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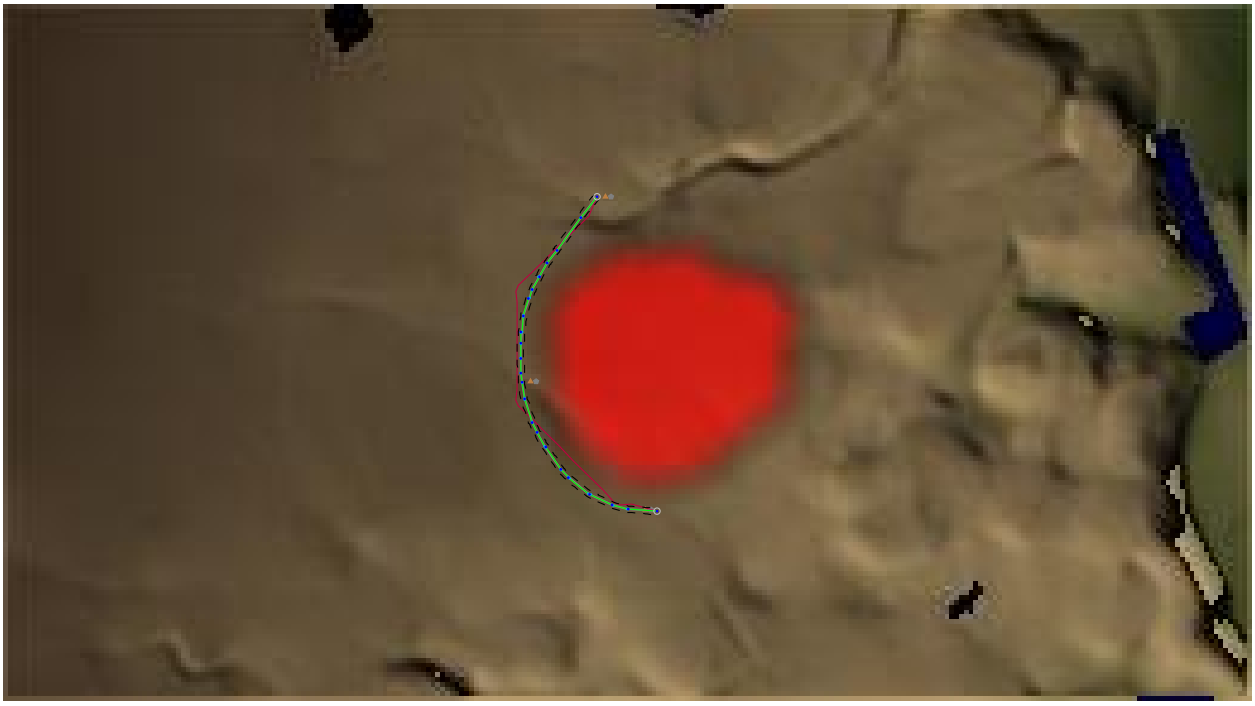
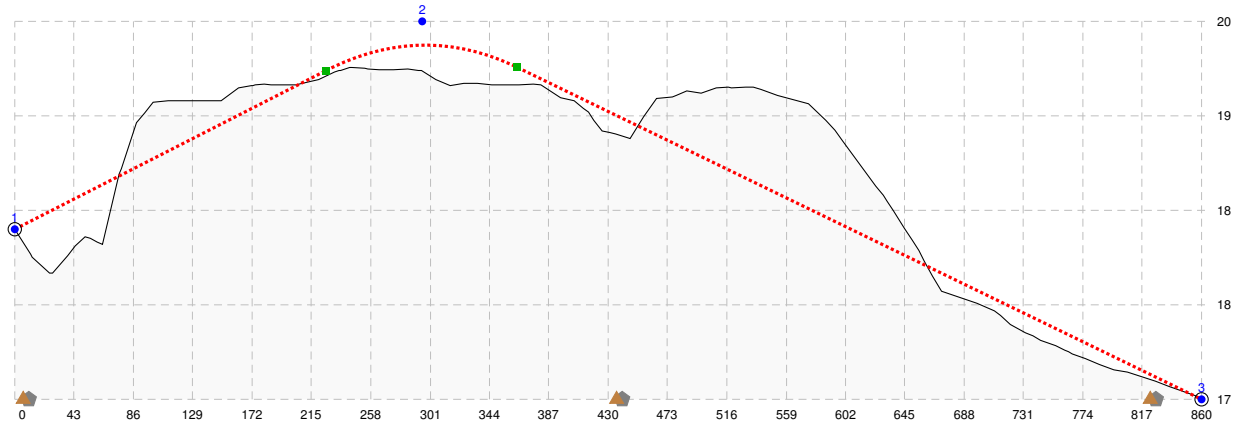
Autodesk InfraWorks

