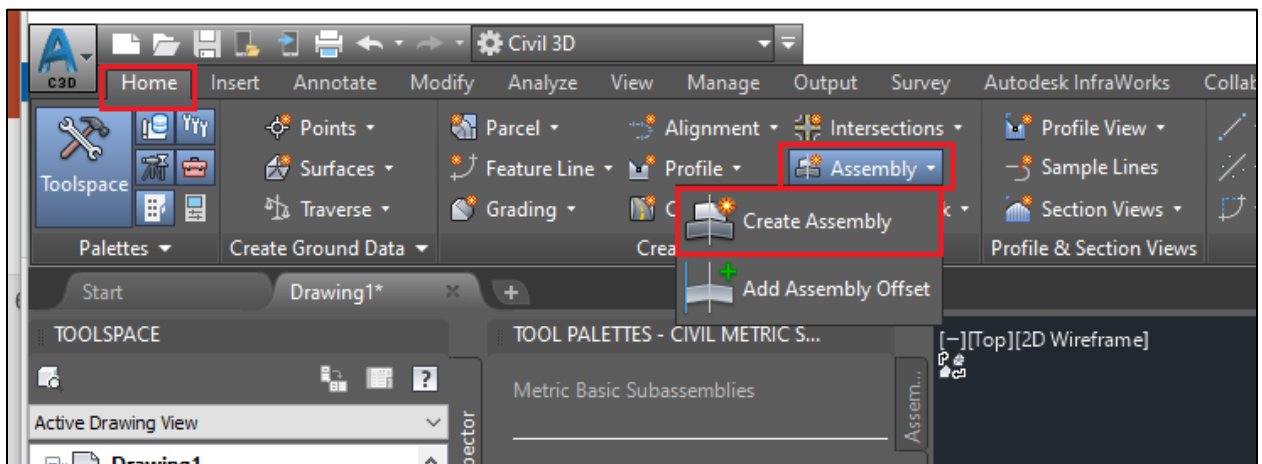


Design of Trapezoidal Channel and calculate cut and fill volume

After importing points, create surface, create profile create design level of your profile make the followings

Home tab > Assembly > name your assembly > ok > click somewhere in you space screen to create assembly.



Select your assembly > tool palette > trench pipes tab > click on the channel > select your channel > properties > advanced parameters change the followings:

