



Consultancy Services for carrying out Feasibility Study, Preparation of Detailed Project Report and providing pre-construction service in respect of 2 Laning with paved shoulders of Yaingangpoki-Nagaland Border on NH 202 Engineering Procurement and Construction mode in the state of Manipur

DETAILED PROJECT REPORT

COST ESTIMATE,BILL OF QUANTITY & RATE ANALYSIS REPORT

(PACKAGE-VI:95/700km-138/386km)



Client:

Consultant:



S.M. CONSULTANTS
Plot No. 130, S.M. Tower, Mancheswar
Industrial Estate
Rasulgarh, Bhubaneswar, 751010, ODISHA
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GENERAL ABSTRACT

(95.7km to 138.386 km)

SL. NO	TYPE OF WORK	AMOUNT	REMARKS
1	Road Work		
i)	Road Proper	Rs 1,709,961,075.92	
ii)	Curves (Extra Widening)	Rs 84,611,938.29	
2	C.D Works		
a)	PCC Slab Culvert	Rs 329,580,796.00	
3	Miscellaneous Item		
i)	Drain	Rs 69,644,434.49	
ii)	Lined Drain	Rs 86,110,828.11	
iii)	Breast Wall	Rs 299,588,344.50	
iv)	W Metal Beam Crash barrier	Rs 83,793,495.22	
v)	Retaining Wall	Rs 873,239,359.36	
vi)	Junctions	Rs 811,263.00	
vii)	Signs & Safety	Rs 25,700,665.95	
ix)	Bus Bay	Rs 4,046,073.00	
x)	Seeding and Mulching	Rs 4,410,480.00	
xi)	Soil Nailing	Rs 631,680.00	
xii)	Gabion Structure	Rs 70,797,288.49	
4	Toilet Block (6 nos @ 15 lakhs)-L.S	Rs 9,000,000.00	
5	Street Lighting (Built-up Section @ Rs 300 - 326 nos)-L.S	Rs 97,800.00	
6	Cost for Utility Shifting (excluding supervision cost & taxes)	₹ 21,464,103.64	
	Sub Total	₹ 3,673,489,625.97	A
	Escalation based on WPI @ 3% on A (for 1 year)	₹ 110,204,688.78	
	Sub Total	₹ 3,783,694,315.00	
	Add GST @12%	₹ 454,043,318.00	A'
	Total Civil Cost (A+A')	₹ 4,237,737,633.00	B
	Add Contingency @ 2.8% on "A"	₹ 105,943,441.00	B'
	Total Cost with contingency (EPC Cost = B+B')	₹ 4,343,681,074.00	C
	a) Supervision Charges @ 3% of (A)	₹ 113,510,829.00	D
	b) Agency Charges @ 3% of (A)	₹ 113,510,829.00	E
	c) Maintenance Charges @ 2.5% of (A) for 5 years	₹ 94,592,358.00	F
	d) Escalation Charges @ 5 % of (A) for 2 years	₹ 189,184,715.75	G
	Sum(C+D+E+F+G)	₹ 4,854,479,806.00	
	Departmental Cost		
	Tentative Cost for Land Acquisition & R&R	₹ 355,594,421.23	I
	Cost for Environmental Budget and Forest Clearance Cost	₹ 45,946,945.95	J
	Sub Total (I+J)	₹ 401,541,367.18	K
	Total Project Cost	₹ 5,256,021,173.18	Crores
		525.60	Crores

DETAILS OF TYPICAL CROSS SECTIONS

Typical Cross Section 1

SL No	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
1	95.700	96.400	0.700	700.000	21.000	679.000	m
2	99.000	100.750	1.750	1750.000	63.000	1687.000	m
3	101.000	101.600	0.600	600.000	28.000	572.000	m
4	103.800	105.700	1.900	1900.000	119.000	1781.000	m
5	106.000	106.480	0.480	480.000	14.000	466.000	m
6	106.480	106.500	0.020	20.000	14.000	6.000	m
7	114.450	115.100	0.650	650.000	21.000	629.000	m
8	115.500	116.600	1.100	1100.000	35.000	1065.000	m
9	117.600	118.200	0.600	600.000	21.000	579.000	m
10	119.000	119.900	0.900	900.000	14.000	886.000	m
11	120.600	121.200	0.600	600.000	28.000	572.000	m
12	122.300	124.430	2.130	2130.000	49.000	2081.000	m
13	124.430	124.470	0.040	40.000	35.000	5.000	m
14	124.470	124.500	0.030	30.000	0.000	30.000	m
15	125.900	128.300	2.400	2400.000	63.000	2337.000	m
16	130.700	131.700	1.000	1000.000	35.000	965.000	m
17	132.000	133.000	1.000	1000.000	28.000	972.000	m
18	133.000	134.800	1.800	1800.000	63.000	1737.000	m
19	136.000	137.500	1.500	1500.000	42.000	1458.000	m
			19.200	19200.000		18507.000	m

Typical Cross Section 2

SL No	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
1	96.400	97.400	1.000	1000.000	42.000	958.000	m
2	100.750	101.000	0.250	250.000	7.000	243.000	m
3	109.600	111.650	2.050	2050.000	56.000	1994.000	m
4	113.100	113.500	0.400	400.000	14.000	386.000	m
			3.700	3700.000		3581.000	m

Typical Cross Section 2A

SL No	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
1	97.400	99.000	1.600	1600.000	63.000	1537.000	m
2	107.900	108.500	0.600	600.000	21.000	579.000	m
3	111.650	112.000	0.350	350.000	7.000	343.000	m
4	112.400	113.100	0.700	700.000	63.000	637.000	m
5	113.800	114.450	0.650	650.000	14.000	636.000	m
6	124.500	125.200	0.700	700.000	7.000	693.000	m
7	131.700	132.000	0.300	300.000	21.000	279.000	m
8	135.200	136.000	0.800	800.000	28.000	772.000	m
			5.700	5700.000		5476.000	m

Typical Cross Section 2B

SL No	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
1	106.500	106.800	0.300	300.000	7.000	293.000	m
2	118.200	119.000	0.800	800.000	14.000	786.000	m
3	121.200	122.300	1.100	1100.000	7.000	1093.000	m
			2.200	2200.000		2172.000	m