Corridor Optimization Report

Track ID: V2022A06904441, Date: 03/30/2021



Final alignment; Starting alignment; PI; Fixed; PC/PT; Avoidance zone; Waste pit; Borrow pit;



Road profile; PVI; Fixed; Curve start/end; Waste pit; Borrow pit; Elevation scale 117.1 : 1

1. Alignment Information

Linear unit:	meter	Minimum radius:	14.63
Design speed:	20	Minimum super elevation:	4.00 %
Swath width:	13.60	Number of PIs and Curves:	23

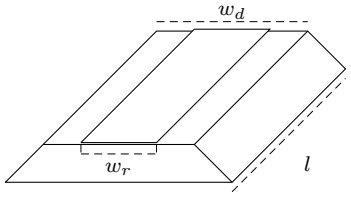
2. Profile Information

Total project cost:	$390,102	Number of PVI's:	3
Linear unit:	meter	Maximum grade:	10.00 %
Design speed:	20	Required drainage grade:	0.00 %
Length:	860.04	Minimum PVI spacing:	15.00

3. Construction Information

Total construction cost:[1]	$385,126	Maximum fill height before bridge:	10.00
Number of bridges:	0	Maximum cut depth before tunnel:	N/A
Number of tunnels:	0	Sample line distance:	10.00
Number of retainings:	0		

3.1. **Road Assembly Information.** The construction cost for a sample line subsection with a road assembly is l times the road cost per linear unit.



l : Sample line distance
w_r : Road width
w_d : Datum width

Road cost per linear meter:[2]	$447.79	Daylight cut slope:	0.33
Road width:[3]	7.20	Daylight fill slope:	0.33
Datum width:	7.20		

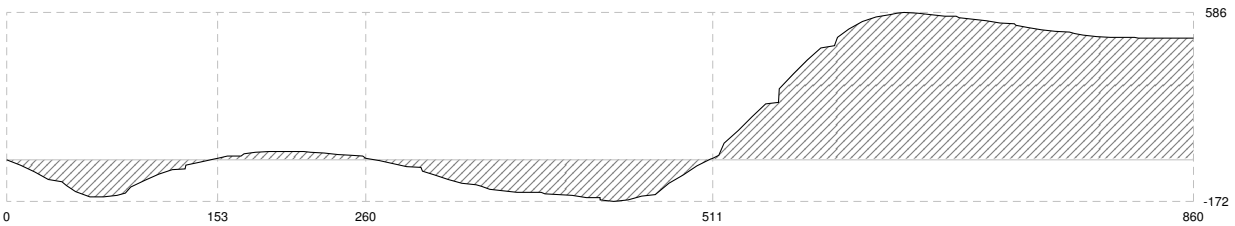
4. Earthwork Information

Total earthwork cost:	$4,976	Max section length:	43.00
Num earthwork sections:	20	Num waste pits:	3
Num earthwork sub-sections:	106	Num borrow pits:	3
Num. stratum:	1	Swath width:	13.60

4.1. **Earthwork for Strata Layer 1.**

Cum. cut:	42.09	Excavation cost:	$3.06
Cum. fill:	42.09	Load cost:	$1.87
Net volume:	0.00	Haul cost (per km):	$2.40
Volume unit:	cubic meter	Embankment cost:	$4.41
Layer name:		Waste cost:	$.98
Reusability factor:	1.00	Borrow cost:	$2.75

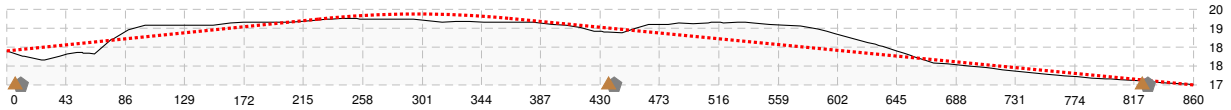
4.1.1. *Mass diagram for strata layer 1.*



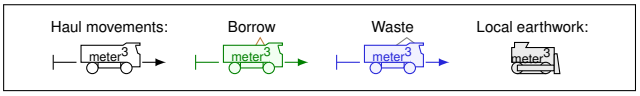
[1]The construction costs are computed at every sample line, using a selected assembly or style, and a sample line distance for the length of a construction subsection. Individual cost computations for the different assemblies are explained below. The total construction cost is the sum of the individual subsection costs.