Depth 5m

Bottom width 10 m

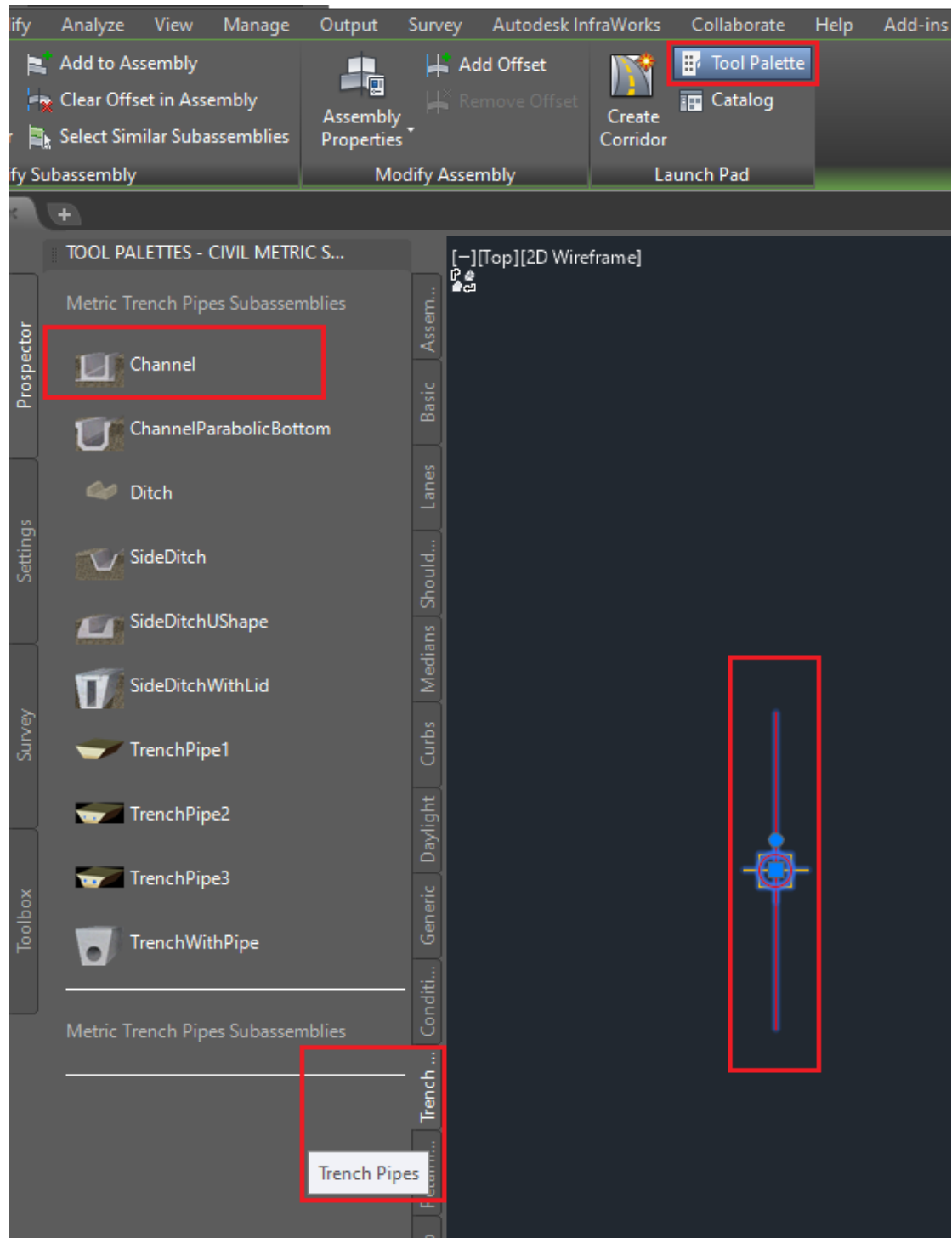
Side slope 2:1

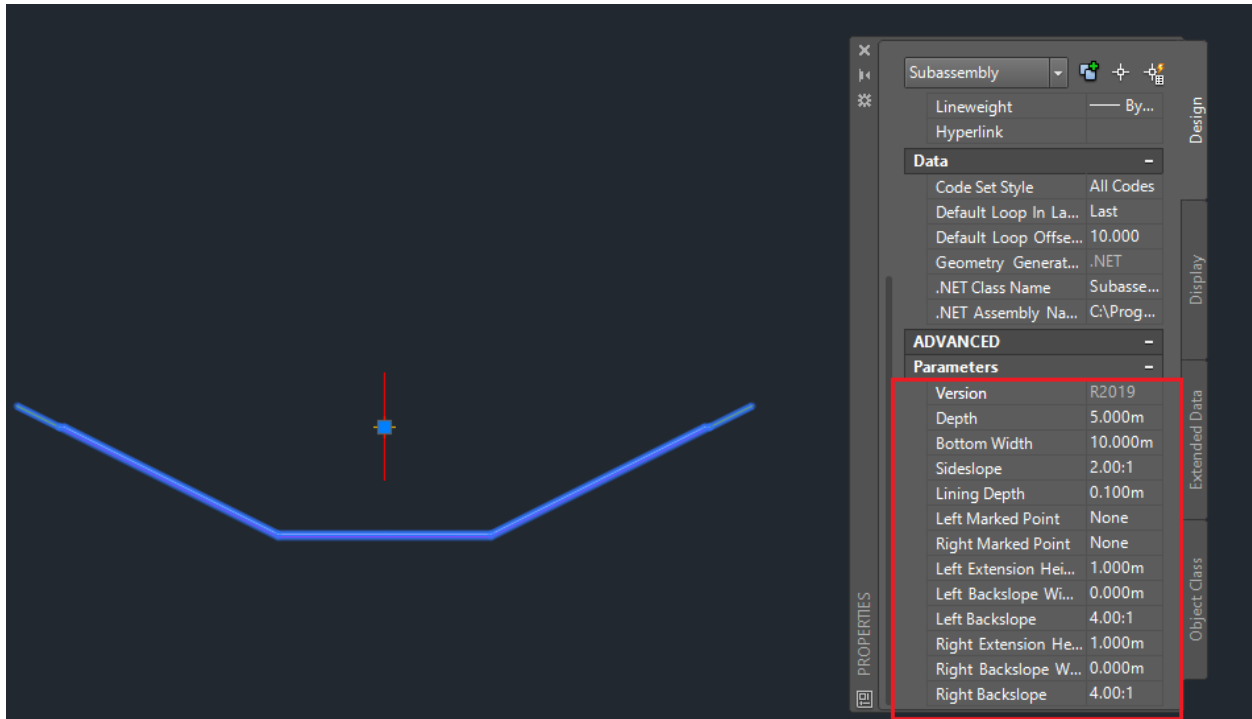
Linning depth 0.1 m

Left extension height 1m

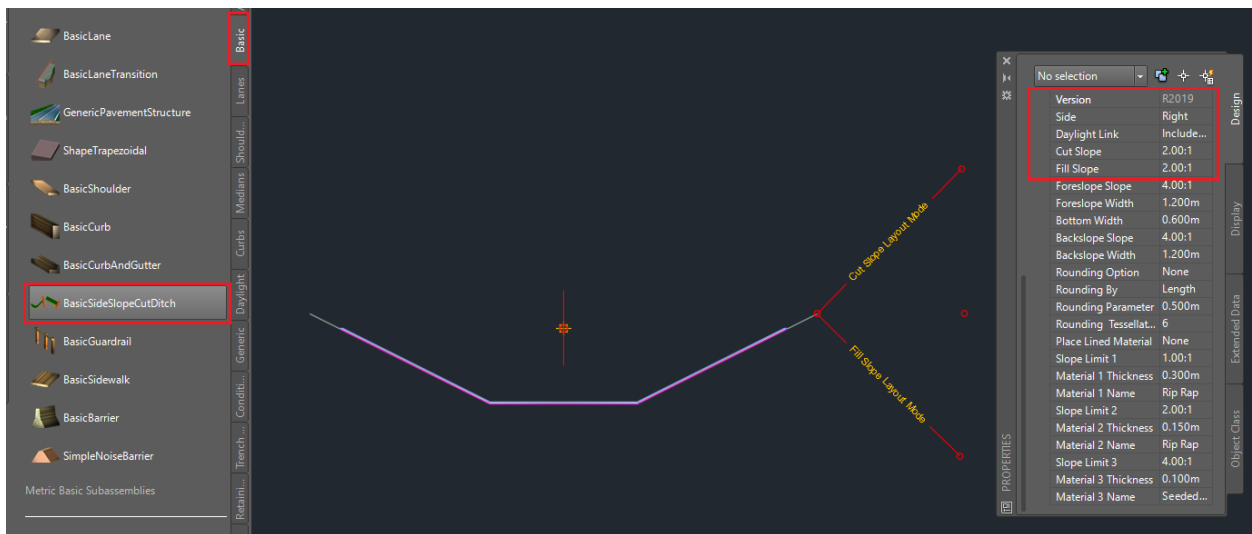
Right extension height 1m

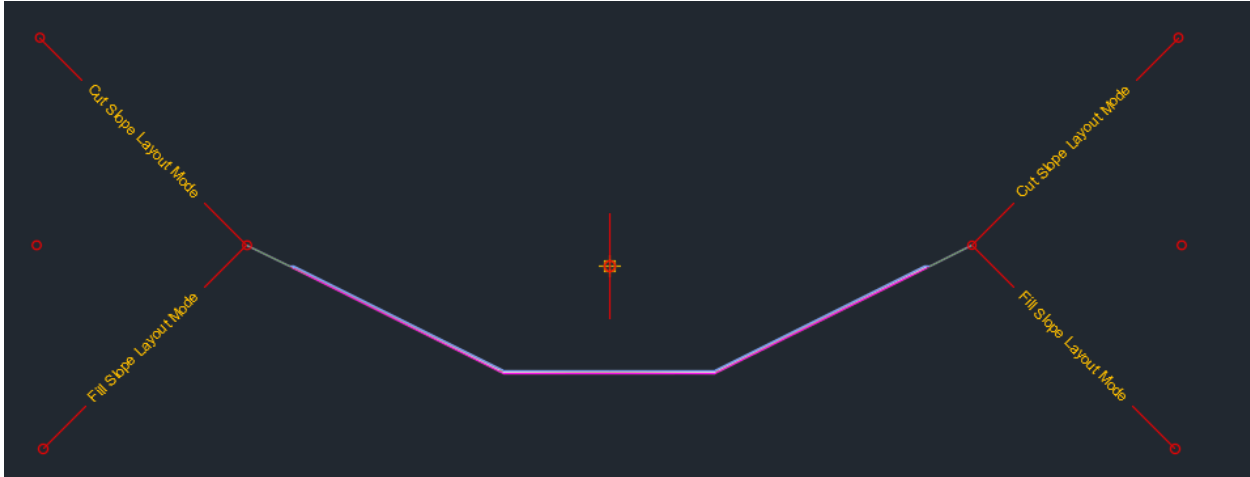
Change others to 0



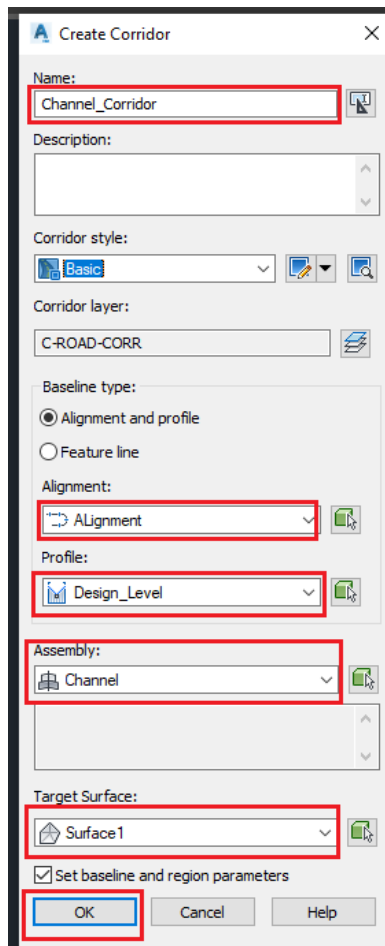