Typical Cross Section 3

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
1			0.000	0.000		0.000	m
			0.000	0.000		0.000	m

Typical Cross Section 3A

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
1	137.900	138.300	0.400	400.000	14.000	386.000	m
			0.400	400.000		386.000	m

Typical Cross Section 3B

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
			0.000	0.000		0.000	m

Typical Cross Section 4

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
1	107.100	107.900	0.800	800.000	14.000	786.000	m
			0.800	800.000		786.000	m

Typical Cross Section 5

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
1	101.600	102.200	0.600	600.000	35.000	565.000	m
2	103.500	103.800	0.300	300.000	7.000	293.000	m
3	105.700	106.000	0.300	300.000	14.000	286.000	m
4	113.500	113.800	0.300	300.000	7.000	293.000	m
5	116.600	117.600	1.000	1000.000	14.000	986.000	m
6	125.200	125.900	0.700	700.000	7.000	693.000	m
			3.200	3200.000		3116.000	m

Typical Cross Section 6

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
1	102.200	103.000	0.800	800.000	21.000	779.000	m
2	103.000	103.100	0.100	100.000	21.000	79.000	m
3	106.800	107.100	0.300	300.000	14.000	286.000	m
4	108.500	109.600	1.100	1100.000	49.000	1051.000	m
5	115.100	115.500	0.400	400.000	21.000	379.000	m
6	128.300	130.700	2.400	2400.000	84.000	2316.000	m
7	134.800	135.200	0.400	400.000	14.000	386.000	m
8	137.500	137.900	0.400	400.000	7.000	393.000	m
			5.900	5900.000		5669.000	m

Typical Cross Section 7

	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
SL No							
1	119.900	120.600	0.700	700.000	7.000	693.000	m
			0.700	700.000		693.000	m

SL No	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts	
1	103.100	103.500	0.400	400.000	14.000	386.000	m
2	112.000	112.400	0.400	400.000	14.000	386.000	m
3	138.300	138.386	0.086	86.000	0.000	86.000	m
			0.886	886.000		858.000	m

Typical Cross Section 8						
	From	To	Length(km)	Length(m)	Deducting Culverts	Length after deducting Culverts
SL No						
1			0.000	0.000		0.000
			0.000	0.000		0.000

Total length of Road	42686.00	m
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Total length of Road after deducting culverts	41244.00 m
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SL No	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
3	Construction of embankment with materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.								
	Quantity as per software calculation					336913.475			
	Deducting Crust								
	GSB					90297.27			
	WMM					72177.00			
	DBM					28870.80			
	BC					11548.32			
	Earth Filling					16425.63			
	Filling Quantity Required					117594.46			
	Reuse of excavted material					117594.46			
						117594.46		161.80	19026782.82
4	Loosening, leveling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Table 300-2 for embankment construction.								
		1	41244.00	8.50	0.15	52586.10	Cum		
		Total Qnty				52586.10	cum	42.42	2230702.36
5	Construction of granular sub-base by providing Grading VI material spreading in uniform layers with motor grader on prepared surface, mixing by place in method rotavator at OMC, and compacting with vibratory power roller to achieve the desired density, complete as per clause 401								
		1	40858.00	8.500	0.150	52093.95	Cum		
	Typical 3,3A	1	386.00	9.73	0.150	563.37			
		Total Qnty				52657.32	cum	2949.31	155302760.45
6	Construction of granular sub-base by providing Grading IV material spreading in uniform layers with motor grader on prepared surface, mixing by place in method rotavator at OMC, and compacting with vibratory power roller to achieve the desired density, complete as per clause 401								
		1	40858.00	8.50	0.150	52093.95	cum		
	Typical 3,3A	1	386.00	9.43	0.150	546.00			
		Total Qnty				52639.95	cum	2998.09	157819523.52
7	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.								
		1	41244.00	7.00	0.15	43306.20	Cum		
		1	41244.00	7.00	0.1	28870.80	Cum		
		Total Qnty				72177.00	cum	3023.54	218230046.58
8	Providing and applying prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.								
		1	41244.00	7.00		288708.00	sqm		
		Total Qnty				288708.00	sqm	58.60	16918288.80
9	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared primed surface cleaned with mechanical broom.								
		1	41244.00	7.00		288708.00	sqm		
		Total Qnty				288708.00	sqm	16.27	4697279.16

