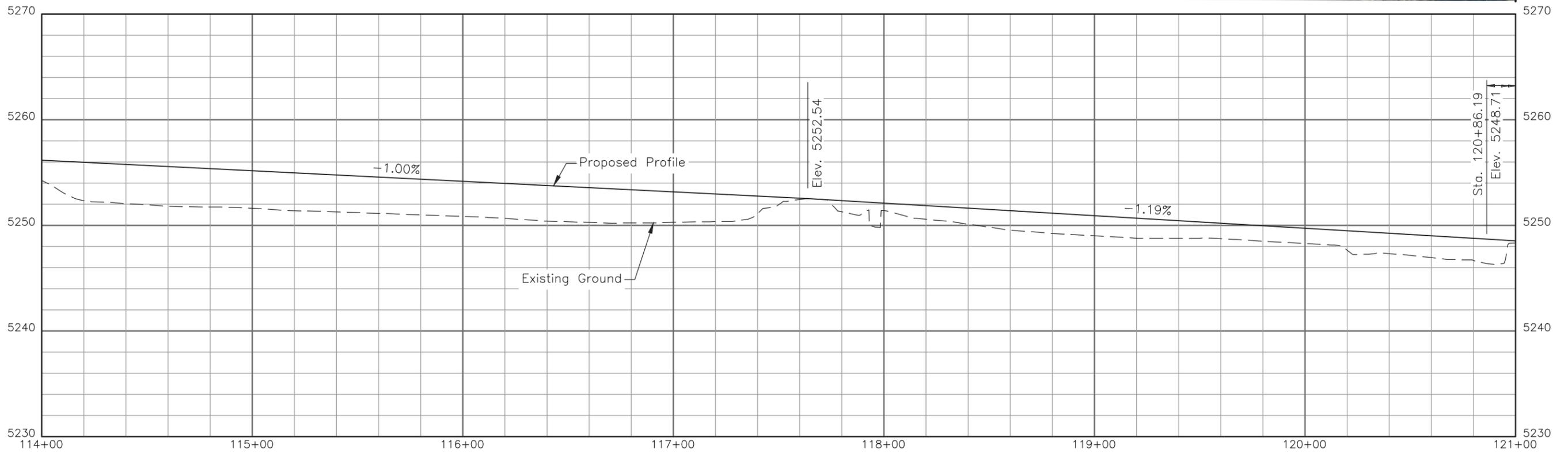
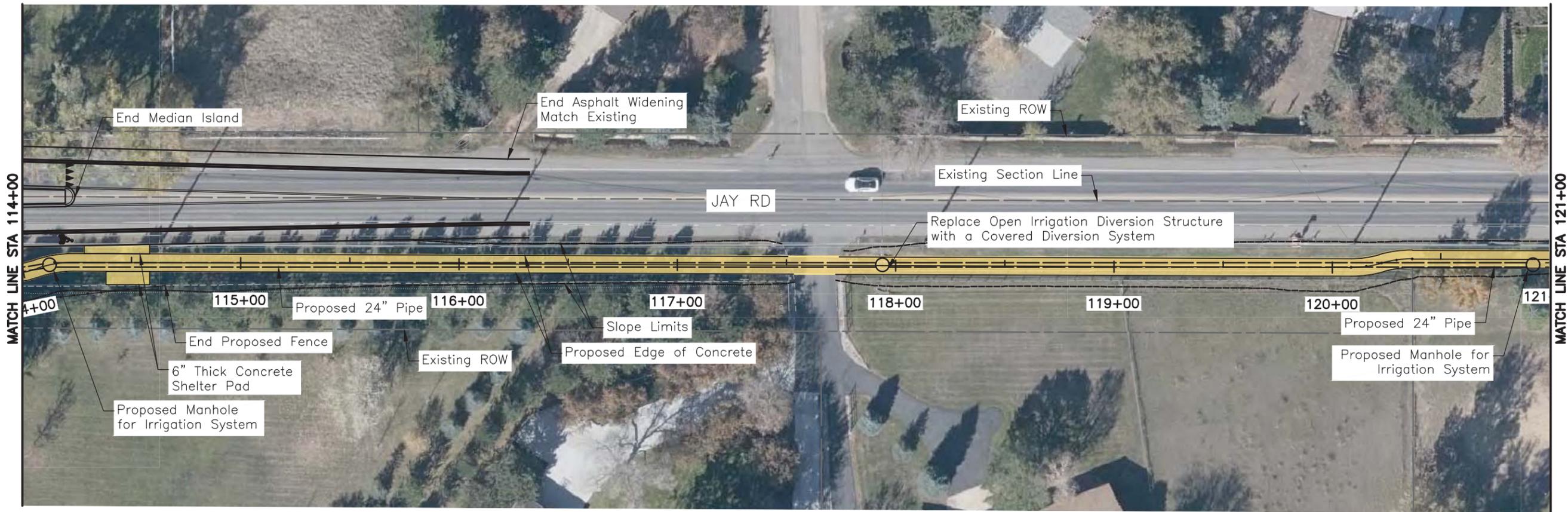


-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)



LOBO TRAIL PLAN & PROFILE (JAY RD)	
PROJECT NO: 1000445	SHEET NO: 4

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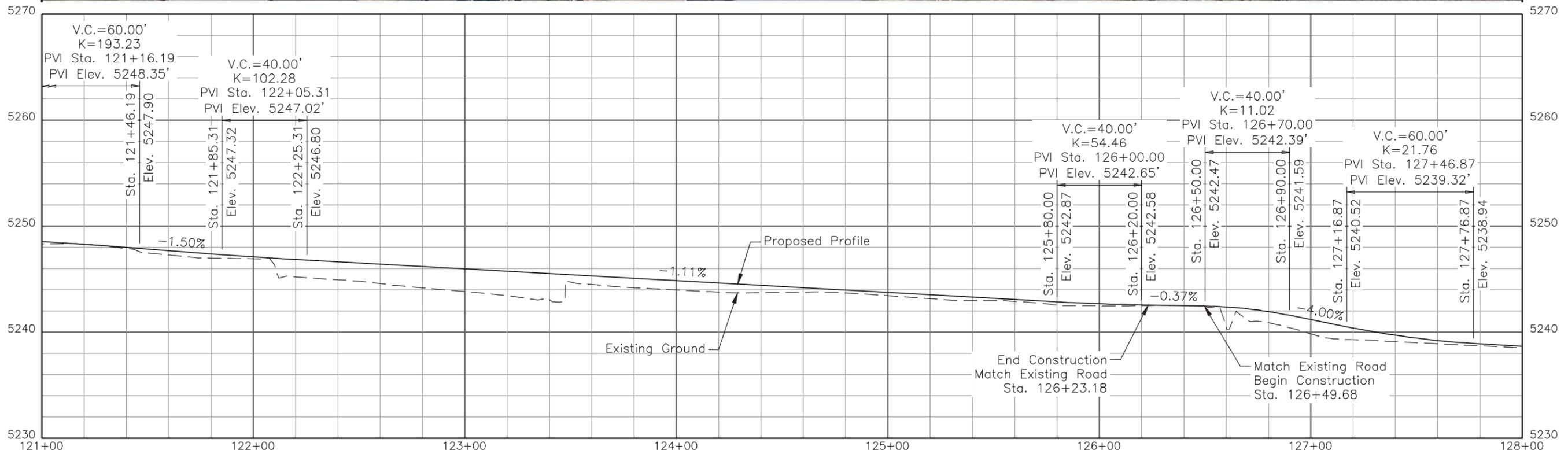


-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)



LOBO TRAIL PLAN & PROFILE (JAY RD)	
PROJECT NO: 1000445	SHEET NO: 5

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COMPACTED CRUSHER FINES

 CONCRETE SIDEWALK (6 INCH)



Boulder County

 SNC-LAVALIN

 ATKINS

Member of the SNC-Lavalin Group

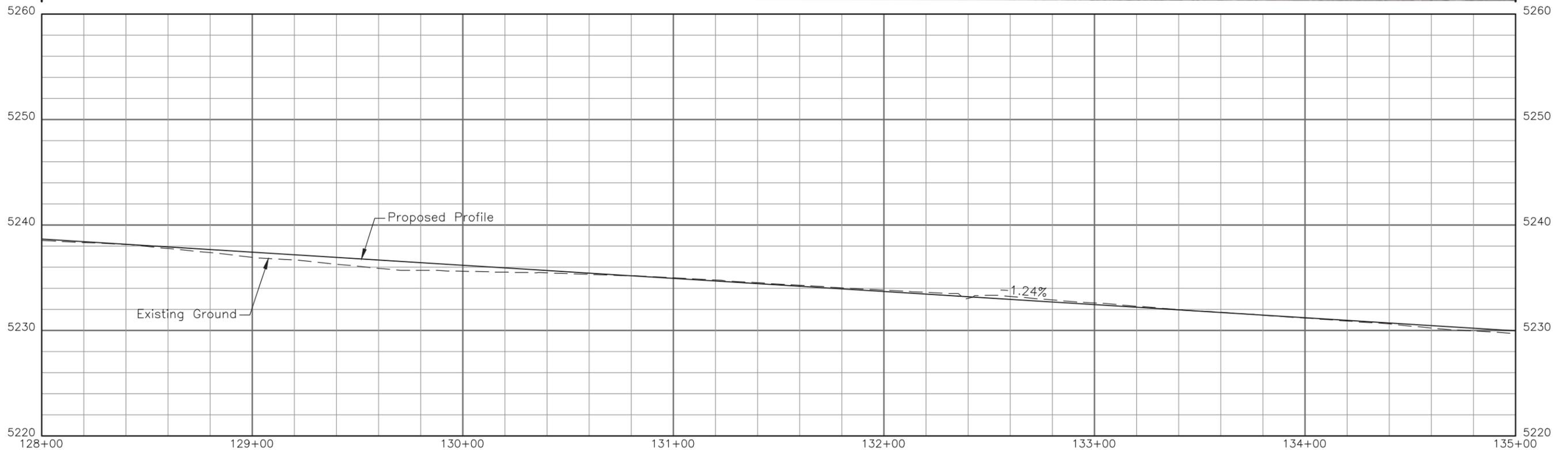
LOBO TRAIL

 PLAN & PROFILE (JAY RD)