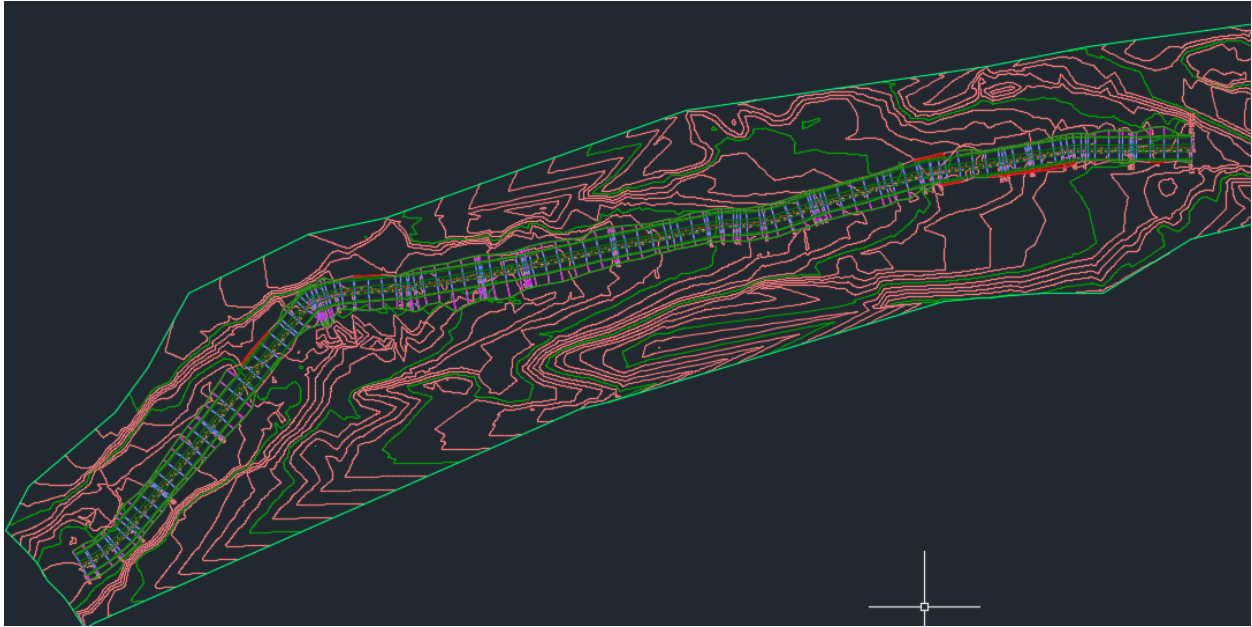
Go to the basic tab in the tool pallets window > BasicSidesSlopeCutDitch > click on the right top side of your channel and select your cut and fill lines > properties > cut slope > 2:1 > fill slope > 2:1 > change others to 0 > after changing right click on the right cut and fill lines > mirror > click on the left top side of the channel