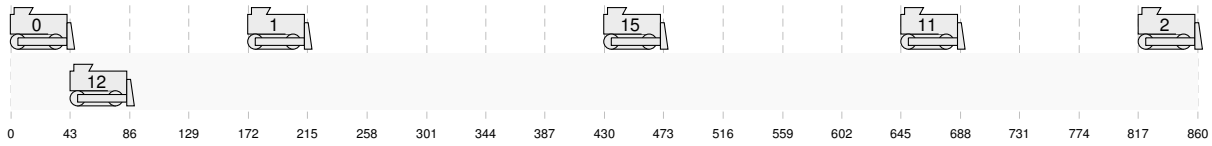
[2]The road cost per linear unit is $w_r \cdot (0.3 \cdot C + 0.7 \cdot A) + D + S + L + G$, where C is the cement pavement cost per square unit, A is the asphalt pavement cost per square unit, D is the cost for drainage, S for signing, L for lighting, and G for signaling per linear unit.

[3]The road width is the number of road lanes multiplied by the width of a road lane. It does not include the width of medians, sidewalks, etc.



4.1.2. *Hauling Scheme for strata layer 1.*





Station: 0.00

Cut area:	0.08
Fill area:	0.08
Road elevation:	18.29
Surface high:	18.38
Surface low:	18.11
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20

-13.60

Station: 43.00

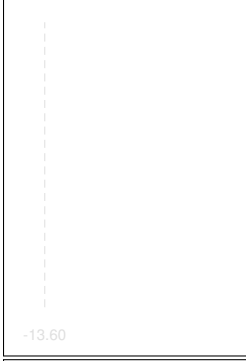
Cut area:	0.00
Fill area:	2.45
Road elevation:	18.48
Surface high:	18.26
Surface low:	17.98
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20

-13.60

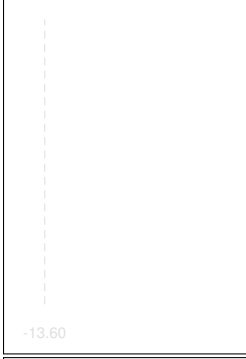
Station: 86.00

Cut area:	1.86
Fill area:	0.00
Road elevation:	18.67
Surface high:	19.03
Surface low:	18.79
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20

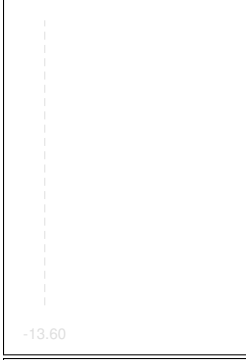
-13.60



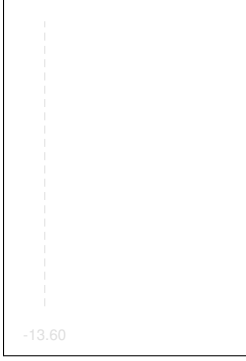
Cut area:	1.84
Fill area:	0.00
Road elevation:	18.85
Surface high:	19.09
Surface low:	19.09
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



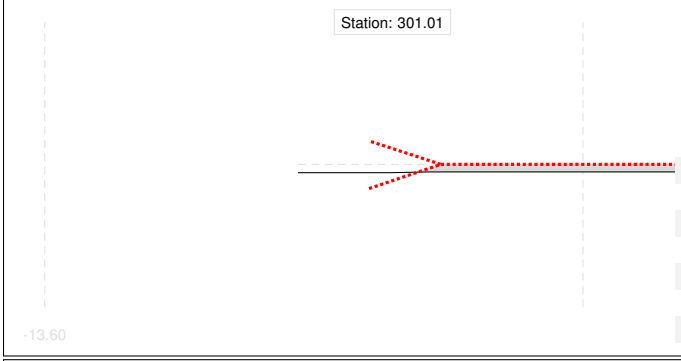
Cut area:	1.06
Fill area:	0.00
Road elevation:	19.04
Surface high:	19.18
Surface low:	19.16
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



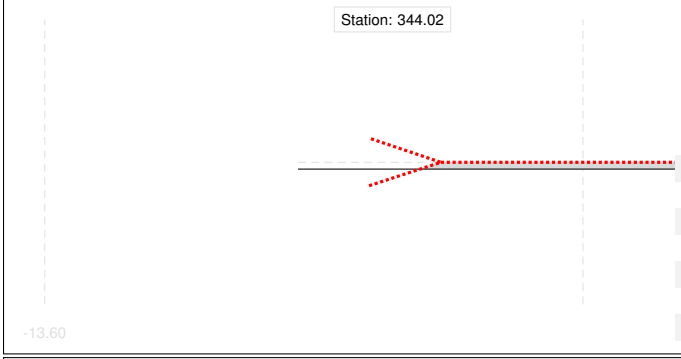
Cut area:	0.00
Fill area:	0.19
Road elevation:	19.23
Surface high:	19.21
Surface low:	19.17
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