 PROJECT NO: 1000445

 SHEET NO: 6

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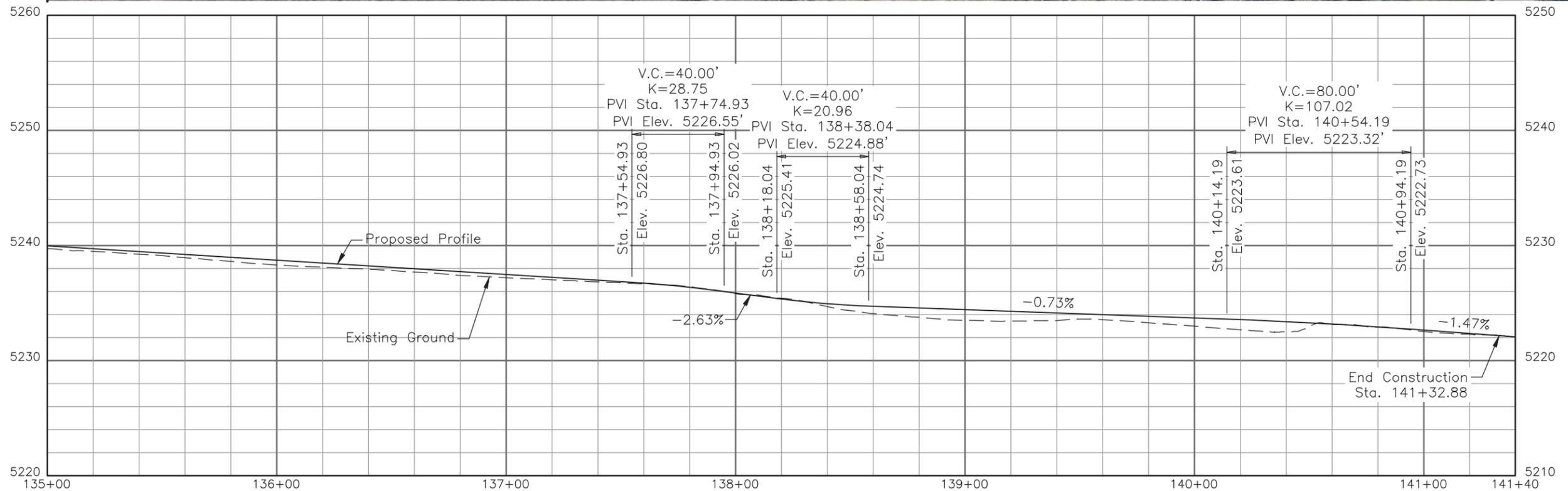
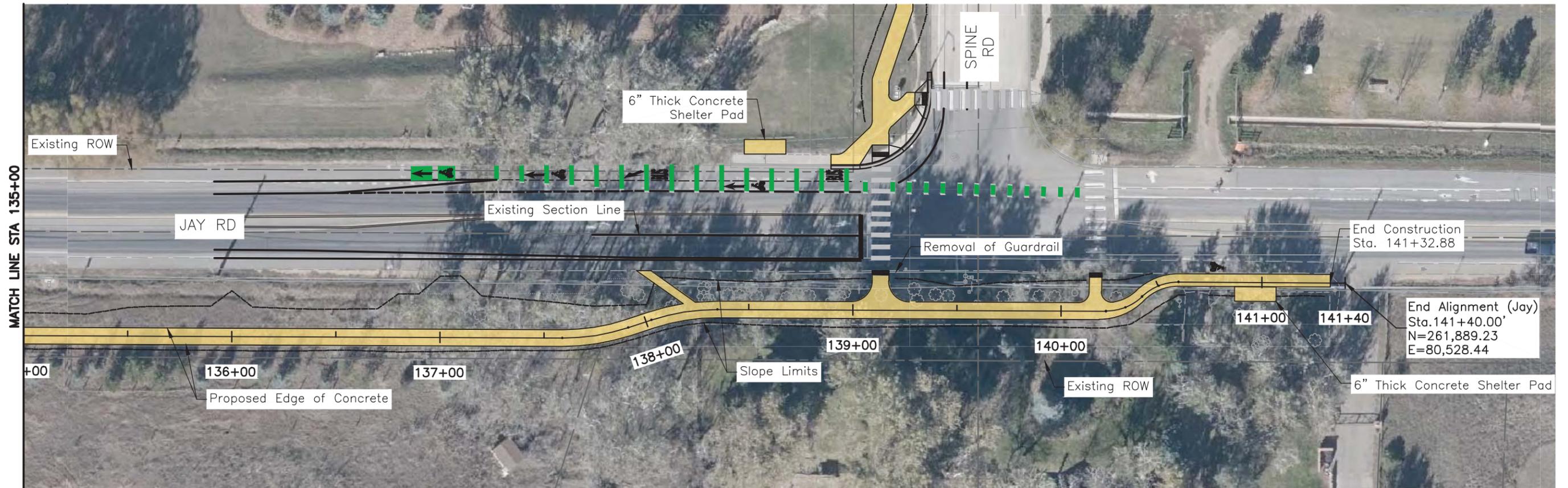


-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)

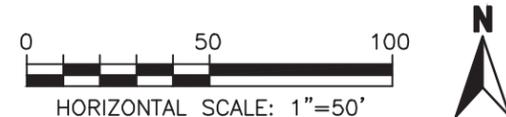


LOBO TRAIL PLAN & PROFILE (JAY RD)	
PROJECT NO: 1000445	SHEET NO: 7

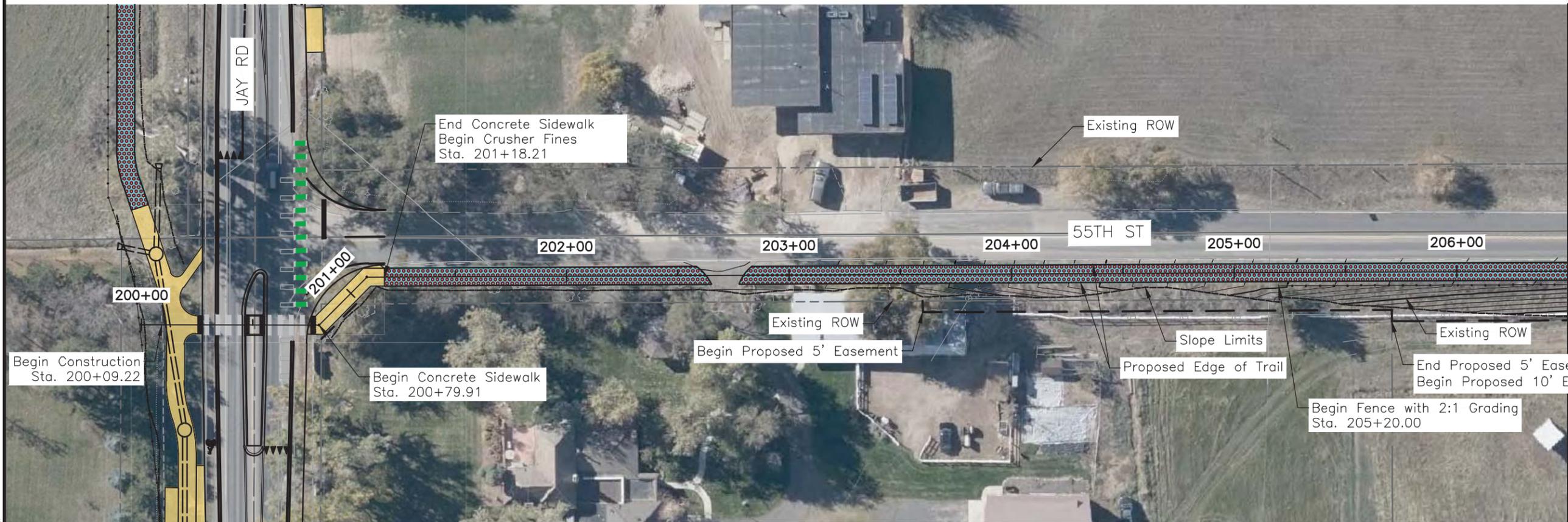
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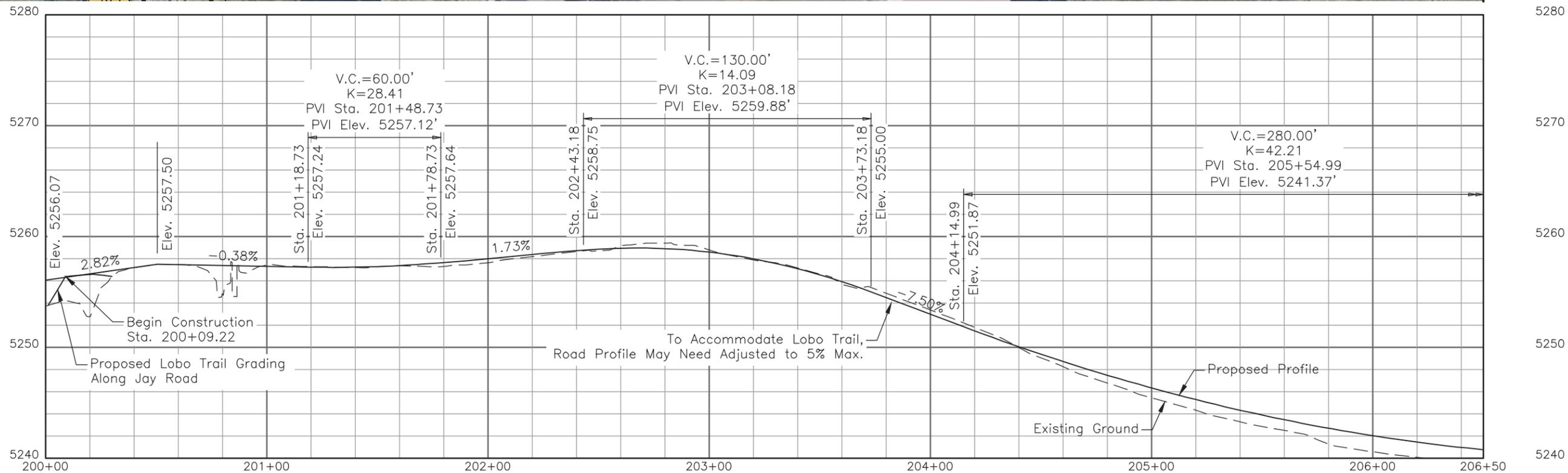
- COMPACTED CRUSHER FINES
- CONCRETE SIDEWALK (6 INCH)