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EARTHWORK CALCULATION						
CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
95700	0.000	55.790	0.000	0.000	0.000	0.000
95710	0.000	47.819	0.000	518.045	0.000	518.045
95720	0.000	35.225	0.000	415.220	0.000	933.265
95730	4.201	27.791	21.005	315.080	21.005	1248.345
95740	18.392	2.906	112.965	153.485	133.970	1401.830
95750	35.288	1.000	268.400	19.530	402.370	1421.360
95760	49.976	0.000	426.320	5.000	828.690	1426.360
95770	63.865	0.000	569.205	0.000	1397.895	1426.360
95780	75.656	0.000	697.605	0.000	2095.500	1426.360
95790	84.379	0.000	800.175	0.000	2895.675	1426.360
95800	81.265	0.000	828.220	0.000	3723.895	1426.360
95810	75.535	0.000	784.000	0.000	4507.895	1426.360
95820	51.558	0.000	635.465	0.000	5143.360	1426.360
95830	29.126	1.463	403.420	7.315	5546.780	1433.675
95840	7.631	6.016	183.785	37.395	5730.565	1471.070
95850	0.009	17.872	38.200	119.440	5768.765	1590.510
95860	0.500	31.482	2.545	246.770	5771.310	1837.280
95870	0.000	44.477	2.500	379.795	5773.810	2217.075
95880	0.000	57.697	0.000	510.870	5773.810	2727.945
95890	81.455	49.964	407.275	538.305	6181.085	3266.250
95900	121.419	36.811	1014.370	433.875	7195.455	3700.125
95910	143.217	11.684	1323.180	242.475	8518.635	3942.600
95920	229.962	3.616	1865.895	76.500	10384.530	4019.100
95930	274.007	0.000	2519.845	18.080	12904.375	4037.180
95940	440.826	0.000	3574.165	0.000	16478.540	4037.180
95950	369.728	0.000	4052.770	0.000	20531.310	4037.180
95960	369.771	0.000	3697.495	0.000	24228.805	4037.180
95970	358.596	0.000	3641.835	0.000	27870.640	4037.180
95980	343.496	0.000	3510.460	0.000	31381.100	4037.180
95990	290.262	0.000	3168.790	0.000	34549.890	4037.180
96000	252.663	0.000	2714.625	0.000	37264.515	4037.180
96010	207.797	0.000	2302.300	0.000	39566.815	4037.180
96020	154.865	1.032	1813.310	5.160	41380.125	4042.340
96030	88.122	4.327	1214.935	26.795	42595.060	4069.135
96040	66.775	10.125	774.485	72.260	43369.545	4141.395
96050	60.193	7.139	634.840	86.320	44004.385	4227.715
96060	54.507	4.304	573.500	57.215	44577.885	4284.930
96070	63.846	1.166	591.765	27.350	45169.650	4312.280
96080	68.939	0.345	663.925	7.555	45833.575	4319.835
96090	75.089	0.187	720.140	2.660	46553.715	4322.495
96100	64.865	0.040	699.770	1.135	47253.485	4323.630
96110	56.836	0.000	608.505	0.200	47861.990	4323.830
96120	43.089	0.004	499.625	0.020	48361.615	4323.850
96130	37.231	0.000	401.600	0.020	48763.215	4323.870
96140	31.665	3.658	344.480	18.290	49107.695	4342.160
96150	28.475	3.259	300.700	34.585	49408.395	4376.745
96160	24.991	1.710	267.330	24.845	49675.725	4401.590
96170	27.789	0.000	263.900	8.550	49939.625	4410.140
96180	31.026	0.000	294.075	0.000	50233.700	4410.140
96190	37.826	0.000	344.260	0.000	50577.960	4410.140
96200	47.580	0.000	427.030	0.000	51004.990	4410.140
96210	61.220	0.000	544.000	0.000	51548.990	4410.140
96220	40.520	0.000	508.700	0.000	52057.690	4410.140
96230	17.569	0.000	290.445	0.000	52348.135	4410.140
96240	10.010	0.000	137.895	0.000	52486.030	4410.140
96250	9.266	0.000	96.380	0.000	52582.410	4410.140
96260	2.468	0.560	58.670	2.800	52641.080	4412.940
96270	0.193	6.698	13.305	36.290	52654.385	4449.230
96280	0.000	23.737	0.965	152.175	52655.350	4601.405
96290	0.000	27.251	0.000	254.940	52655.350	4856.345
96300	0.000	29.939	0.000	285.950	52655.350	5142.295
96310	0.000	37.867	0.000	339.030	52655.350	5481.325
96320	0.000	44.089	0.000	409.780	52655.350	5891.105
96330	0.000	51.549	0.000	478.190	52655.350	6369.295
96340	0.000	43.130	0.000	473.395	52655.350	6842.690
96350	0.000	34.768	0.000	389.490	52655.350	7232.180
96360	0.000	27.589	0.000	311.785	52655.350	7543.965
96370	0.000	15.601	0.000	215.950	52655.350	7759.915
96380	0.496	19.678	2.480	176.395	52657.830	7936.310
96390	0.575	18.427	5.355	190.525	52663.185	8126.835
96400	0.000	25.426	2.875	219.265	52666.060	8346.100
96410	0.000	29.633	0.000	275.295	52666.060	8621.395
96420	0.000	31.598	0.000	306.155	52666.060	8927.550
96430	0.000	31.529	0.000	315.635	52666.060	9243.185
96440	0.000	31.625	0.000	315.770	52666.060	9558.955
96450	0.000	30.152	0.000	308.885	52666.060	9867.840
96460	0.000	28.616	0.000	293.840	52666.060	10161.680
96470	0.000	22.862	0.000	257.390	52666.060	10419.070