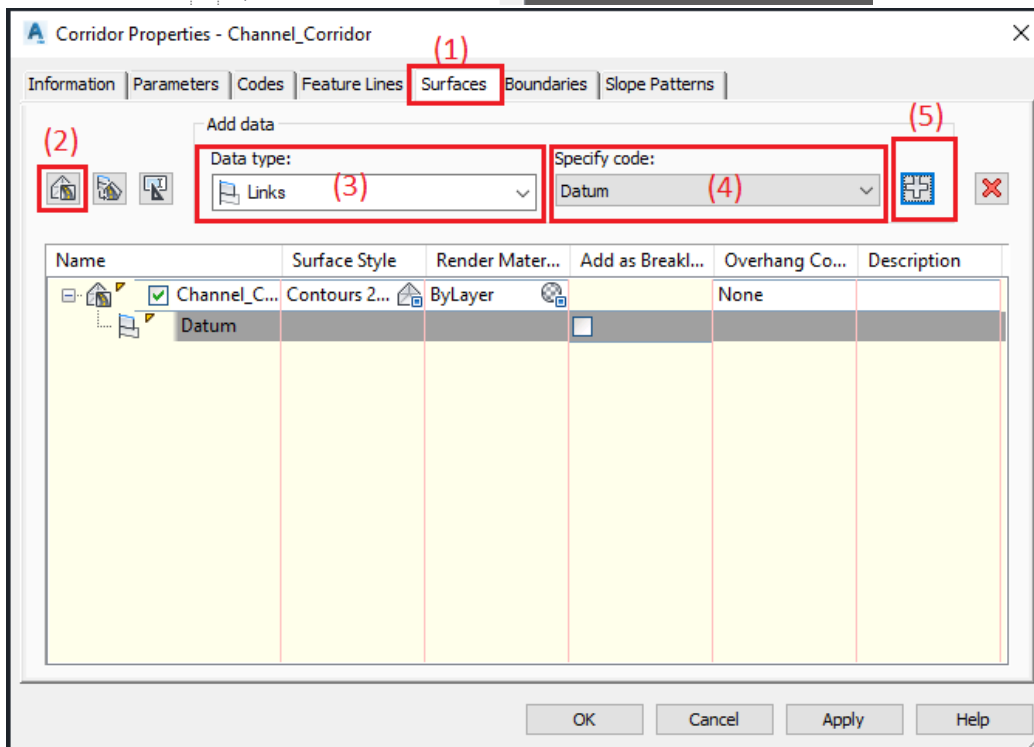
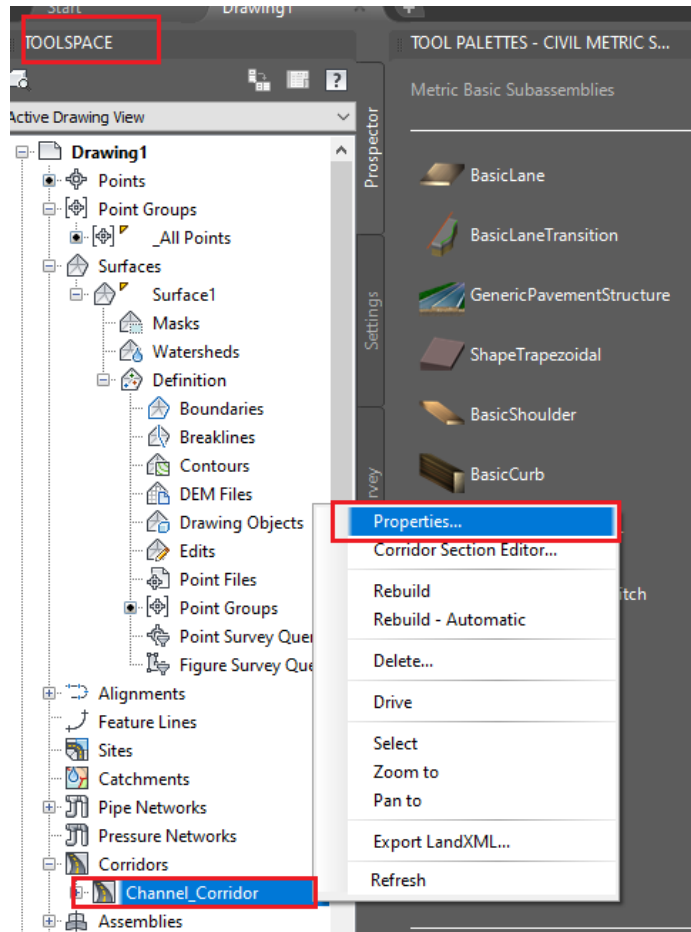