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MATCH LINE STA 206+50

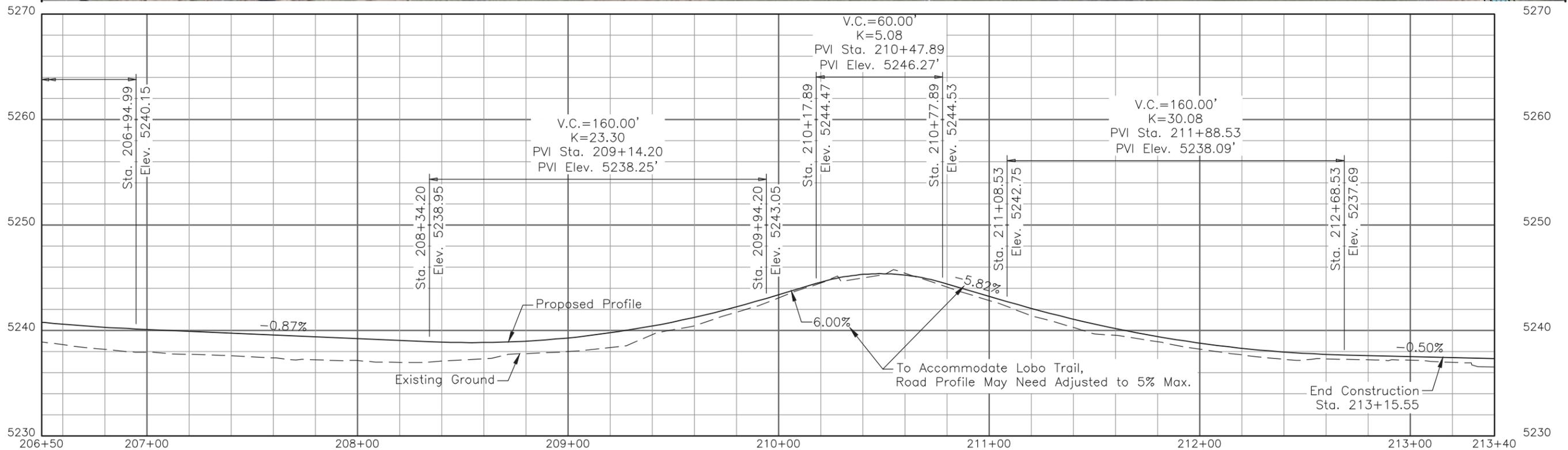
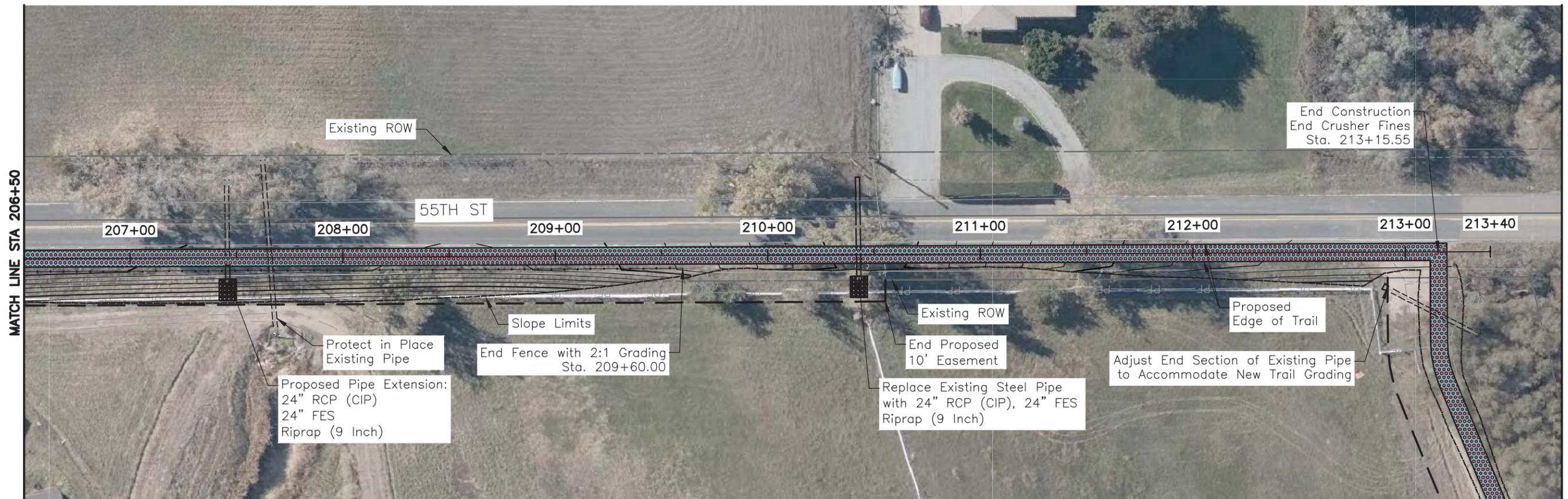


-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)



LOBO TRAIL PLAN & PROFILE (55TH ST)	
PROJECT NO: 1000445	SHEET NO: 9

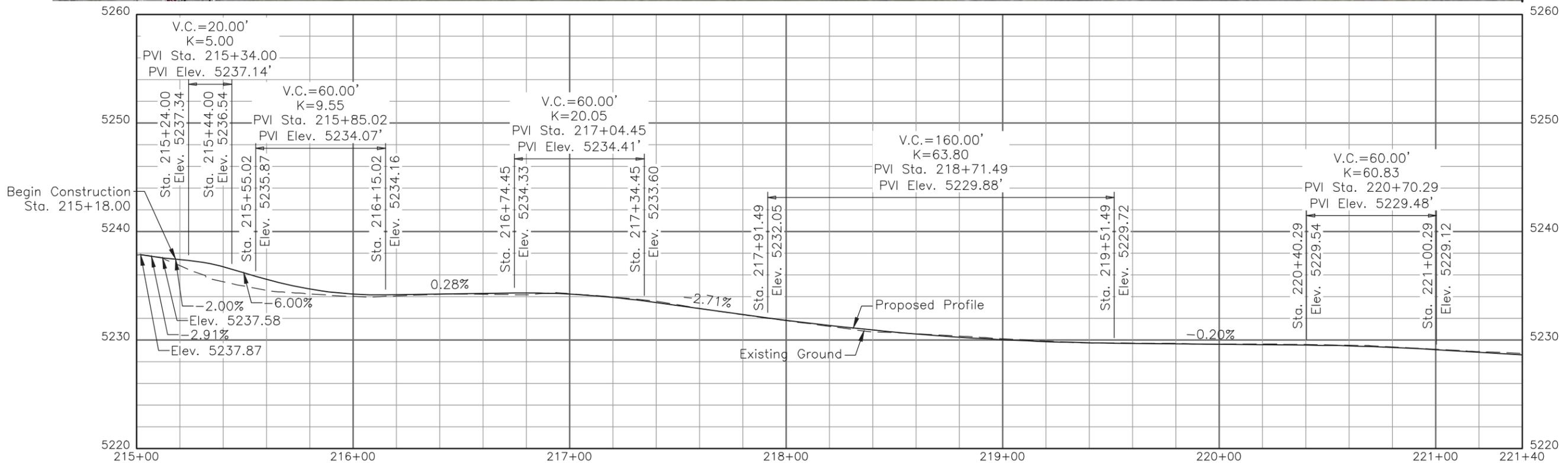
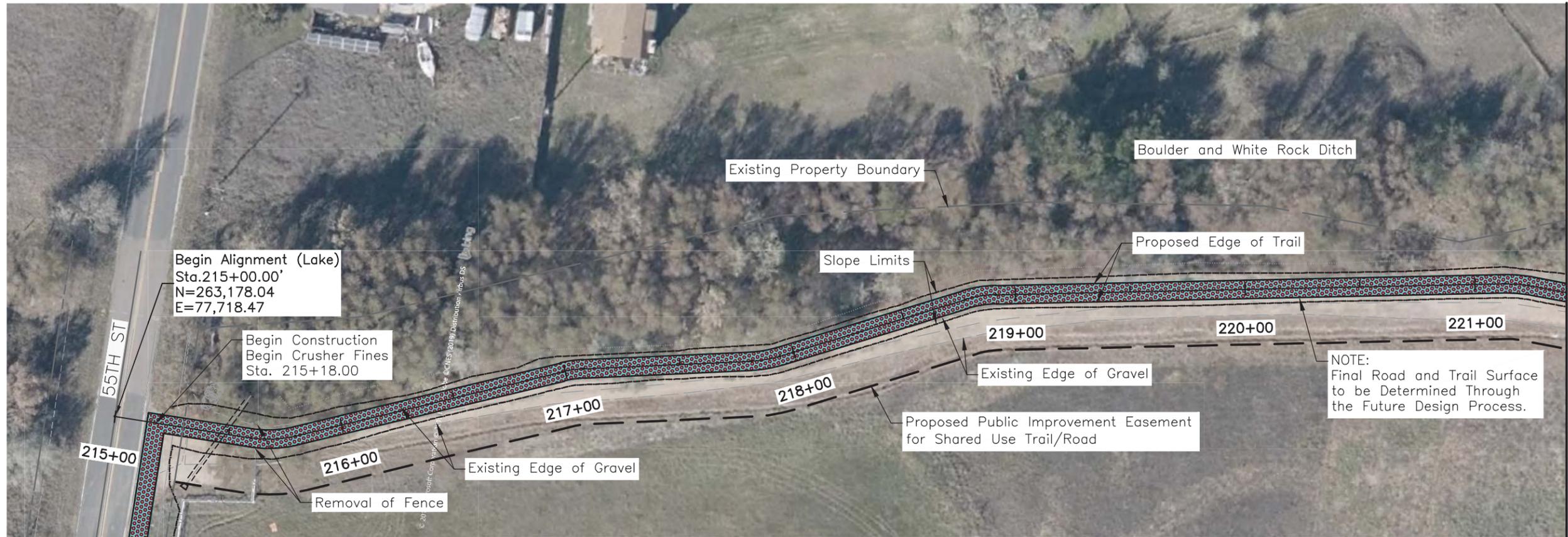
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-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)