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
96480	0.000	16.799	0.000	198.305	52666.060	10617.375
96490	1.975	11.687	9.875	142.430	52675.935	10759.805
96500	2.266	8.993	21.205	103.400	52697.140	10863.205
96510	0.566	12.688	14.160	108.405	52711.300	10971.610
96520	0.000	21.956	2.830	173.220	52714.130	11144.830
96530	0.000	27.887	0.000	249.215	52714.130	11394.045
96540	0.000	32.880	0.000	303.835	52714.130	11697.880
96550	0.000	43.622	0.000	382.510	52714.130	12080.390
96560	0.000	33.938	0.000	387.800	52714.130	12468.190
96570	0.000	19.019	0.000	264.785	52714.130	12732.975
96580	0.000	5.973	0.000	124.960	52714.130	12857.935
96590	4.307	0.205	21.535	30.890	52735.665	12888.825
96600	9.892	0.000	70.995	1.025	52806.660	12889.850
96610	26.133	0.000	180.125	0.000	52986.785	12889.850
96620	24.470	0.000	253.015	0.000	53239.800	12889.850
96630	24.118	0.000	242.940	0.000	53482.740	12889.850
96640	27.282	0.000	257.000	0.000	53739.740	12889.850
96650	31.729	0.085	295.055	0.425	54034.795	12890.275
96660	28.352	0.000	300.405	0.425	54335.200	12890.700
96670	39.822	0.000	340.870	0.000	54676.070	12890.700
96680	36.237	0.000	380.295	0.000	55056.365	12890.700
96690	43.813	0.000	400.250	0.000	55456.615	12890.700
96700	42.493	0.000	431.530	0.000	55888.145	12890.700
96710	18.491	0.000	304.920	0.000	56193.065	12890.700
96720	10.291	0.007	143.910	0.035	56336.975	12890.735
96730	5.231	9.636	77.610	48.215	56414.585	12938.950
96740	8.948	6.451	70.895	80.435	56485.480	13019.385
96750	15.704	0.313	123.260	33.820	56608.740	13053.205
96760	17.189	0.000	164.465	1.565	56773.205	13054.770
96770	17.598	0.000	173.935	0.000	56947.140	13054.770
96780	16.839	0.000	172.185	0.000	57119.325	13054.770
96790	15.009	0.000	159.240	0.000	57278.565	13054.770
96800	12.292	0.000	136.505	0.000	57415.070	13054.770
96810	8.878	0.000	105.850	0.000	57520.920	13054.770
96820	4.299	0.000	65.885	0.000	57586.805	13054.770
96830	0.746	1.371	25.225	6.855	57612.030	13061.625
96840	0.341	5.946	5.435	36.585	57617.465	13098.210
96850	0.121	5.890	2.310	59.180	57619.775	13157.390
96860	1.568	3.121	8.445	45.055	57628.220	13202.445
96870	8.325	0.213	49.465	16.670	57677.685	13219.115
96880	8.875	1.189	86.000	7.010	57763.685	13226.125
96890	17.244	0.848	130.595	10.185	57894.280	13236.310
96900	14.578	0.000	159.110	4.240	58053.390	13240.550
96910	20.748	0.000	176.630	0.000	58230.020	13240.550
96920	16.796	0.000	187.720	0.000	58417.740	13240.550
96930	11.434	0.000	141.150	0.000	58558.890	13240.550
96940	6.935	1.133	91.845	5.665	58650.735	13246.215
96950	4.307	4.571	56.210	28.520	58706.945	13274.735
96960	2.952	8.676	36.295	66.235	58743.240	13340.970
96970	1.729	8.478	23.405	85.770	58766.645	13426.740
96980	1.046	7.185	13.875	78.315	58780.520	13505.055
96990	1.691	7.052	13.685	71.185	58794.205	13576.240
97000	7.789	0.741	47.400	38.965	58841.605	13615.205
97010	11.856	0.146	98.225	4.435	58939.830	13619.640
97020	10.677	0.825	112.665	4.855	59052.495	13624.495
97030	5.651	1.011	81.640	9.180	59134.135	13633.675
97040	2.831	3.929	42.410	24.700	59176.545	13658.375
97050	8.654	4.618	57.425	42.735	59233.970	13701.110
97060	9.584	2.741	91.190	36.795	59325.160	13737.905
97070	9.121	0.890	93.525	18.155	59418.685	13756.060
97080	6.180	1.206	76.505	10.480	59495.190	13766.540
97090	4.697	2.916	54.385	20.610	59549.575	13787.150
97100	3.607	4.752	41.520	38.340	59591.095	13825.490
97110	2.293	5.970	29.500	53.610	59620.595	13879.100
97120	1.626	6.545	19.595	62.575	59640.190	13941.675
97130	1.561	6.110	15.935	63.275	59656.125	14004.950
97140	0.539	7.616	10.500	68.630	59666.625	14073.580
97150	7.128	7.723	38.335	76.695	59704.960	14150.275
97160	0.000	11.230	35.640	94.765	59740.600	14245.040
97170	0.000	14.827	0.000	130.285	59740.600	14375.325
97180	0.000	14.621	0.000	147.240	59740.600	14522.565
97190	2.920	6.299	14.600	104.600	59755.200	14627.165
97200	22.726	2.728	128.230	45.135	59883.430	14672.300
97210	23.109	1.122	229.175	19.250	60112.605	14691.550
97220	15.556	1.450	193.325	12.860	60305.930	14704.410
97230	15.548	0.270	155.520	8.600	60461.450	14713.010
97240	9.330	0.000	124.390	1.350	60585.840	14714.360
97250	8.929	0.008	91.295	0.040	60677.135	14714.400
97260	3.226	0.652	60.775	3.300	60737.910	14717.700

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
97270	1.548	10.234	23.870	54.430	60761.780	14772.130
97280	1.499	15.438	15.235	128.360	60777.015	14900.490
97290	2.235	1.801	18.670	86.195	60795.685	14986.685
97300	16.127	0.000	91.810	9.005	60887.495	14995.690
97310	17.113	0.000	166.200	0.000	61053.695	14995.690
97320	19.753	0.000	184.330	0.000	61238.025	14995.690
97330	8.183	0.000	139.680	0.000	61377.705	14995.690
97340	3.735	3.435	59.590	17.175	61437.295	15012.865
97350	1.311	9.869	25.230	66.520	61462.525	15079.385
97360	0.162	9.941	7.365	99.050	61469.890	15178.435
97370	5.992	1.539	30.770	57.400	61500.660	15235.835
97380	14.947	0.103	104.695	8.210	61605.355	15244.045
97390	21.982	0.039	184.645	0.710	61790.000	15244.755
97400	19.211	0.268	205.965	1.535	61995.965	15246.290
97410	19.709	0.595	194.600	4.315	62190.565	15250.605
97420	20.656	0.261	201.825	4.280	62392.390	15254.885
97430	12.763	0.566	167.095	4.135	62559.485	15259.020
97440	1.694	2.814	72.285	16.900	62631.770	15275.920
97450	0.018	7.251	8.560	50.325	62640.330	15326.245
97460	0.000	14.571	0.090	109.110	62640.420	15435.355
97470	0.000	15.403	0.000	149.870	62640.420	15585.225
97480	0.000	15.160	0.000	152.815	62640.420	15738.040
97490	0.017	12.028	0.085	135.940	62640.505	15873.980
97500	0.047	7.387	0.320	97.075	62640.825	15971.055
97510	2.541	3.752	12.940	55.695	62653.765	16026.750
97520	4.060	2.686	33.005	32.190	62686.770	16058.940
97530	8.686	0.550	63.730	16.180	62750.500	16075.120
97540	13.949	0.110	113.175	3.300	62863.675	16078.420
97550	16.591	0.003	152.700	0.565	63016.375	16078.985
97560	17.605	0.000	170.980	0.015	63187.355	16079.000
97570	17.767	0.000	176.860	0.000	63364.215	16079.000
97580	18.762	0.000	182.645	0.000	63546.860	16079.000
97590	28.451	0.000	236.065	0.000	63782.925	16079.000
97600	17.047	0.000	227.490	0.000	64010.415	16079.000
97610	16.345	0.000	166.960	0.000	64177.375	16079.000
97620	4.779	0.000	105.620	0.000	64282.995	16079.000
97630	0.000	4.947	23.895	24.735	64306.890	16103.735
97640	0.037	3.529	0.185	42.380	64307.075	16146.115
97650	0.234	2.124	1.355	28.265	64308.430	16174.380
97660	1.576	0.000	9.050	10.620	64317.480	16185.000
97670	35.110	0.000	183.430	0.000	64500.910	16185.000
97680	58.524	0.000	468.170	0.000	64969.080	16185.000
97690	41.094	0.000	498.090	0.000	65467.170	16185.000
97700	23.002	0.000	320.480	0.000	65787.650	16185.000
97710	6.470	0.002	147.360	0.010	65935.010	16185.010
97720	0.236	5.886	33.530	29.440	65968.540	16214.450
97730	0.000	10.608	1.180	82.470	65969.720	16296.920
97740	0.000	12.589	0.000	115.985	65969.720	16412.905
97750	0.000	14.790	0.000	136.895	65969.720	16549.800
97760	0.000	8.617	0.000	117.035	65969.720	16666.835
97770	1.338	2.391	6.690	55.040	65976.410	16721.875
97780	10.589	0.000	59.635	11.955	66036.045	16733.830
97790	22.747	0.000	166.680	0.000	66202.725	16733.830
97800	34.546	0.000	286.465	0.000	66489.190	16733.830
97810	43.306	0.000	389.260	0.000	66878.450	16733.830
97820	45.925	0.000	446.155	0.000	67324.605	16733.830
97830	28.961	0.000	374.430	0.000	67699.035	16733.830
97840	0.523	2.113	147.420	10.565	67846.455	16744.395
97850	0.000	6.626	2.615	43.695	67849.070	16788.090
97860	0.000	5.047	0.000	58.365	67849.070	16846.455
97870	0.000	4.100	0.000	45.735	67849.070	16892.190
97880	0.000	6.905	0.000	55.025	67849.070	16947.215
97890	0.000	10.909	0.000	89.070	67849.070	17036.285
97900	0.000	15.067	0.000	129.880	67849.070	17166.165
97910	0.000	19.465	0.000	172.660	67849.070	17338.825
97920	0.000	24.227	0.000	218.460	67849.070	17557.285
97930	0.000	29.374	0.000	268.005	67849.070	17825.290
97940	0.000	34.942	0.000	321.580	67849.070	18146.870
97950	0.000	40.995	0.000	379.685	67849.070	18526.555
97960	0.116	33.465	0.580	372.300	67849.650	18898.855
97970	0.305	21.768	2.105	276.165	67851.755	19175.020
97980	0.000	22.669	1.525	222.185	67853.280	19397.205
97990	0.000	23.327	0.000	229.980	67853.280	19627.185
98000	0.000	18.816	0.000	210.715	67853.280	19837.900
98010	0.002	13.419	0.010	161.175	67853.290	19999.075
98020	0.000	12.130	0.010	127.745	67853.300	20126.820
98030	0.000	15.399	0.000	137.645	67853.300	20264.465
98040	0.000	21.534	0.000	184.665	67853.300	20449.130
98050	0.000	40.958	0.000	312.460	67853.300	20761.590