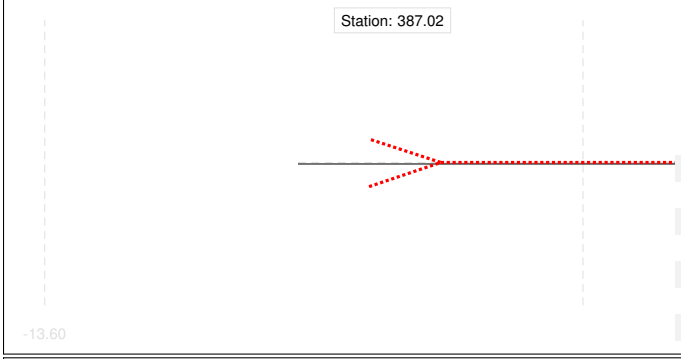
Cut area:	0.00
Fill area:	0.76
Road elevation:	19.39
Surface high:	19.29
Surface low:	19.21
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



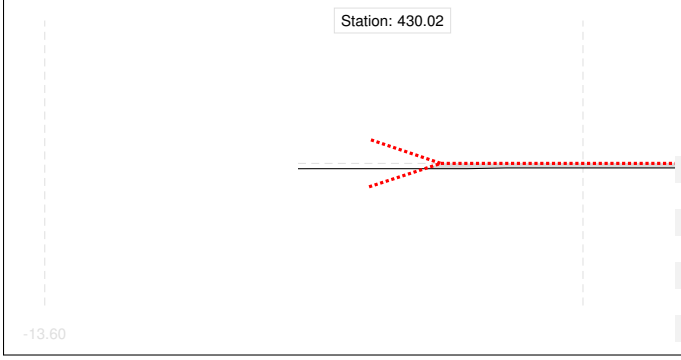
Cut area:	0.00
Fill area:	1.47
Road elevation:	19.43
Surface high:	19.26
Surface low:	19.22
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



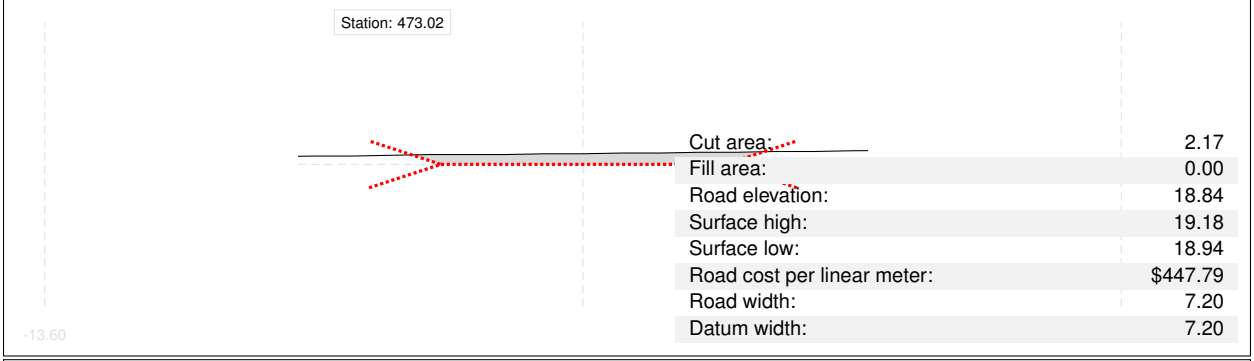
Cut area:	0.00
Fill area:	1.36
Road elevation:	19.36
Surface high:	19.19
Surface low:	19.18
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



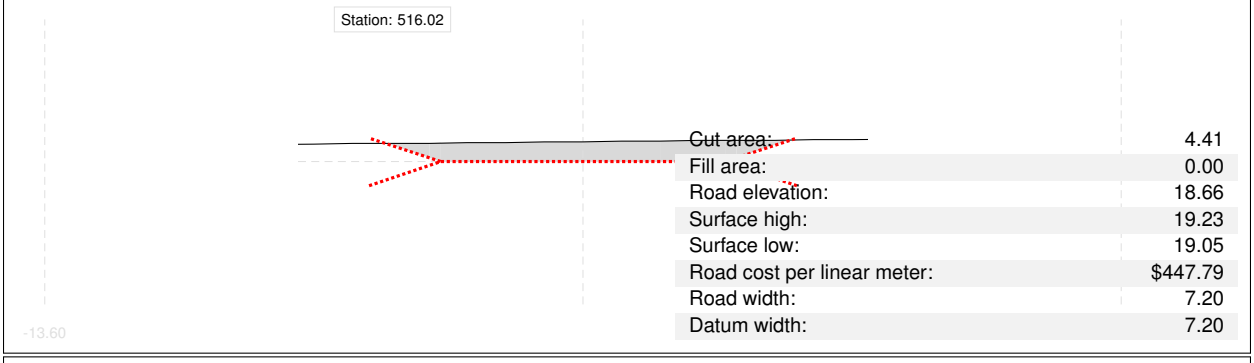
Cut area:	0.00
Fill area:	0.20
Road elevation:	19.20
Surface high:	19.17
Surface low:	19.16
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