LOBO TRAIL PLAN & PROFILE (55TH ST)	
PROJECT NO: 1000445	SHEET NO: 10



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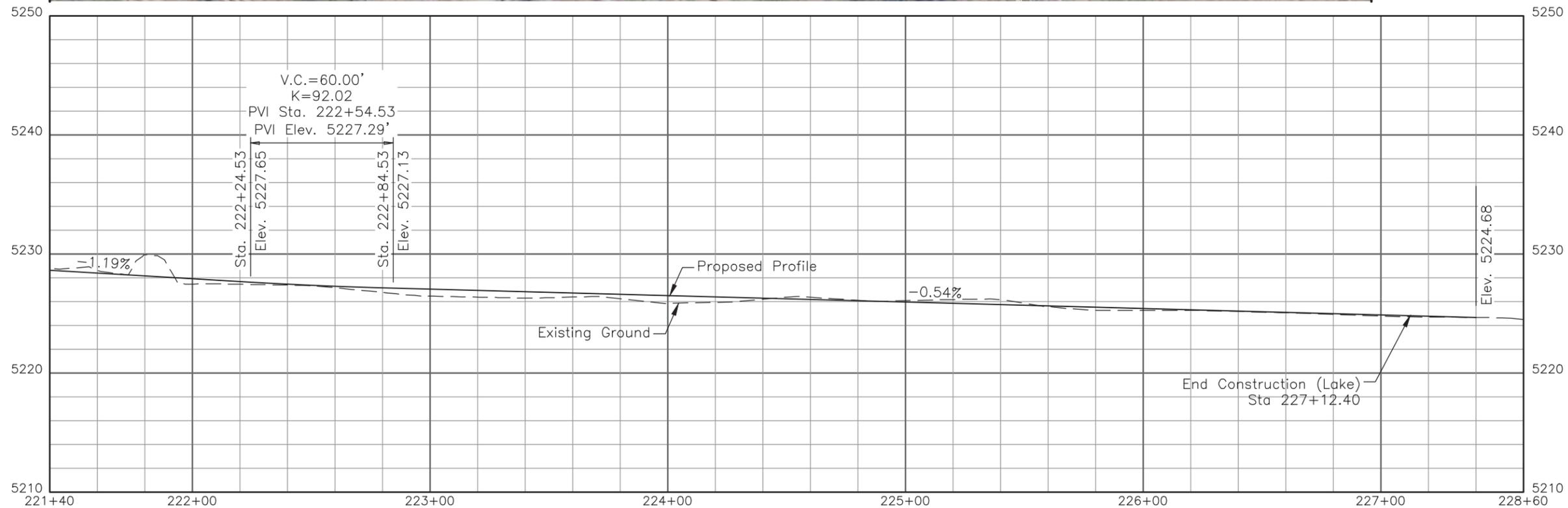
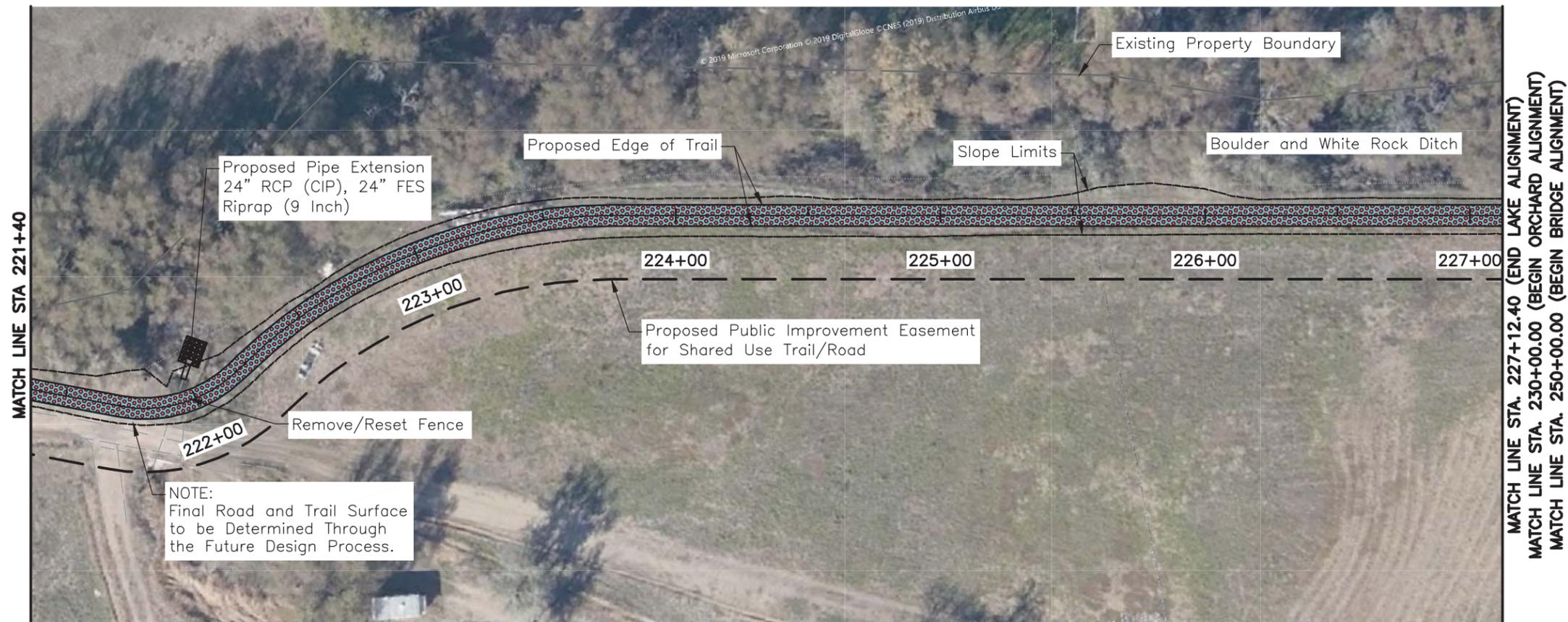
- COMPACTED CRUSHER FINES
- CONCRETE SIDEWALK (6 INCH)



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LOBO TRAIL	
PLAN & PROFILE (LAKE)	
PROJECT NO: 1000445	SHEET NO: 11

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-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)

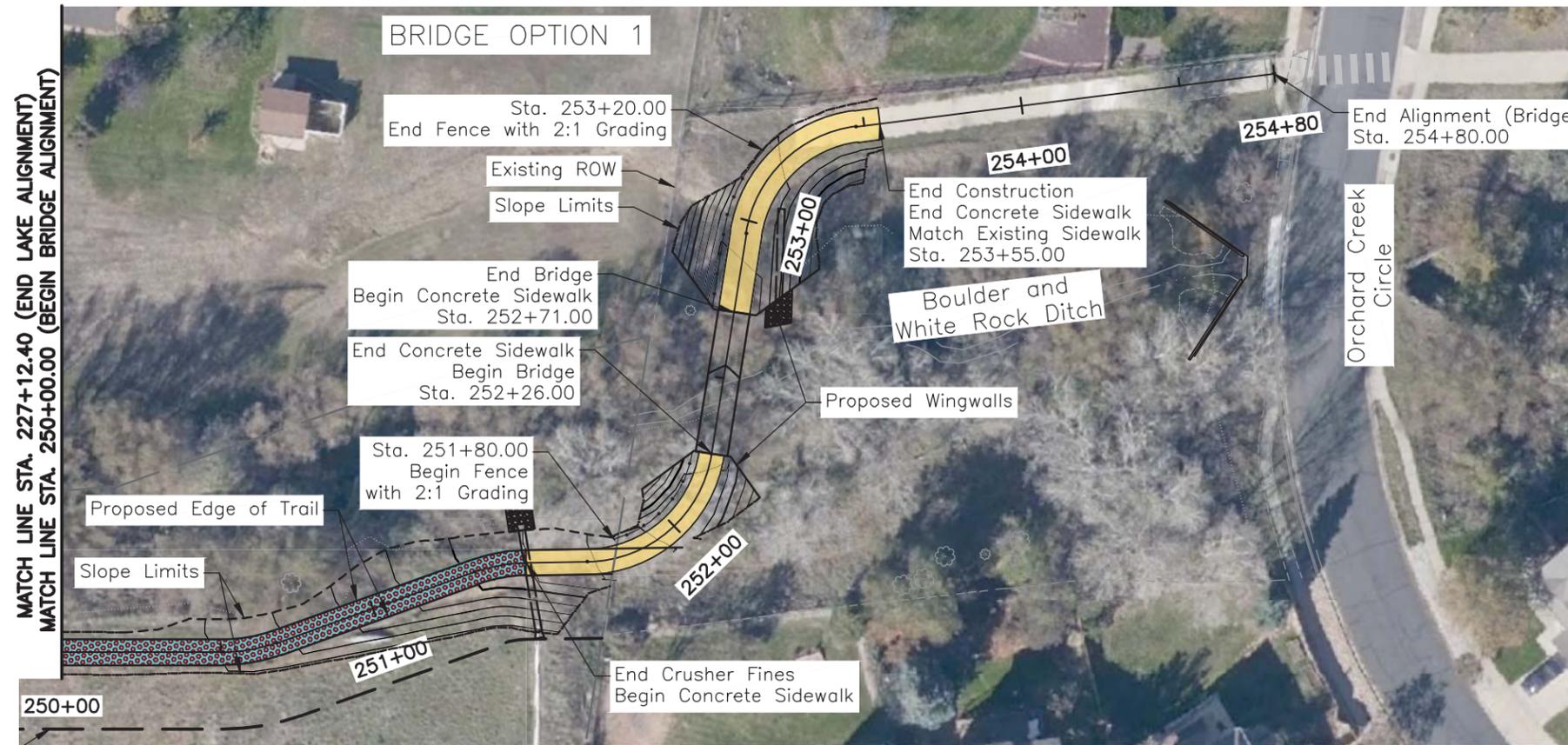


LOBO TRAIL
PLAN & PROFILE (LAKE)