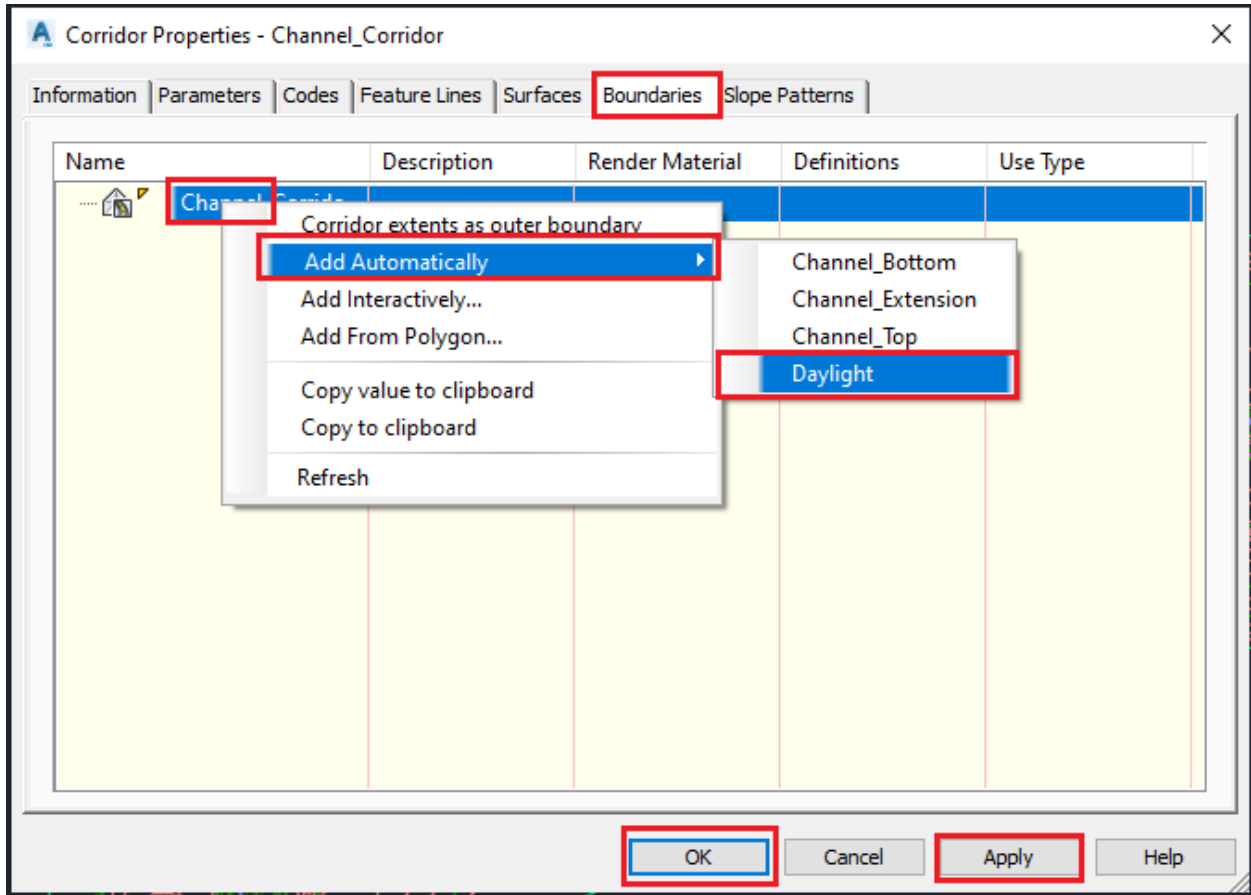
Home tab > corridors > name your corridor > select alignment > select design profile > select your assembly > select surface > ok > ok > build the corridor



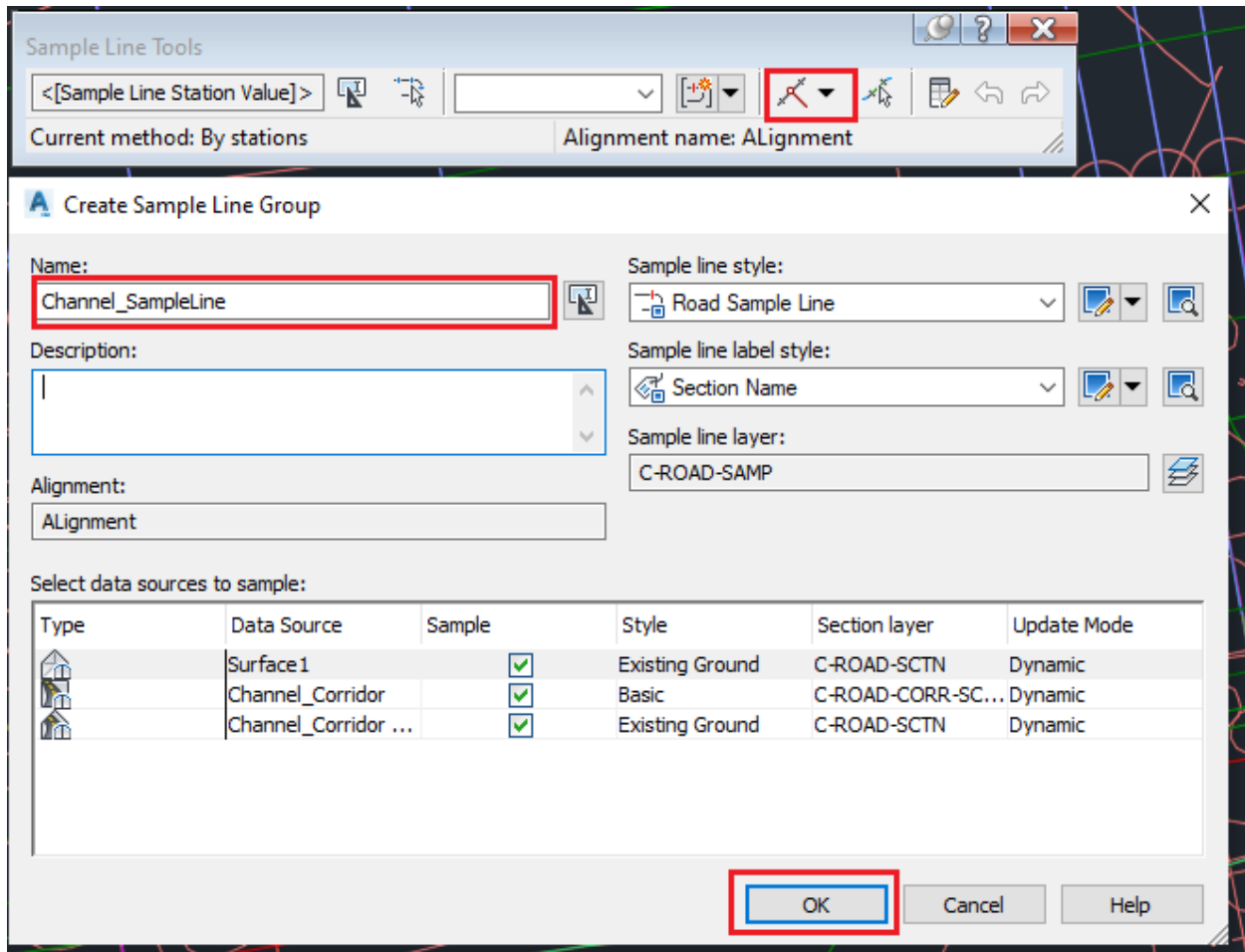


Tool space> corridor> your corridor> right click > properties> surface tab> create a corridor surface> data type: links> specify code: datum> add a surface item> boundaries tab> right click on your corridors in the boundary tab> add automatically> daylight> apply> ok