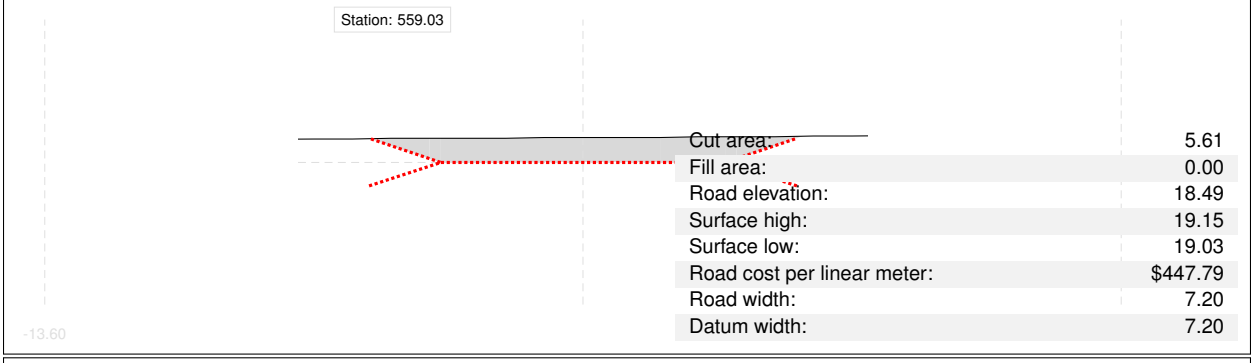
Cut area:	0.00
Fill area:	0.95
Road elevation:	19.02
Surface high:	18.92
Surface low:	18.87
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



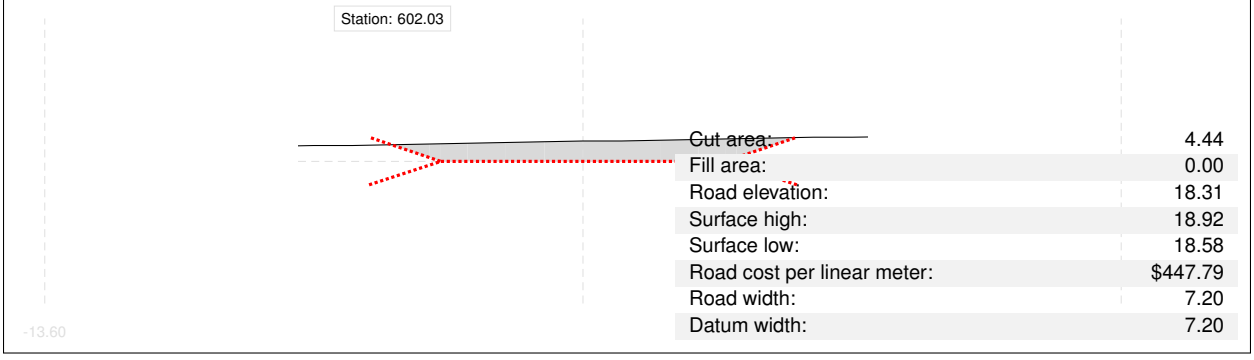
Cut area:	2.17
Fill area:	0.00
Road elevation:	18.84
Surface high:	19.18
Surface low:	18.94
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



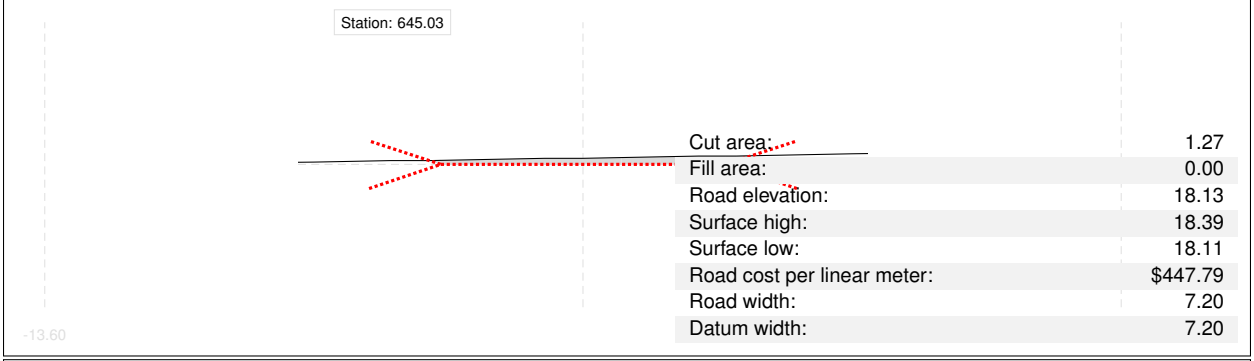
Cut area:	4.41
Fill area:	0.00
Road elevation:	18.66
Surface high:	19.23
Surface low:	19.05
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