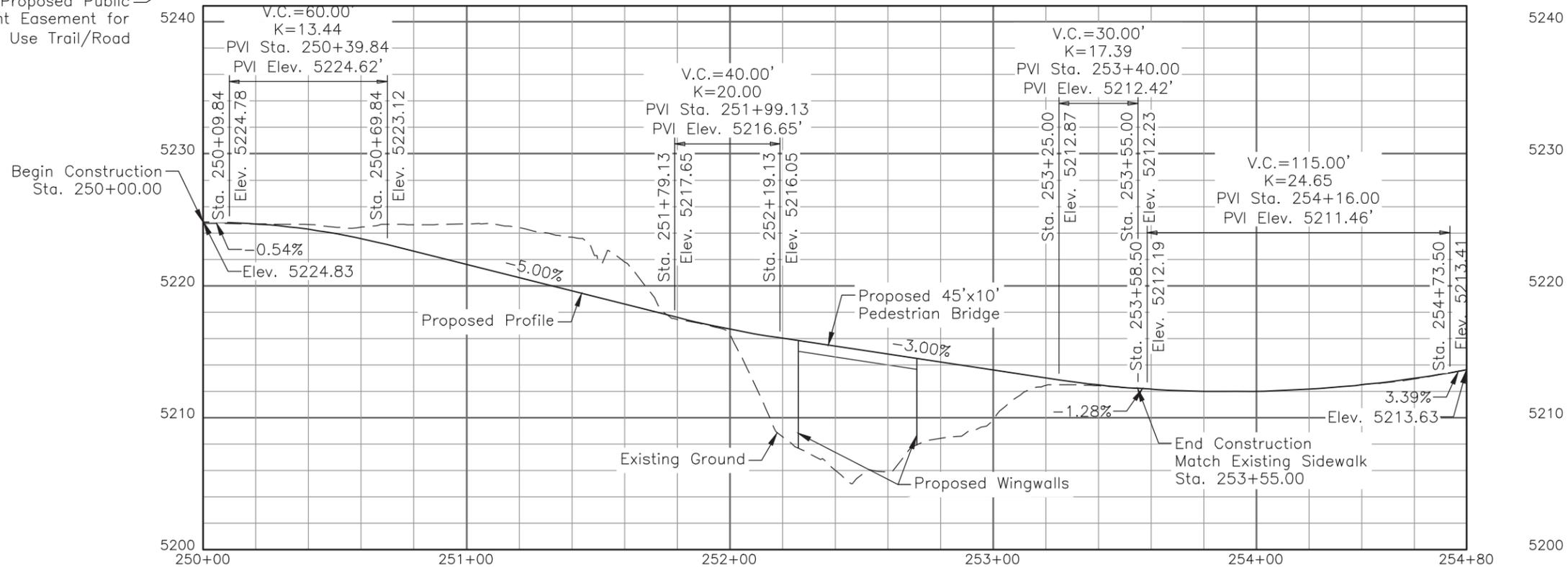
PROJECT NO: 1000445

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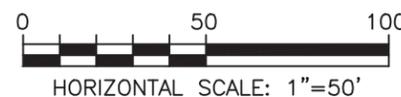
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Proposed Public Improvement Easement for Shared Use Trail/Road

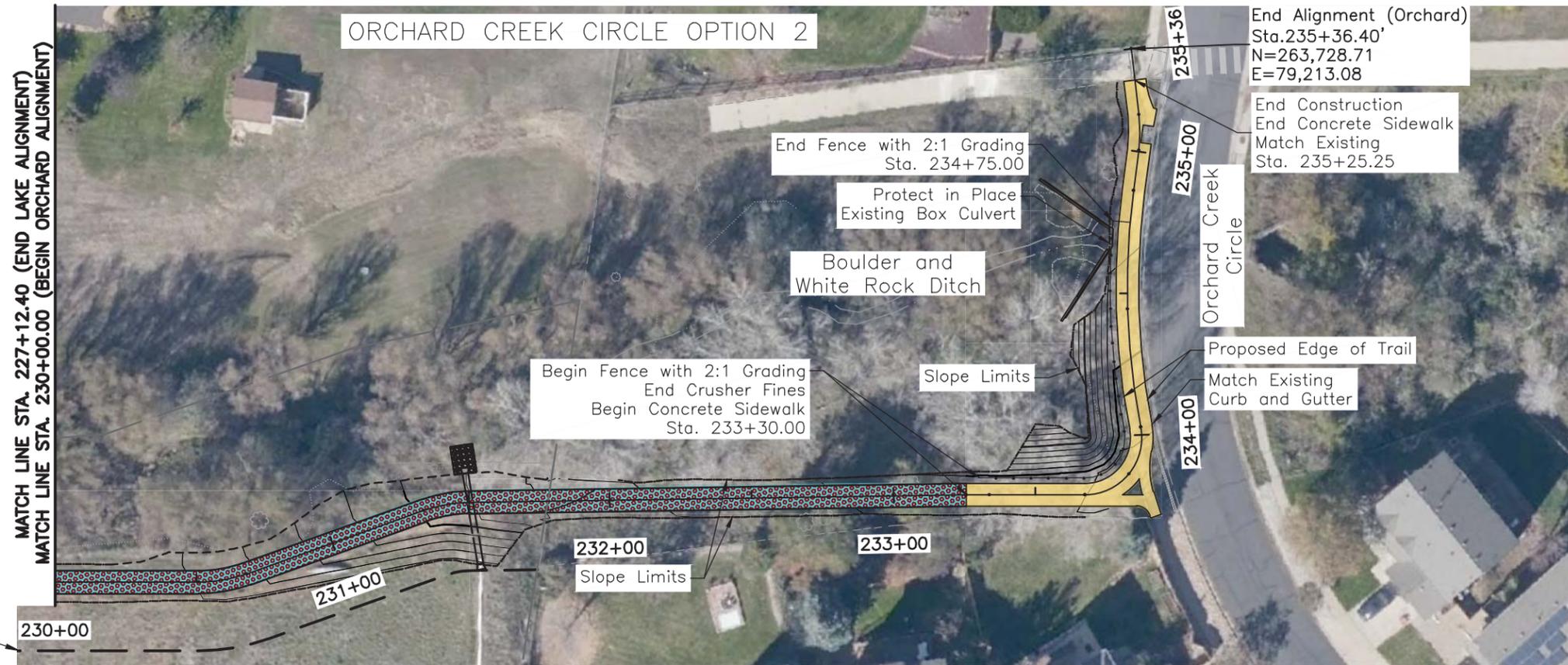


- COMPACTED CRUSHER FINES
- CONCRETE SIDEWALK (6 INCH)

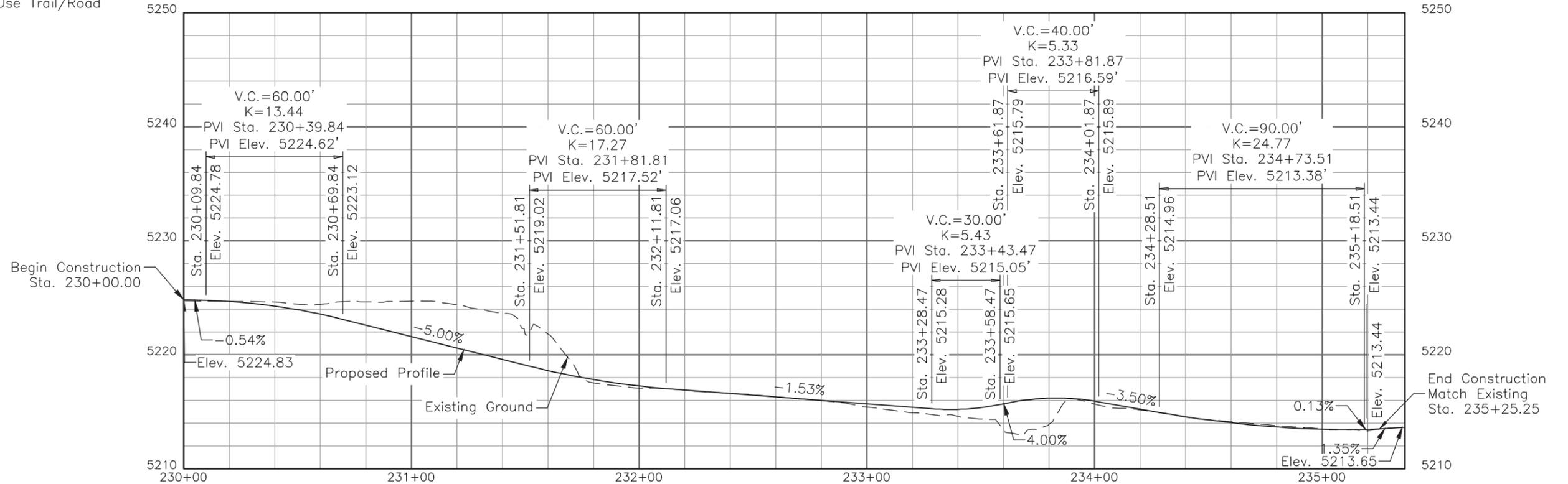


LOBO TRAIL PLAN & PROFILE (BRIDGE)	
PROJECT NO: 1000445	SHEET NO: 13

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Proposed Public Improvement Easement for Shared Use Trail/Road