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
98060	0.000	39.392	0.000	401.750	67853.300	21163.340
98070	0.000	38.258	0.000	388.250	67853.300	21551.590
98080	0.000	37.151	0.000	377.045	67853.300	21928.635
98090	0.000	35.976	0.000	365.635	67853.300	22294.270
98100	0.000	34.534	0.000	352.550	67853.300	22646.820
98110	0.000	32.744	0.000	336.390	67853.300	22983.210
98120	0.000	30.984	0.000	318.640	67853.300	23301.850
98130	0.000	29.554	0.000	302.690	67853.300	23604.540
98140	0.000	25.886	0.000	277.200	67853.300	23881.740
98150	0.000	20.889	0.000	233.875	67853.300	24115.615
98160	0.000	9.581	0.000	152.350	67853.300	24267.965
98170	1.455	0.916	7.275	52.485	67860.575	24320.450
98180	8.423	0.000	49.390	4.580	67909.965	24325.030
98190	13.851	0.000	111.370	0.000	68021.335	24325.030
98200	18.393	0.000	161.220	0.000	68182.555	24325.030
98210	21.151	0.000	197.720	0.000	68380.275	24325.030
98220	22.288	0.000	217.195	0.000	68597.470	24325.030
98230	22.849	0.000	225.685	0.000	68823.155	24325.030
98240	22.826	0.000	228.375	0.000	69051.530	24325.030
98250	22.015	0.000	224.205	0.000	69275.735	24325.030
98260	20.458	0.000	212.365	0.000	69488.100	24325.030
98270	16.264	0.000	183.610	0.000	69671.710	24325.030
98280	11.028	0.000	136.460	0.000	69808.170	24325.030
98290	1.201	0.078	61.145	0.390	69869.315	24325.420
98300	0.000	8.238	6.005	41.580	69875.320	24367.000
98310	0.000	10.101	0.000	91.695	69875.320	24458.695
98320	0.027	8.286	0.135	91.935	69875.455	24550.630
98330	0.356	6.034	1.915	71.600	69877.370	24622.230
98340	2.043	4.665	11.995	53.495	69889.365	24675.725
98350	2.103	4.217	20.730	44.410	69910.095	24720.135
98360	1.794	11.994	19.485	81.055	69929.580	24801.190
98370	1.357	15.087	15.755	135.405	69945.335	24936.595
98380	0.597	14.709	9.770	148.980	69955.105	25085.575
98390	0.000	13.107	2.985	139.080	69958.090	25224.655
98400	0.000	12.527	0.000	128.170	69958.090	25352.825
98410	0.000	10.011	0.000	112.690	69958.090	25465.515
98420	0.000	6.758	0.000	83.845	69958.090	25549.360
98430	0.000	5.255	0.000	60.065	69958.090	25609.425
98440	0.000	2.464	0.000	38.595	69958.090	25648.020
98450	0.234	0.882	1.170	16.730	69959.260	25664.750
98460	0.642	0.612	4.380	7.470	69963.640	25672.220
98470	0.489	0.861	5.655	7.365	69969.295	25679.585
98480	0.007	1.561	2.480	12.110	69971.775	25691.695
98490	0.013	1.250	0.100	14.055	69971.875	25705.750
98500	0.000	1.605	0.065	14.275	69971.940	25720.025
98510	0.223	2.559	1.115	20.820	69973.055	25740.845
98520	0.000	3.694	1.115	31.265	69974.170	25772.110
98530	0.000	5.109	0.000	44.015	69974.170	25816.125
98540	0.000	6.406	0.000	57.575	69974.170	25873.700
98550	0.000	6.570	0.000	64.880	69974.170	25938.580
98560	0.000	7.179	0.000	68.745	69974.170	26007.325
98570	0.000	7.176	0.000	71.775	69974.170	26079.100
98580	0.000	6.564	0.000	68.700	69974.170	26147.800
98590	0.000	6.430	0.000	64.970	69974.170	26212.770
98600	0.000	7.046	0.000	67.380	69974.170	26280.150
98610	0.000	6.488	0.000	67.670	69974.170	26347.820
98620	0.000	3.417	0.000	49.525	69974.170	26397.345
98630	0.000	4.664	0.000	40.405	69974.170	26437.750
98640	0.021	2.319	0.105	34.915	69974.275	26472.665
98650	1.394	0.406	7.075	13.625	69981.350	26486.290
98660	10.159	0.000	57.765	2.030	70039.115	26488.320
98670	21.070	0.000	156.145	0.000	70195.260	26488.320
98680	22.556	0.000	218.130	0.000	70413.390	26488.320
98690	25.464	0.000	240.100	0.000	70653.490	26488.320
98700	34.890	0.000	301.770	0.000	70955.260	26488.320
98710	46.107	0.000	404.985	0.000	71360.245	26488.320
98720	56.714	0.000	514.105	0.000	71874.350	26488.320
98730	67.958	0.000	623.360	0.000	72497.710	26488.320
98740	79.893	0.000	739.255	0.000	73236.965	26488.320
98750	92.519	0.000	862.060	0.000	74099.025	26488.320
98760	105.505	0.000	990.120	0.000	75089.145	26488.320
98770	118.246	0.000	1118.755	0.000	76207.900	26488.320
98780	130.795	0.000	1245.205	0.000	77453.105	26488.320
98790	144.147	0.000	1374.710	0.000	78827.815	26488.320
98800	158.039	0.000	1510.930	0.000	80338.745	26488.320
98810	165.448	0.000	1617.435	0.000	81956.180	26488.320
98820	166.056	0.000	1657.520	0.000	83613.700	26488.320
98830	170.149	0.000	1681.025	0.000	85294.725	26488.320
98840	166.289	0.000	1682.190	0.000	86976.915	26488.320