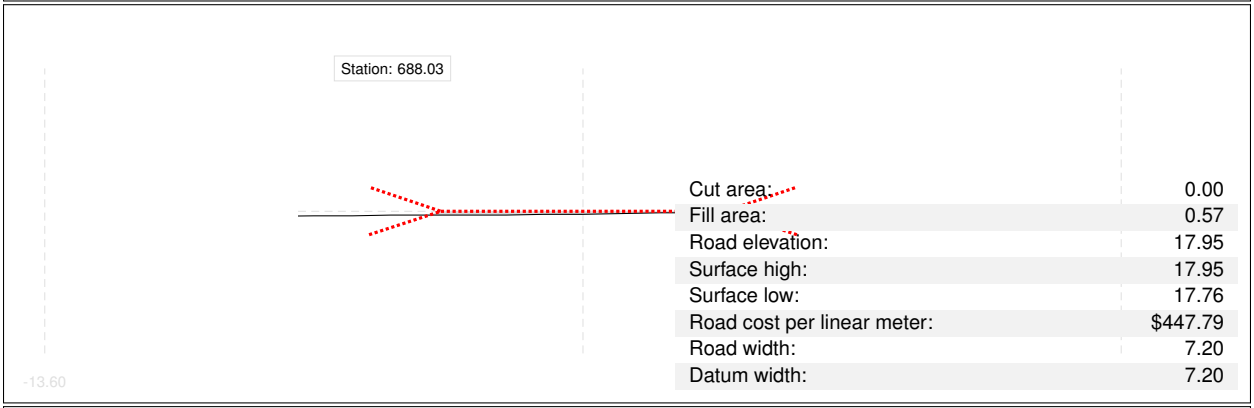
Cut area:	5.61
Fill area:	0.00
Road elevation:	18.49
Surface high:	19.15
Surface low:	19.03
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



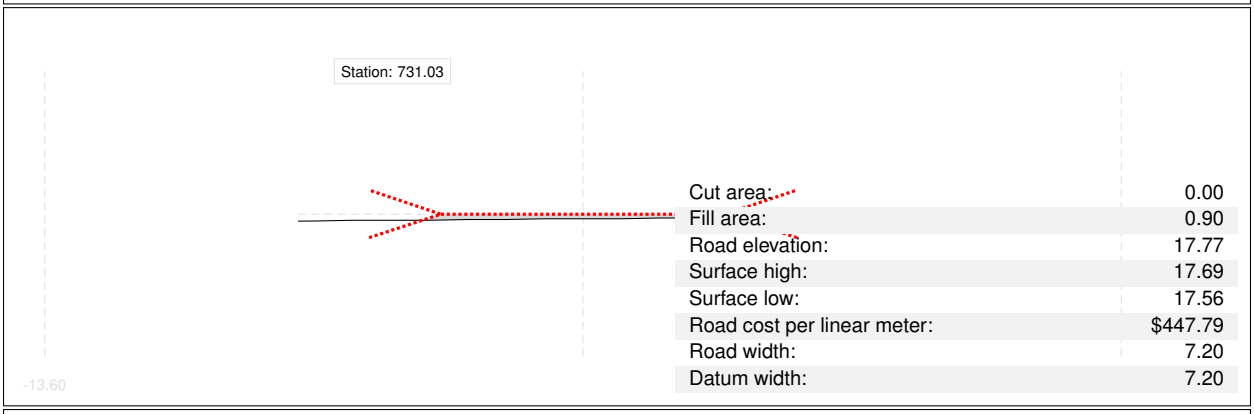
Cut area:	4.44
Fill area:	0.00
Road elevation:	18.31
Surface high:	18.92
Surface low:	18.58
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