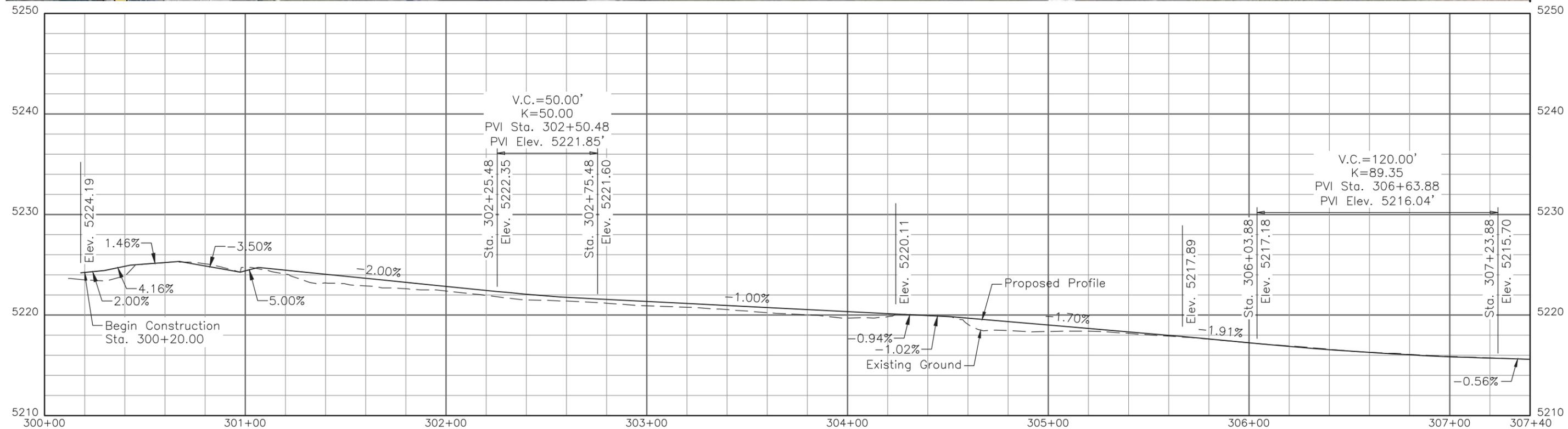
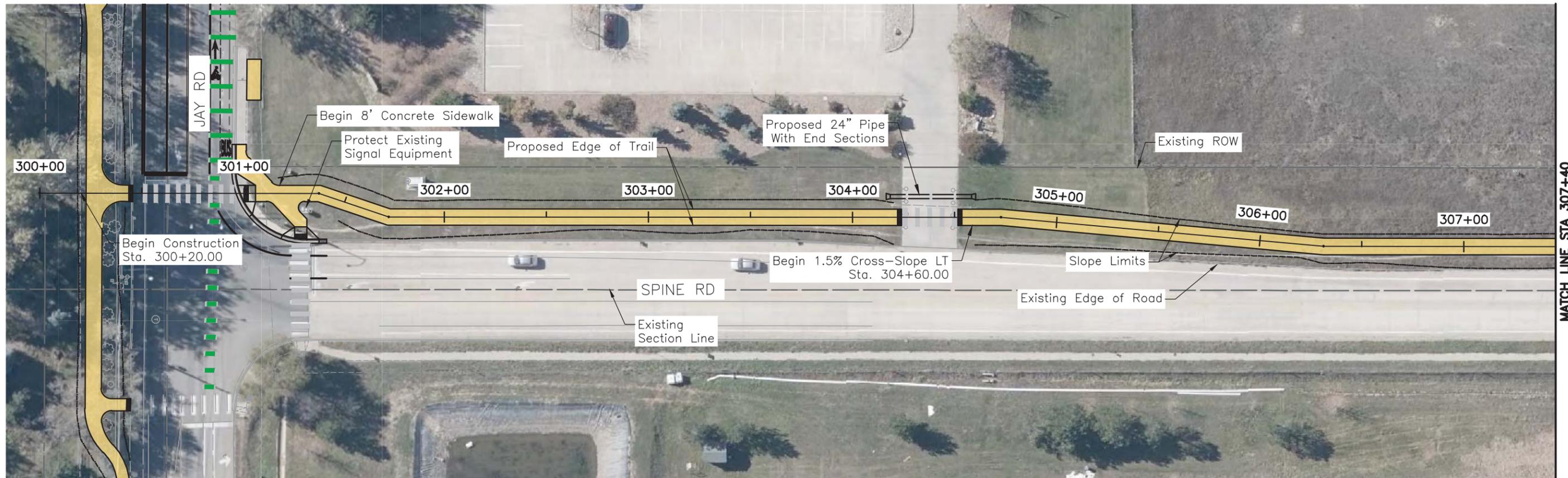


- COMPACTED CRUSHER FINES
- CONCRETE SIDEWALK (6 INCH)

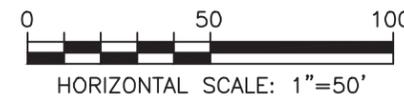


LOBO TRAIL PLAN & PROFILE (ORCHARD)	
PROJECT NO: 1000445	SHEET NO: 14

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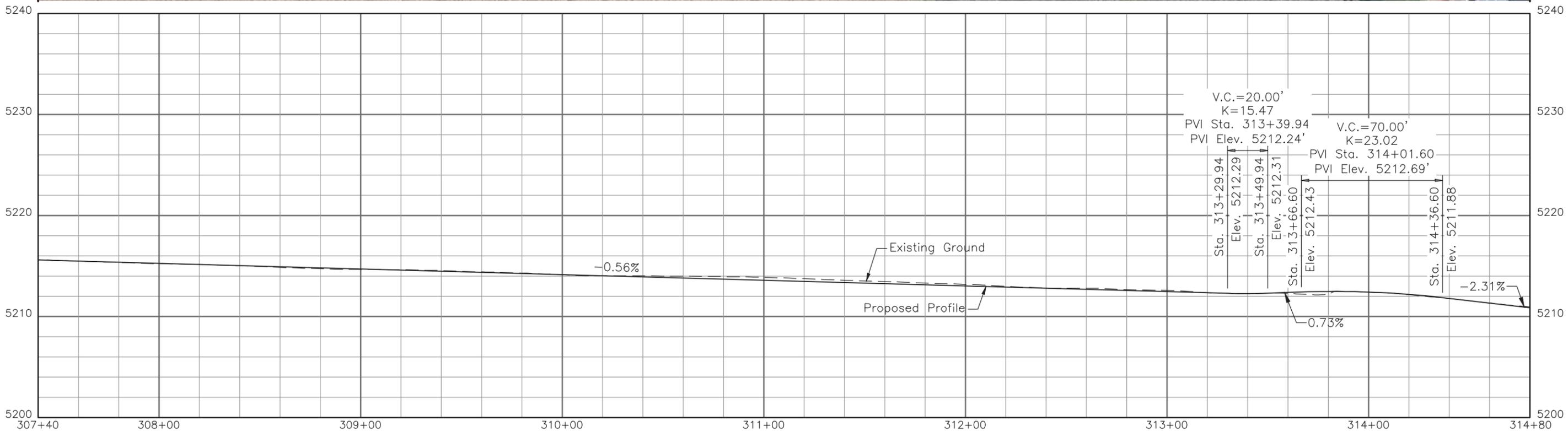
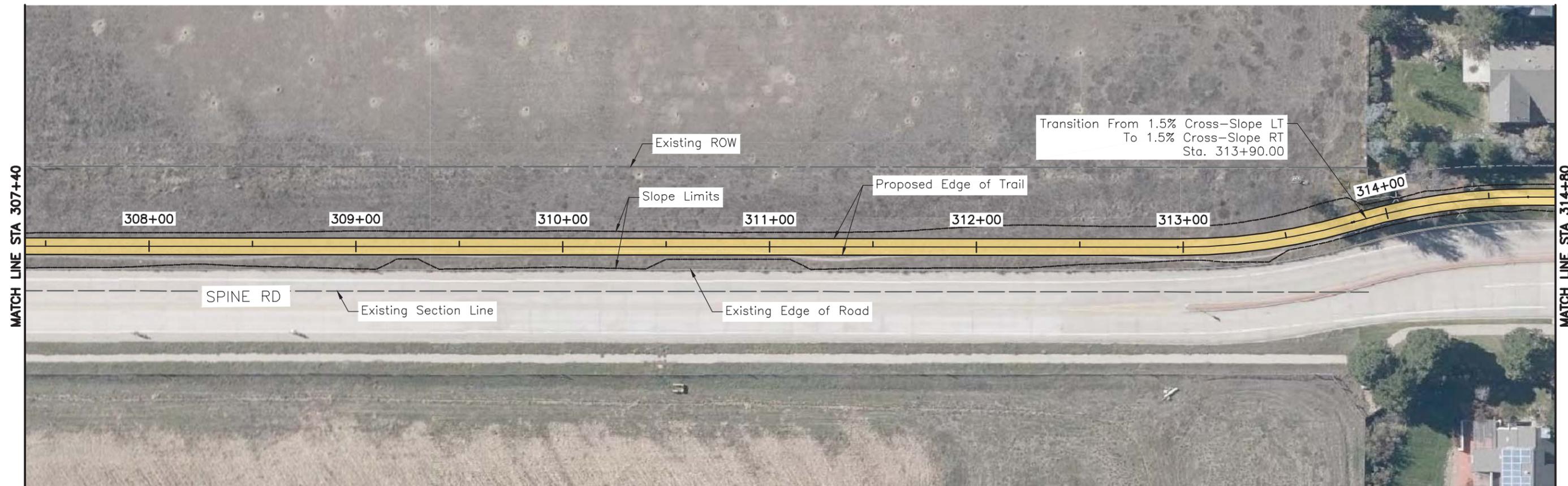


- COMPACTED CRUSHER FINES
- CONCRETE SIDEWALK (6 INCH)