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
98850	136.534	0.000	1514.115	0.000	88491.030	26488.320
98860	74.228	0.000	1053.810	0.000	89544.840	26488.320
98870	28.407	0.000	513.175	0.000	90058.015	26488.320
98880	12.591	0.000	204.990	0.000	90263.005	26488.320
98890	4.320	0.000	84.555	0.000	90347.560	26488.320
98900	0.078	20.846	21.990	104.230	90369.550	26592.550
98910	0.000	32.520	0.390	266.830	90369.940	26859.380
98920	0.000	29.317	0.000	309.185	90369.940	27168.565
98930	0.000	28.472	0.000	288.945	90369.940	27457.510
98940	0.000	37.281	0.000	328.765	90369.940	27786.275
98950	0.000	50.620	0.000	439.505	90369.940	28225.780
98960	0.000	46.788	0.000	487.040	90369.940	28712.820
98970	0.000	39.096	0.000	429.420	90369.940	29142.240
98980	0.000	37.337	0.000	382.165	90369.940	29524.405
98990	6.126	21.008	30.630	291.725	90400.570	29816.130
99000	16.960	8.201	115.430	146.045	90516.000	29962.175
99010	25.543	1.475	212.515	48.380	90728.515	30010.555
99020	33.397	0.228	294.700	8.515	91023.215	30019.070
99030	39.103	0.000	362.500	1.140	91385.715	30020.210
99040	43.363	0.000	412.330	0.000	91798.045	30020.210
99050	43.340	0.000	433.515	0.000	92231.560	30020.210
99060	32.110	0.000	377.250	0.000	92608.810	30020.210
99070	24.311	0.000	282.105	0.000	92890.915	30020.210
99080	14.372	3.491	193.415	17.455	93084.330	30037.665
99090	18.044	0.248	162.080	18.695	93246.410	30056.360
99100	21.761	0.000	199.025	1.240	93445.435	30057.600
99110	22.227	0.000	219.940	0.000	93665.375	30057.600
99120	22.560	0.000	223.935	0.000	93889.310	30057.600
99130	22.805	0.000	226.825	0.000	94116.135	30057.600
99140	22.965	0.000	228.850	0.000	94344.985	30057.600
99150	23.118	0.000	230.415	0.000	94575.400	30057.600
99160	23.214	0.000	231.660	0.000	94807.060	30057.600
99170	22.083	0.000	226.485	0.000	95033.545	30057.600
99180	16.646	0.000	193.645	0.000	95227.190	30057.600
99190	18.189	0.000	174.175	0.000	95401.365	30057.600
99200	18.759	0.000	184.740	0.000	95586.105	30057.600
99210	16.202	0.075	174.805	0.375	95760.910	30057.975
99220	14.159	0.473	151.805	2.740	95912.715	30060.715
99230	12.446	1.143	133.025	8.080	96045.740	30068.795
99240	3.871	3.388	81.585	22.655	96127.325	30091.450
99250	10.695	1.325	72.830	23.565	96200.155	30115.015
99260	23.477	0.011	170.860	6.680	96371.015	30121.695
99270	32.577	0.000	280.270	0.055	96651.285	30121.750
99280	37.472	0.000	350.245	0.000	97001.530	30121.750
99290	33.991	0.000	357.315	0.000	97358.845	30121.750
99300	27.583	0.000	307.870	0.000	97666.715	30121.750
99310	21.759	0.000	246.710	0.000	97913.425	30121.750
99320	16.452	0.000	191.055	0.000	98104.480	30121.750
99330	12.123	0.000	142.875	0.000	98247.355	30121.750
99340	9.070	0.000	105.965	0.000	98353.320	30121.750
99350	6.628	0.100	78.490	0.500	98431.810	30122.250
99360	6.020	0.343	63.240	2.215	98495.050	30124.465
99370	5.820	0.270	59.200	3.065	98554.250	30127.530
99380	4.120	1.034	49.700	6.520	98603.950	30134.050
99390	3.207	2.421	36.635	17.275	98640.585	30151.325
99400	0.952	5.864	20.795	41.425	98661.380	30192.750
99410	15.562	1.786	82.570	38.250	98743.950	30231.000
99420	32.455	1.223	240.085	15.045	98984.035	30246.045
99430	54.967	0.528	437.110	8.755	99421.145	30254.800
99440	60.941	0.553	579.540	5.405	100000.685	30260.205
99450	55.967	0.513	584.540	5.330	100585.225	30265.535
99460	40.078	1.180	480.225	8.465	101065.450	30274.000
99470	19.041	1.307	295.595	12.435	101361.045	30286.435
99480	9.284	0.981	141.625	11.440	101502.670	30297.875
99490	8.455	1.684	88.695	13.325	101591.365	30311.200
99500	12.226	0.275	103.405	9.795	101694.770	30320.995
99510	18.604	0.000	154.150	1.375	101848.920	30322.370
99520	25.024	0.000	218.140	0.000	102067.060	30322.370
99530	31.076	0.000	280.500	0.000	102347.560	30322.370
99540	36.994	0.000	340.350	0.000	102687.910	30322.370
99550	43.568	0.000	402.810	0.000	103090.720	30322.370
99560	52.294	0.000	479.310	0.000	103570.030	30322.370
99570	62.240	0.000	572.670	0.000	104142.700	30322.370
99580	72.645	0.000	674.425	0.000	104817.125	30322.370
99590	83.484	0.000	780.645	0.000	105597.770	30322.370
99600	95.307	0.000	893.955	0.000	106491.725	30322.370
99610	107.520	0.000	1014.135	0.000	107505.860	30322.370
99620	119.545	0.000	1135.325	0.000	108641.185	30322.370
99630	98.472	0.000	1090.085	0.000	109731.270	30322.370