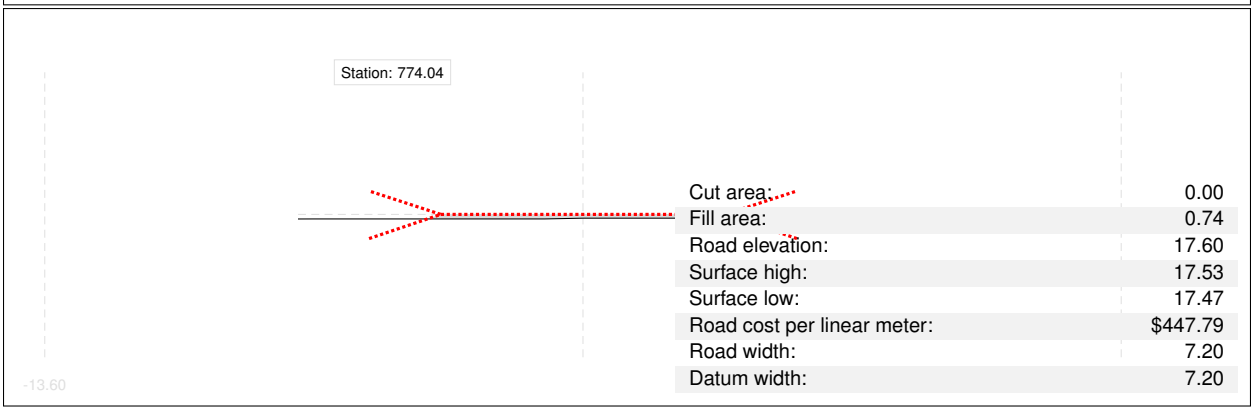
Cut area:	1.27
Fill area:	0.00
Road elevation:	18.13
Surface high:	18.39
Surface low:	18.11
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



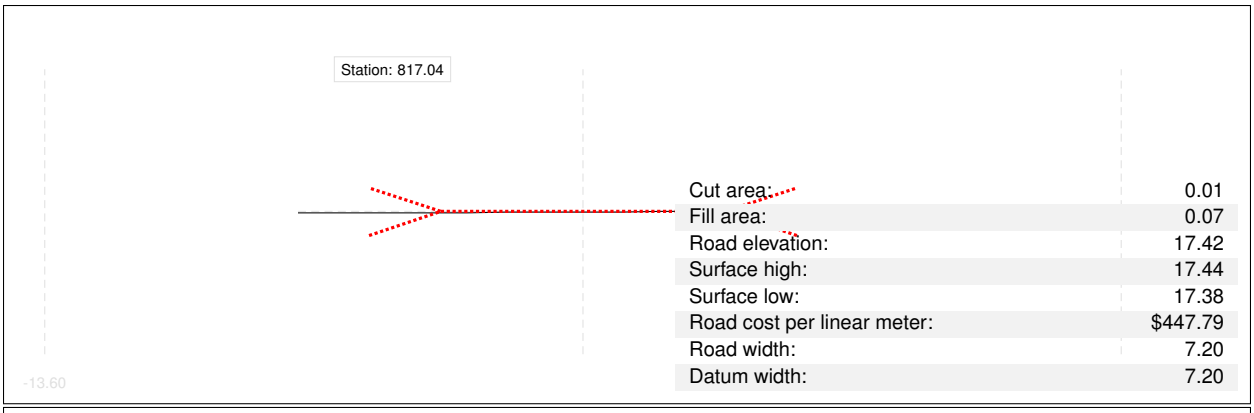
Cut area:	0.00
Fill area:	0.57
Road elevation:	17.95
Surface high:	17.95
Surface low:	17.76
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



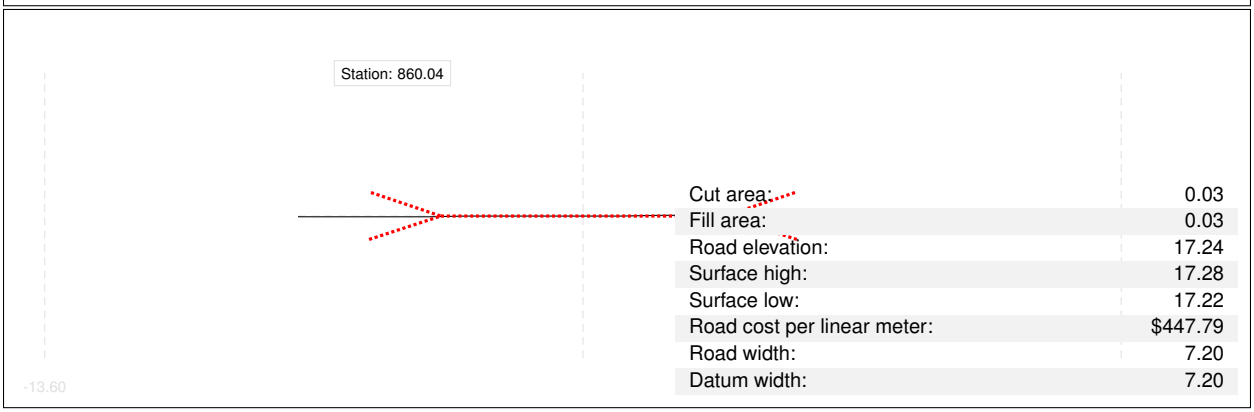
Cut area:	0.00
Fill area:	0.90
Road elevation:	17.77
Surface high:	17.69
Surface low:	17.56
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