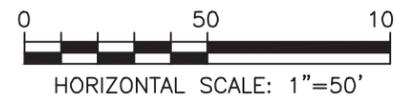


LOBO TRAIL PLAN & PROFILE (SPINE)	
PROJECT NO: 1000445	SHEET NO: 15

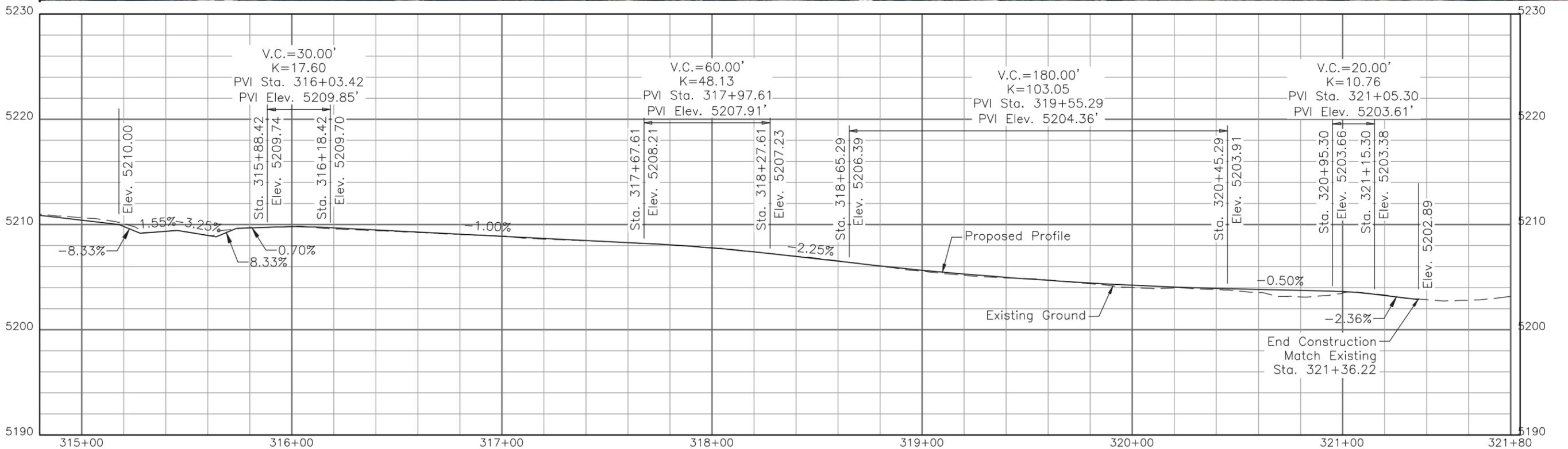
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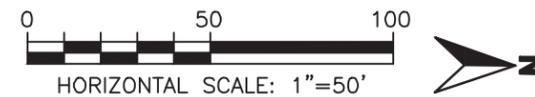
- COMPACTED CRUSHER FINES
- CONCRETE SIDEWALK (6 INCH)



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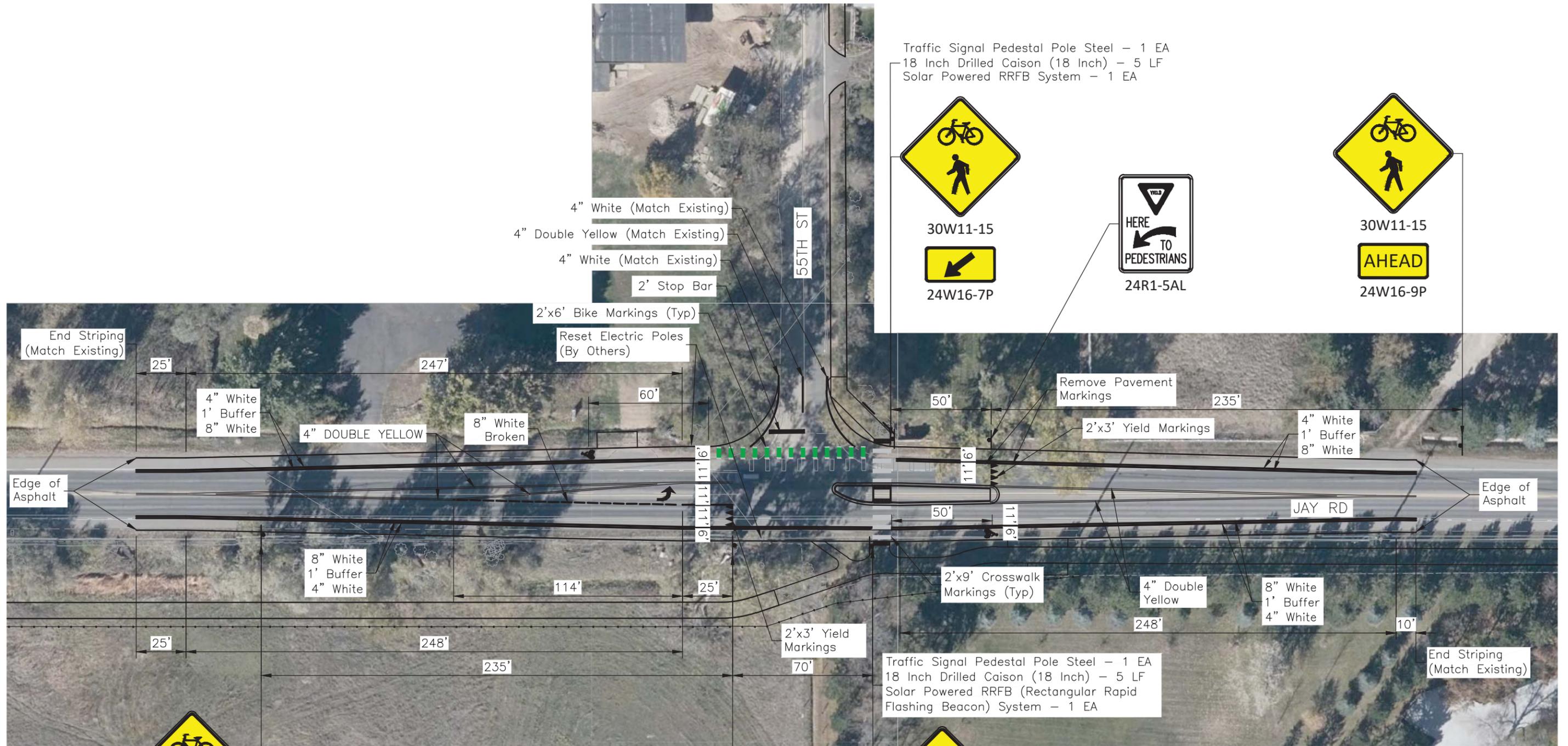


-  COMPACTED CRUSHER FINES
-  CONCRETE SIDEWALK (6 INCH)



LOBO TRAIL PLAN & PROFILE (SPINE)	
PROJECT NO: 1000445	SHEET NO: 17

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Traffic Signal Pedestal Pole Steel – 1 EA
 18 Inch Drilled Caison (18 Inch) – 5 LF
 Solar Powered RRFB System – 1 EA



30W11-15



24W16-7P



24R1-5AL



30W11-15



24W16-9P



30W11-15



24W16-9P



24R1-5AL



30W11-15

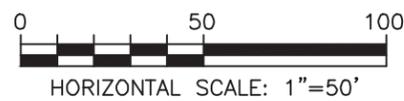
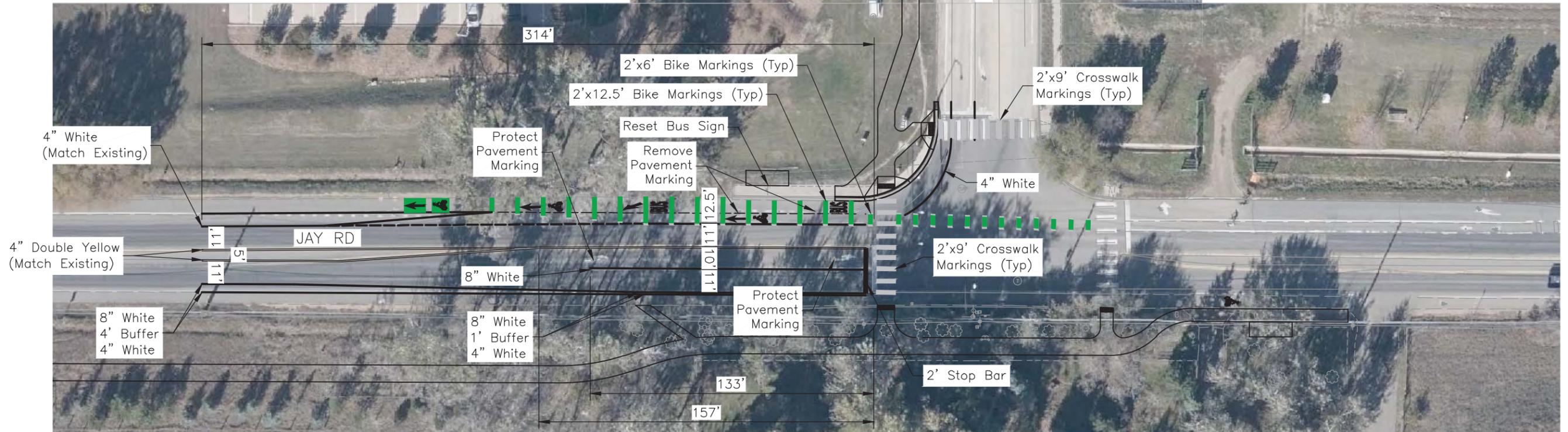
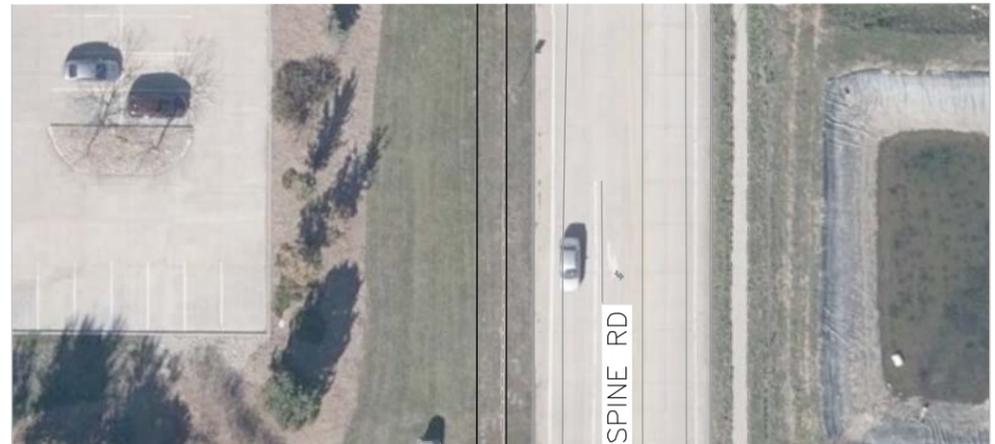