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
99640	72.436	0.000	854.540	0.000	110585.810	30322.370
99650	44.872	0.000	586.540	0.000	111172.350	30322.370
99660	20.248	0.007	325.600	0.035	111497.950	30322.405
99670	13.884	0.914	170.660	4.605	111668.610	30327.010
99680	17.360	0.113	156.220	5.135	111824.830	30332.145
99690	32.981	0.734	251.705	4.235	112076.535	30336.380
99700	66.415	0.000	496.980	3.670	112573.515	30340.050
99710	64.827	0.000	656.210	0.000	113229.725	30340.050
99720	53.576	0.000	592.015	0.000	113821.740	30340.050
99730	41.892	0.000	477.340	0.000	114299.080	30340.050
99740	30.418	0.000	361.550	0.000	114660.630	30340.050
99750	12.270	0.962	213.440	4.810	114874.070	30344.860
99760	0.716	6.250	64.930	36.060	114939.000	30380.920
99770	9.721	4.639	52.185	54.445	114991.185	30435.365
99780	30.731	2.104	202.260	33.715	115193.445	30469.080
99790	39.122	2.250	349.265	21.770	115542.710	30490.850
99800	48.404	1.150	437.630	17.000	115980.340	30507.850
99810	47.288	1.528	478.460	13.390	116458.800	30521.240
99820	40.308	0.941	437.980	12.345	116896.780	30533.585
99830	31.446	1.953	358.770	14.470	117255.550	30548.055
99840	23.153	2.941	272.995	24.470	117528.545	30572.525
99850	10.178	5.876	166.655	44.085	117695.200	30616.610
99860	0.024	9.716	51.010	77.960	117746.210	30694.570
99870	0.282	11.668	1.530	106.920	117747.740	30801.490
99880	0.285	14.961	2.835	133.145	117750.575	30934.635
99890	0.000	20.810	1.425	178.855	117752.000	31113.490
99900	0.000	20.547	0.000	206.785	117752.000	31320.275
99910	0.000	24.128	0.000	223.375	117752.000	31543.650
99920	0.000	25.195	0.000	246.615	117752.000	31790.265
99930	0.000	23.753	0.000	244.740	117752.000	32035.005
99940	0.000	27.323	0.000	255.380	117752.000	32290.385
99950	0.000	28.363	0.000	278.430	117752.000	32568.815
99960	0.000	26.883	0.000	276.230	117752.000	32845.045
99970	0.000	30.394	0.000	286.385	117752.000	33131.430
99980	0.000	31.385	0.000	308.895	117752.000	33440.325
99990	0.000	29.862	0.000	306.235	117752.000	33746.560
100000	0.000	30.821	0.000	303.415	117752.000	34049.975
100010	0.000	34.255	0.000	325.380	117752.000	34375.355
100020	0.000	32.689	0.000	334.720	117752.000	34710.075
100030	0.000	33.598	0.000	331.435	117752.000	35041.510
100040	0.000	35.603	0.000	346.005	117752.000	35387.515
100050	0.000	25.429	0.000	305.160	117752.000	35692.675
100060	0.000	21.427	0.000	234.280	117752.000	35926.955
100070	0.000	21.725	0.000	215.760	117752.000	36142.715
100080	0.000	22.430	0.000	220.775	117752.000	36363.490
100090	0.000	25.360	0.000	238.950	117752.000	36602.440
100100	0.000	31.798	0.000	285.790	117752.000	36888.230
100110	0.000	55.472	0.000	436.350	117752.000	37324.580
100120	0.000	44.013	0.000	497.425	117752.000	37822.005
100130	0.000	40.168	0.000	420.905	117752.000	38242.910
100140	0.000	37.012	0.000	385.900	117752.000	38628.810
100150	0.000	34.028	0.000	355.200	117752.000	38984.010
100160	0.000	31.221	0.000	326.245	117752.000	39310.255
100170	0.000	28.632	0.000	299.265	117752.000	39609.520
100180	0.000	26.262	0.000	274.470	117752.000	39883.990
100190	0.000	24.110	0.000	251.860	117752.000	40135.850
100200	0.000	22.177	0.000	231.435	117752.000	40367.285
100210	0.000	20.463	0.000	213.200	117752.000	40580.485
100220	0.000	18.967	0.000	197.150	117752.000	40777.635
100230	0.000	17.655	0.000	183.110	117752.000	40960.745
100240	0.000	16.385	0.000	170.200	117752.000	41130.945
100250	0.000	15.141	0.000	157.630	117752.000	41288.575
100260	0.000	13.923	0.000	145.320	117752.000	41433.895
100270	0.000	12.731	0.000	133.270	117752.000	41567.165
100280	0.000	11.565	0.000	121.480	117752.000	41688.645
100290	0.000	10.424	0.000	109.945	117752.000	41798.590
100300	0.000	9.310	0.000	98.670	117752.000	41897.260
100310	0.001	8.222	0.005	87.660	117752.005	41984.920
100320	0.059	7.203	0.300	77.125	117752.305	42062.045
100330	0.207	6.278	1.330	67.405	117753.635	42129.450
100340	0.450	5.453	3.285	58.655	117756.920	42188.105
100350	0.785	4.723	6.175	50.880	117763.095	42238.985
100360	1.186	4.063	9.855	43.930	117772.950	42282.915
100370	1.646	3.467	14.160	37.650	117787.110	42320.565
100380	2.167	2.935	19.065	32.010	117806.175	42352.575
100390	2.771	2.492	24.690	27.135	117830.865	42379.710
100400	3.495	2.172	31.330	23.320	117862.195	42403.030
100410	4.286	1.923	38.905	20.475	117901.100	42423.505
100420	5.087	1.689	46.865	18.060	117947.965	42441.565