Cut area:	0.00
Fill area:	0.74
Road elevation:	17.60
Surface high:	17.53
Surface low:	17.47
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



Cut area:	0.01
Fill area:	0.07
Road elevation:	17.42
Surface high:	17.44
Surface low:	17.38
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20



Cut area:	0.03
Fill area:	0.03
Road elevation:	17.24
Surface high:	17.28
Surface low:	17.22
Road cost per linear meter:	$447.79
Road width:	7.20
Datum width:	7.20

5. Volume Report

Station:	Cut area: (m^2)	Cut vol: (m^3)	Fill area: (m^2)	Fill vol. (m^3)	Cum. cut: (m^3)	Cum. fill: (m^3)	Cum. net: (m^3)
0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.00
43.00	0.00	0.42	2.45	92.92	0.42	92.92	-92.51
86.00	1.86	12.14	0.00	67.53	12.55	160.45	-147.90
129.01	1.84	102.23	0.00	0.00	114.78	160.45	-45.66
172.01	1.06	55.90	0.00	0.00	170.68	160.45	10.23
215.01	0.00	18.49	0.19	1.39	189.17	161.84	27.34
258.01	0.00	0.00	0.76	16.37	189.17	178.21	10.97
301.01	0.00	0.00	1.47	46.71	189.17	224.91	-35.74
344.02	0.00	0.00	1.36	69.31	189.17	294.22	-105.05
387.02	0.00	0.00	0.20	32.21	189.17	326.43	-137.25
430.02	0.00	0.00	0.95	21.14	189.17	347.57	-158.39
473.02	2.17	27.93	0.00	15.13	217.10	362.69	-145.59
516.02	4.41	141.35	0.00	0.00	358.45	362.69	-4.24
559.03	5.61	221.68	0.00	0.00	580.13	362.69	217.44
602.03	4.44	234.70	0.00	0.00	814.82	362.69	452.13
645.03	1.27	123.31	0.00	0.00	938.13	362.69	575.44
688.03	0.00	11.27	0.57	16.37	949.41	379.06	570.35
731.03	0.00	0.00	0.90	29.27	949.41	408.32	541.08
774.04	0.00	0.00	0.74	35.38	949.41	443.70	505.70
817.04	0.01	0.03	0.07	21.44	949.43	465.14	484.29
860.04	0.03	1.73	0.03	3.15	951.16	468.29	482.87

6. Surface Information

Name:	N/A	Planar unit:	meter
Surface width:	260	Horizontal resolution:	10.00
Surface height:	145	Vertical resolution:	10.00
Coordinate system:	UTM84-10N	Elevation unit:	meter
SW Corner (Long, Lat):	559,598.927361, 4,242,902.558408	Minimum elevation:	7.31
NE Corner (Long, Lat):	562,198.927361, 4,244,352.558408	Maximum elevation:	24.78

7. List of PI/Curves

PI	Longitude	Latitude	Radius
*1	560,835.970655	4,243,952.45734	0.00
2	560,801.764215	4,243,909.20692	16.83
3	560,752.429458	4,243,841.32014	17.05
4	560,733.502062	4,243,814.53268	18.15
5	560,715.947784	4,243,786.18642	17.22
6	560,702.262665	4,243,758.99071	15.35
7	560,694.751559	4,243,741.14249	15.66
8	560,684.073257	4,243,704.10266	16.14
9	560,679.178254	4,243,670.36525	16.61
10	560,677.467296	4,243,647.77463	16.53
11	560,677.532612	4,243,616.57451	14.94
12	560,678.558782	4,243,585.89502	15.47

PI	Longitude	Latitude	Radius
13	560,679.521433	4,243,566.01553	15.91
14	560,684.740475	4,243,531.98678	14.95
15	560,701.514460	4,243,482.93835	16.81
16	560,711.449528	4,243,462.45366	16.22
17	560,728.652438	4,243,431.80287	18.12
18	560,761.370676	4,243,384.82078	18.73
19	560,776.875525	4,243,367.90774	18.39
20	560,820.822286	4,243,333.47820	17.78
21	560,868.409711	4,243,310.78772	16.33
22	560,900.715005	4,243,302.23923	15.47
*23	560,962.204462	4,243,297.70653	0.00

8. List of PVI's

PVI	Station	Elevation	Curve length
*1	0.00	18.29	0.00
2	295.11	19.58	138.80

PVI	Station	Elevation	Curve length
*3	860.04	17.24	0.00

9. Legal Reminder

All data and data files contained in the Corridor Optimization Results are created as a result of your use of Corridor Optimization for InfraWorks and are subject to the Autodesk InfraWorks Software License Agreement and the Autodesk 360 Terms of Service you accepted prior to your use of Corridor Optimization.