24W16-7P



LOBO TRAIL SIGNING AND STRIPING (55TH)	
PROJECT NO: 1000445	SHEET NO: 18

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LOBO TRAIL SIGNING AND STRIPING (SPINE)	
PROJECT NO: 1000445	SHEET NO: 19

**LONGMONT TO BOULDER REGIONAL TRAIL - JAY ROAD CONNECTION (BOULDER COUNTY)
ENGINEER'S ESTIMATE OF CONSTRUCTION COSTS (15% DESIGN)**

CDOT ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY						
				JAY (W)	JAY (E)	55TH	LAKE	ORCHARD	BRIDGE	SPINE
201-00000	CLEARING AND GRUBBING	LS	\$ 14,000.00	1						
202-00010	FEMOVAL OF TREE	EA	\$ 250.00	4	27	4				
202-00015	FEMOVAL OF HEADWALL	EA	\$ 1,200.00	1	2	1				
202-00200	REMOVAL OF SIDEWALK	SY	\$ 32.00					67	31	448
202-00203	REMOVAL OF CURB AND GUTTER	LF	\$ 9.00							181
202-00220	REMOVAL OF ASPHALT MAT	SY	\$ 7.00			130				31
202-01130	REMOVAL OF GUARDRAIL (TYPE 3)	LF	\$ 4.50		127					
202-01300	REMOVAL OF END ANCHORAGE	EA	\$ 300.00		1					
203-00010	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	\$ 25.00	52	30	49	42	235	233	89
203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	\$ 35.00	316	1,067	1,134	140	141	512	317
207-00205	TOPSOIL	CY	\$ 5.00	48	319	196	95	62	63	222
208-00207	EROSION CONTROL MANAGEMENT (ECM)	DAY	\$ 210.00	30						
210-00810	RESET GROUND SIGN	EA	\$ 260.00	2	3					2
212-00006	SEEDING (NATIVE)	AC	\$ 1,500.00	0.09	0.59	0.37	0.18	0.12	0.12	0.41
216-00041	EROSION CONTROL BLANKET (STRAW/COCONUT)	SY	\$ 2.50			582		132	63	99
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	\$ 55.00	58	706	384	235	57	63	572
304-09006	COMPACTED CRUSHER FINES	SY	\$ 30.00	1,152		1,064	1,062	289	134	
403-00721	HOT MIX ASPHALT (PATCHING) (ASPHALT)	SY	\$ 32.00			502				39
420-00112	GEOTEXTILE (DRAINAGE) (CLASS 1)	SY	\$ 6.00			17	8	8	16	
420-00200	GEOTEXTILE (WEED BARRIER)	SY	\$ 6.00	1,152		1,064	1,062	289	134	
503-00018	DRILLED CAISSON (18 INCH)	LF	\$ 120.00			10				
506-00209	RIPRIP (9 INCH)	CY	\$ 150.00			8	4	4	8	
601-03050	CONCRETE CLASS D (WALL)	CY	\$ 1,050.00						39	
602-00020	REINFORCING STEEL (EPOXY COATED)	LB	\$ 1.60						1,544	
603-01185	18 INCH REINFORCED CONCRETE PIPE (CIP)	LF	\$ 100.00				6	32	61	40
603-01245	24 INCH REINFORCED CONCRETE PIPE (CIP)	LF	\$ 150.00	168	810	53				
603-05018	18 INCH CONCRETE END SECTION	EA	\$ 1,000.00				2	1	2	2
603-05024	24 INCH CONCRETE END SECTION	EA	\$ 1,200.00	2	2	2				
604-30005	MANHOLE SLAB BASE (5 FOOT)	EA	\$ 5,000.00	1	2					
607-11455	FENCE WOOD	LF	\$ 30.00	1,454		440		136	92	89
607-60116	16 FOOT GATE	EA	\$ 400.00	1						
608-00006	CONCRETE SIDEWALK (6 INCH)	SY	\$ 70.00	195	2,360	36		190	210	1,855
608-00010	CONCRETE CURB RAMP	SY	\$ 160.00			11				91
608-00015	DETECTABLE WARNING	SF	\$ 60.00		64	32				32
609-21010	CURB AND GUTTER TYPE 2 (SECTION I-B)	LF	\$ 28.00			150				
609-21020	CURB AND GUTTER TYPE 2 (SECTION II-B)	LF	\$ 34.00							57
610-00020	MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	\$ 20.00			466				
614-00011	SIGN PANEL (CLASS I)	SF	\$ 20.00			45				
614-84000	TRAFFIC SIGNAL PEDESTAL POLE STEEL	EA	\$ 2,500.00			2				
614	SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON SYSTEM	EA	\$ 7,500.00			2				
615-65005	IRRIGATION DIVERSION STRUCTURE	EA	\$ 10,000.00	1	2	1				
620-00002	FIELD OFFICE (CLASS 2)	EA	\$ 22,000.00	1						
620-00020	SANITARY FACILITY	EA	\$ 2,500.00	1						
625-00000	CONSTRUCTION SURVEYING	LS	\$ 28,000.00	1						
626-00000	MOBILIZATION	LS	\$ 112,000.00	1						
627-00008	MODIFIED EPOXY PAVEMENT MARKING	GAL	\$ 65.00		5	5				
627-30405	PREFORMED THERMOPLASTIC PAVEMENT MARKING (WORD-SYMBOL)	SF	\$ 16.50			40				
627-30410	PREFORMED THERMOPLASTIC PAVEMENT MARKING (XWALK-STOPLINE)	SF	\$ 12.50		120	229				438
630-00007	TRAFFIC CONTROL INSPECTION	DAY	\$ 200.00	10						
630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	\$ 820.00	30						
631-11000	BRIDGE/STRUCTURE (DESIGN BUILD)	SF	\$ 120.00						450	
700-70010	F/A MINOR CONTRACT REVISIONS	FA	\$ 70,000.00	1						
	PUBLIC IMPROVEMENT EASEMENT	SF	\$ 1.00		471	5,146	99,665			
	CONTENGENCY (25%)	FA	\$ 350,000.00	1						
			TOTAL	\$ 791,840	\$ 415,463	\$ 208,305	\$ 160,803	\$ 49,525	\$ 157,583	\$ 227,150

JAY / SPINE OPTION		55TH / LAKE / ORCHARD		55TH / LAKE / BRIDGE	
TOTAL QUANTITY	COST	TOTAL QUANTITY	COST	TOTAL QUANTITY	COST
1	\$ 14,000	1	\$ 10,000	1	\$ 12,000
31	\$ 7,750	8	\$ 2,000	8	\$ 2,000
3	\$ 3,600	2	\$ 2,400	2	\$ 2,400
448	\$ 14,336	67	\$ 2,133	31	\$ 981
181	\$ 1,629	0	\$ -	0	\$ -
31	\$ 215	130	\$ 912	130	\$ 912
127	\$ 572	0	\$ -	0	\$ -
1	\$ 300	0	\$ -	0	\$ -
171	\$ 4,275	378	\$ 9,450	376	\$ 9,400
1,700	\$ 59,500	1,731	\$ 60,585	2,102	\$ 73,570
590	\$ 2,948	402	\$ 2,009	403	\$ 2,013
30	\$ 6,300	30	\$ 6,300	30	\$ 6,300
7	\$ 1,820	2	\$ 520	2	\$ 520
1.10	\$ 1,645	0.75	\$ 1,121	0.75	\$ 1,123
99	\$ 249	714	\$ 1,785	645	\$ 1,613
1,336	\$ 73,497	735	\$ 40,426	741	\$ 40,770
1,152	\$ 34,557	3,567	\$ 107,020	3,412	\$ 102,350
39	\$ 1,237	502	\$ 16,050	502	\$ 16,050
0	\$ -	33	\$ 200	41	\$ 244
1,152	\$ 6,911	3,567	\$ 21,404	3,412	\$ 20,470
0	\$ -	10	\$ 1,200	10	\$ 1,200
0	\$ -	17	\$ 2,500	20	\$ 3,050
0	\$ -	0	\$ -	39	\$ 40,597
0	\$ -	0	\$ -	1,544	\$ 2,471
40	\$ 4,000	38	\$ 3,800	67	\$ 6,700
978	\$ 146,700	221	\$ 33,150	221	\$ 33,150
2	\$ 2,000	3	\$ 3,000	4	\$ 4,000
4	\$ 4,800	4	\$ 4,800	4	\$ 4,800
3	\$ 15,000	1	\$ 5,000	1	\$ 5,000
1,543	\$ 46,290	2,030	\$ 60,903	1,986	\$ 59,580
1	\$ 400	1	\$ 400	1	\$ 400
4,411	\$ 308,739	421	\$ 29,493	442	\$ 30,956
91	\$ 14,613	11	\$ 1,813	11	\$ 1,813
96	\$ 5,760	32	\$ 1,920	32	\$ 1,920
0	\$ -	150	\$ 4,200	150	\$ 4,200
57	\$ 1,938	0	\$ -	0	\$ -
0	\$ -	466	\$ 9,320	466	\$ 9,320
0	\$ -	45	\$ 900	45	\$ 900
0	\$ -	2	\$ 5,000	2	\$ 5,000
0	\$ -	2	\$ 15,000	2	\$ 15,000
3	\$ 30,000	2	\$ 20,000	2	\$ 20,000
1	\$ 22,000	1	\$ 22,000	1	\$ 22,000
1	\$ 2,500	1	\$ 2,500	1	\$ 2,500
1	\$ 28,000	1	\$ 20,000	1	\$ 24,000
1	\$ 112,000	1	\$ 80,000	1	\$ 96,000
5	\$ 325	5	\$ 325	5	\$ 325
0	\$ -	40	\$ 658	40	\$ 658
558	\$ 6,975	229	\$ 2,863	229	\$ 2,863
10	\$ 2,000	10	\$ 2,000	10	\$ 2,000
30	\$ 24,600	30	\$ 24,600	30	\$ 24,600
0	\$ -	0	\$ -	450	\$ 54,000
1	\$ 70,000	1	\$ 50,000	1	\$ 60,000
471	\$ 471	104,811	\$ 104,811	104,811	\$ 104,811
1	\$ 350,000	1	\$ 250,000	1	\$ 300,000
	\$ 1,434,453		\$ 1,046,472		\$ 1,236,530