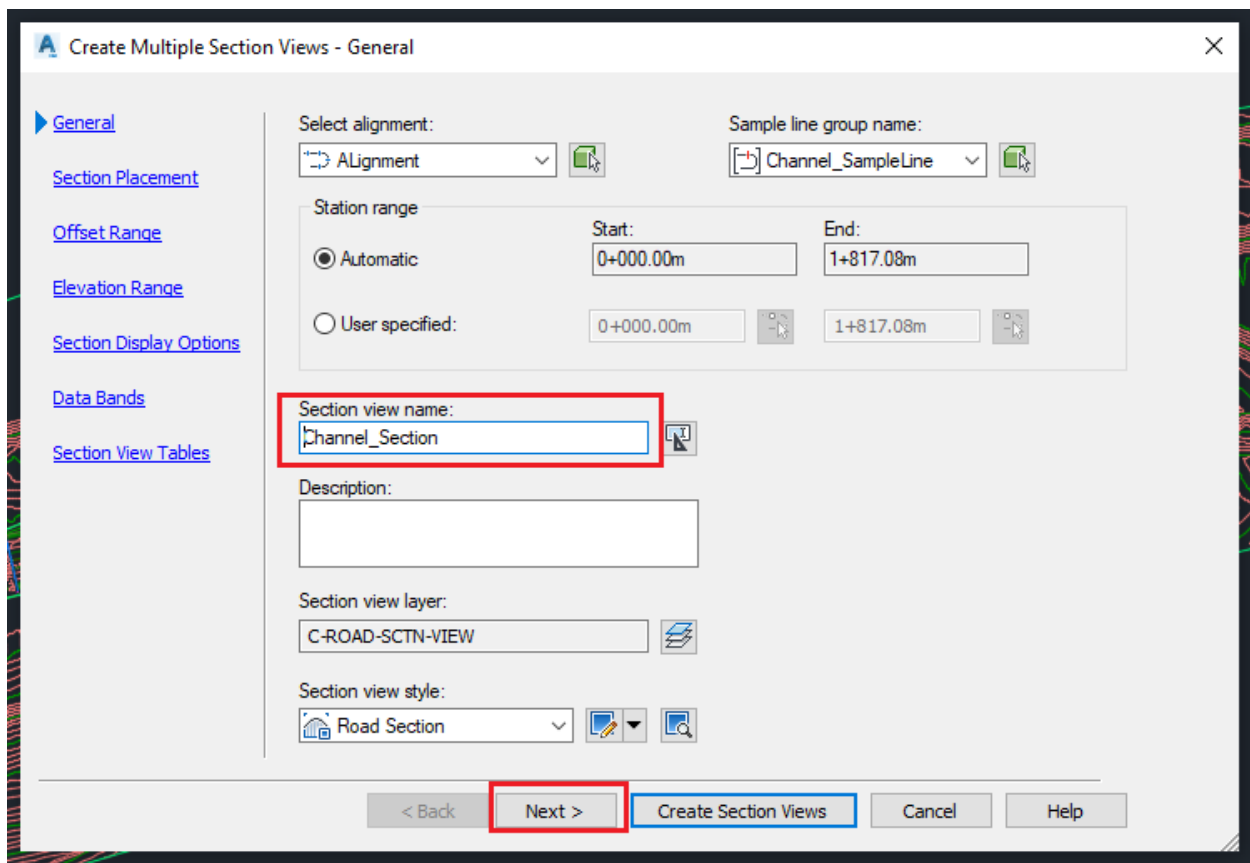


Home tab > sample line > select your alignment > select by range > left 20m, right 20m > ok

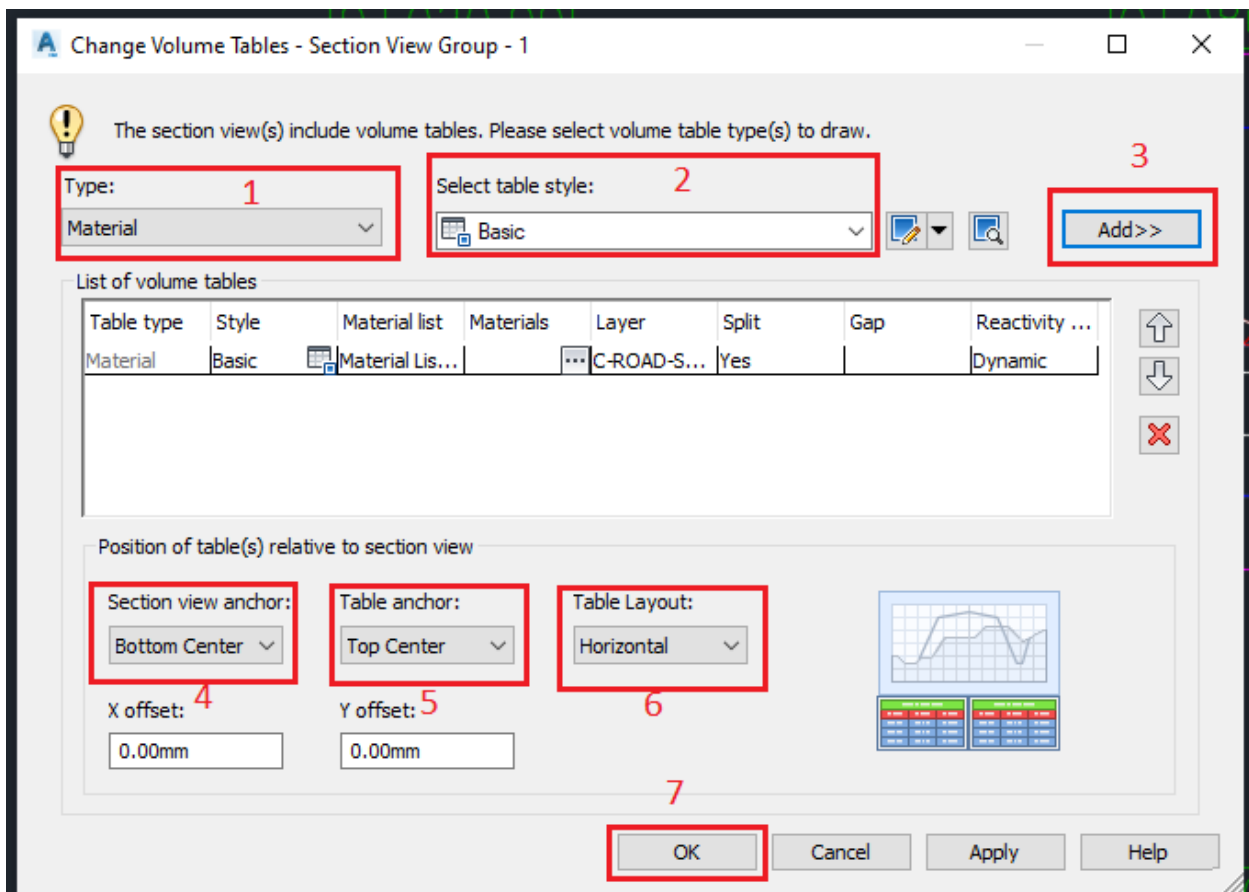
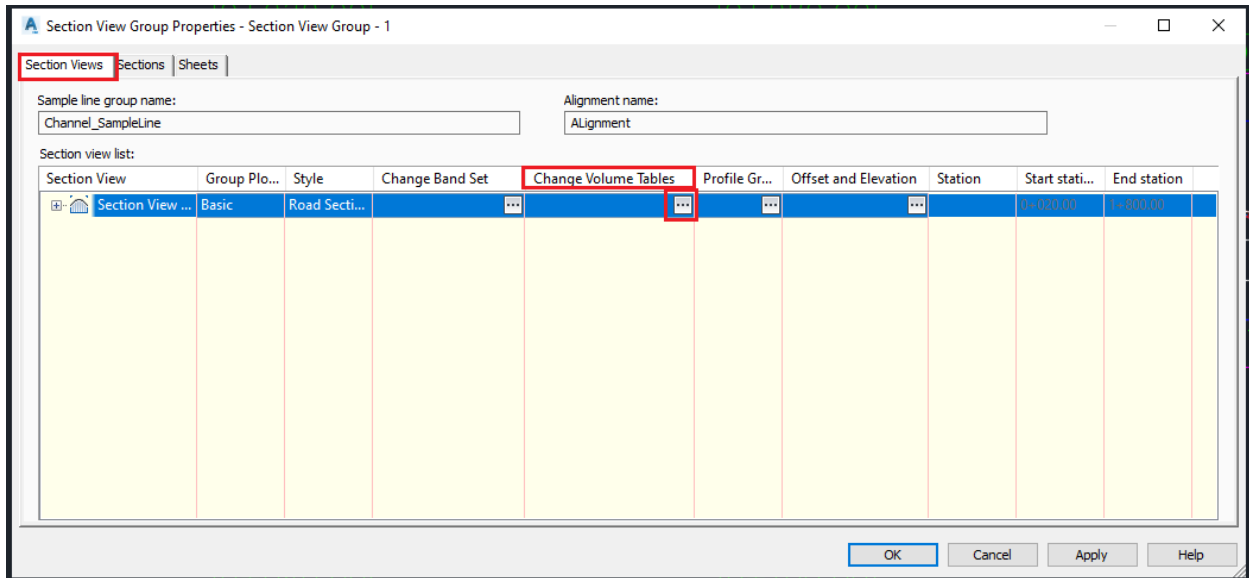


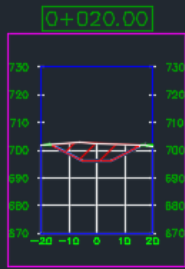
Analyze tab > compute materials > select alignment and sample line > ok > select your surface in the first surface > and corridor surface in the datum 4th surface. > ok

Home tab > section views > create multiple view > next ... next > create section views > click on a space to make sections.

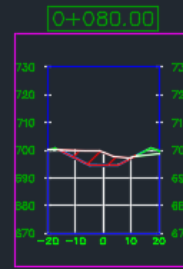


Select a section > view group properties > change volume tables > volume table window popup > type: material > style: basic > add > in position of tables > section view anchor: bottom center > table anchor > top center > table layout: horizontal > ok > ok

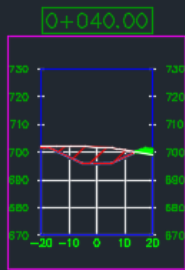




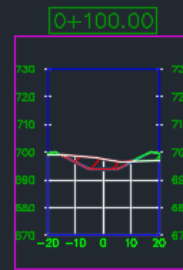
Material(s) at Station 0+020.00			
Material Name	Area	Volume	Cumulative Volume
Ground Removed	132.77	0.00	0.00
Ground Fill	2.04	0.00	0.00



Material(s) at Station 0+080.00			
Material Name	Area	Volume	Cumulative Volume
Ground Removed	84.77	1779.66	6687.45
Ground Fill	12.89	326.48	744.49

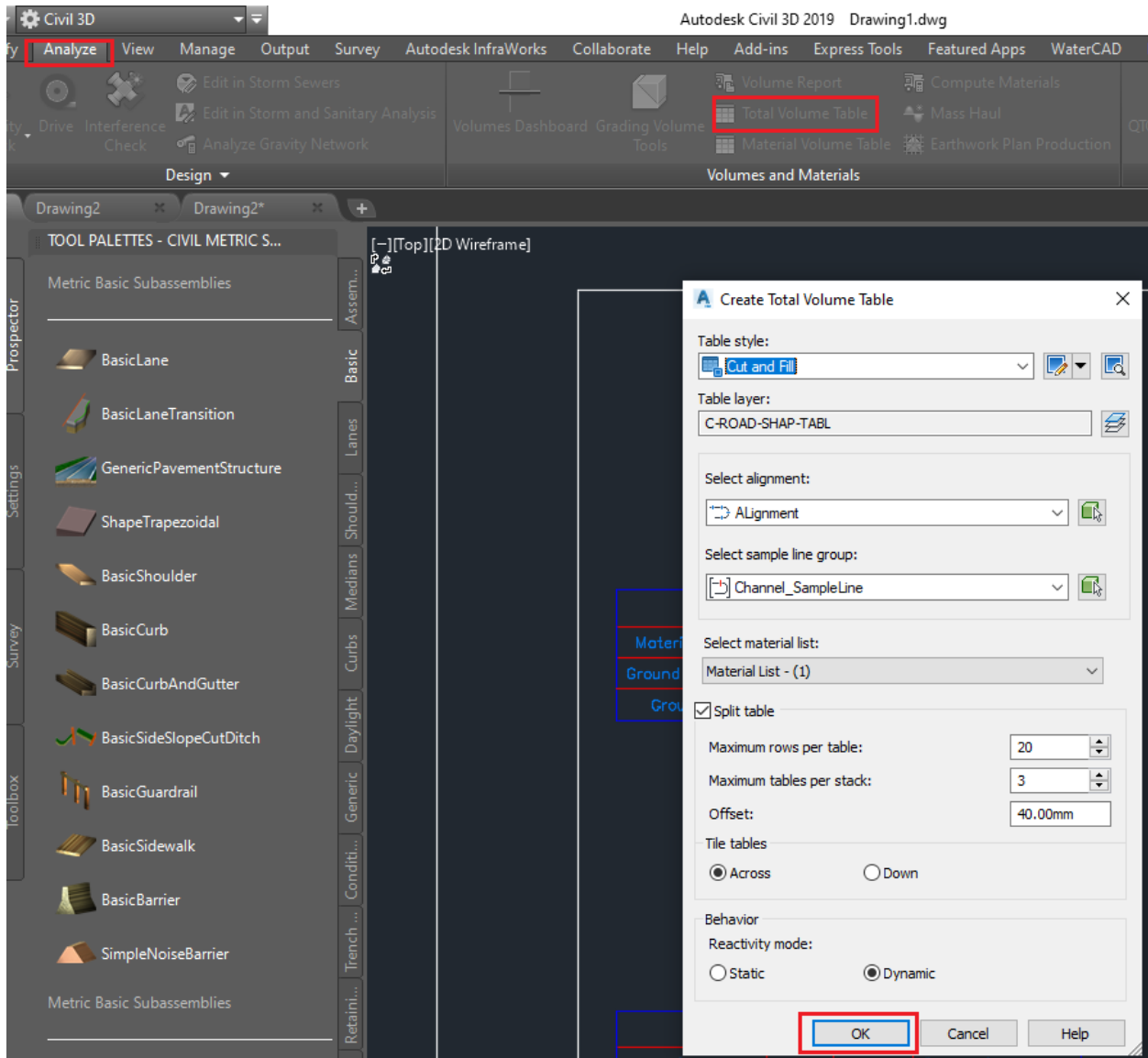


Material(s) at Station 0+040.00			
Material Name	Area	Volume	Cumulative Volume
Ground Removed	132.41	2651.78	2651.78
Ground Fill	10.00	120.41	120.41



Material(s) at Station 0+100.00			
Material Name	Area	Volume	Cumulative Volume
Ground Removed	66.42	1515.49	8202.94
Ground Fill	20.92	333.97	1078.46

Analyze table > total volume table > cut and fill > ok > click in a space to make tables



Total Volume Table

Station	Fill Area	Cut Area	Fill Volume	Cut Volume	Cumulative Fill Vol	Cumulative Cut Vol
0+020.00	2.04	132.77	0.00	0.00	0.00	0.00
0+040.00	10.00	132.41	120.41	2651.78	120.41	2651.78
0+060.00	19.76	93.19	297.60	2256.00	418.00	4907.79
0+080.00	12.89	84.77	326.48	1779.66	744.49	6687.45
0+100.00	20.92	66.42	333.97	1515.49	1078.46	8202.94
0+120.00	13.01	84.50	339.29	1509.14	1417.75	9712.09
0+140.00	6.22	100.01	192.30	1845.09	1610.05	11557.17
0+160.00	4.26	104.54	107.78	2042.36	1717.83	13599.53
0+180.00	2.62	112.00	74.58	2157.40	1792.41	15756.93
0+200.00	2.22	112.85	50.03	2244.66	1842.44	18001.59
0+220.00	0.47	121.40	26.85	2342.54	1869.29	20344.13
0+240.00	0.63	139.60	11.22	2606.18	1880.51	22950.31
0+260.00	0.94	140.70	15.74	2802.96	1896.25	25753.27
0+280.00	0.47	125.54	13.56	2667.62	1909.81	28420.89
0+300.00	0.79	134.62	12.80	2601.55	1922.41	31022.44
0+320.00	3.47	109.69	42.55	2443.09	1964.97	33465.53
0+340.00	6.40	97.87	98.67	2075.57	2063.63	35541.09
0+360.00	0.00	112.65	63.98	2105.18	2127.62	37646.27
0+380.00	9.80	147.53	93.33	2613.83	2220.95	40260.10
0+400.00	11.76	123.66	201.81	2737.31	2422.75	42997.41