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
100430	5.900	1.470	54.935	15.795	118002.900	42457.360
100440	6.723	1.266	63.115	13.680	118066.015	42471.040
100450	7.557	1.077	71.400	11.715	118137.415	42482.755
100460	8.402	0.903	79.795	9.900	118217.210	42492.655
100470	9.258	0.744	88.300	8.235	118305.510	42500.890
100480	15.170	0.600	122.140	6.720	118427.650	42507.610
100490	23.520	0.437	193.450	5.185	118621.100	42512.795
100500	32.268	0.124	278.940	2.805	118900.040	42515.600
100510	33.873	0.000	330.705	0.620	119230.745	42516.220
100520	34.908	0.000	343.905	0.000	119574.650	42516.220
100530	31.934	0.000	334.210	0.000	119908.860	42516.220
100540	36.446	0.000	341.900	0.000	120250.760	42516.220
100550	28.079	0.004	322.625	0.020	120573.385	42516.240
100560	11.742	1.676	199.105	8.400	120772.490	42524.640
100570	0.825	11.150	62.835	64.130	120835.325	42588.770
100580	0.000	23.783	4.125	174.665	120839.450	42763.435
100590	3.374	15.407	16.870	195.950	120856.320	42959.385
100600	11.975	8.116	76.745	117.615	120933.065	43077.000
100610	20.928	6.523	164.515	73.195	121097.580	43150.195
100620	32.007	5.634	264.675	60.785	121362.255	43210.980
100630	26.891	8.892	294.490	72.630	121656.745	43283.610
100640	14.324	13.733	206.075	113.125	121862.820	43396.735
100650	4.310	24.954	93.170	193.435	121955.990	43590.170
100660	0.578	40.269	24.440	326.115	121980.430	43916.285
100670	0.000	46.133	2.890	432.010	121983.320	44348.295
100680	0.000	54.523	0.000	503.280	121983.320	44851.575
100690	0.000	58.832	0.000	566.775	121983.320	45418.350
100700	0.000	68.337	0.000	635.845	121983.320	46054.195
100710	0.000	68.780	0.000	685.585	121983.320	46739.780
100720	0.000	66.334	0.000	675.570	121983.320	47415.350
100730	0.000	57.333	0.000	618.335	121983.320	48033.685
100740	0.000	48.146	0.000	527.395	121983.320	48561.080
100750	0.000	19.820	0.000	339.830	121983.320	48900.910
100760	2.138	8.110	10.690	139.650	121994.010	49040.560
100770	4.610	5.826	33.740	69.680	122027.750	49110.240
100780	7.025	16.904	58.175	113.650	122085.925	49223.890
100790	9.239	13.393	81.320	151.485	122167.245	49375.375
100800	5.862	1.356	75.505	73.745	122242.750	49449.120
100810	5.736	0.150	57.990	7.530	122300.740	49456.650
100820	3.573	0.045	46.545	0.975	122347.285	49457.625
100830	1.827	0.546	27.000	2.955	122374.285	49460.580
100840	1.985	1.311	19.060	9.285	122393.345	49469.865
100850	3.016	20.781	25.005	110.460	122418.350	49580.325
100860	9.583	15.205	62.995	179.930	122481.345	49760.255
100870	14.824	4.781	122.035	99.930	122603.380	49860.185
100880	13.639	0.798	142.315	27.895	122745.695	49888.080
100890	16.290	1.598	149.645	11.980	122895.340	49900.060
100900	26.210	2.789	212.500	21.935	123107.840	49921.995
100910	33.001	8.051	296.055	54.200	123403.895	49976.195
100920	28.386	12.709	306.935	103.800	123710.830	50079.995
100930	29.372	10.504	288.790	116.065	123999.620	50196.060
100940	16.638	16.824	230.050	136.640	124229.670	50332.700
100950	0.000	33.881	83.190	253.525	124312.860	50586.225
100960	0.000	27.367	0.000	306.240	124312.860	50892.465
100970	1.266	25.214	6.330	262.905	124319.190	51155.370
100980	1.425	24.429	13.455	248.215	124332.645	51403.585
100990	0.018	33.096	7.215	287.625	124339.860	51691.210
101000	0.798	26.975	4.080	300.355	124343.940	51991.565
101010	5.488	23.320	31.430	251.475	124375.370	52243.040
101020	8.391	14.380	69.395	188.500	124444.765	52431.540
101030	13.738	10.401	110.645	123.905	124555.410	52555.445
101040	20.351	7.173	170.445	87.870	124725.855	52643.315
101050	19.920	7.666	201.355	74.195	124927.210	52717.510
101060	21.461	10.694	206.905	91.800	125134.115	52809.310
101070	28.862	12.778	251.615	117.360	125385.730	52926.670
101080	42.405	7.225	356.335	100.015	125742.065	53026.685
101090	76.358	0.377	593.815	38.010	126335.880	53064.695
101100	113.340	0.000	948.490	1.885	127284.370	53066.580
101110	108.741	0.103	1110.405	0.515	128394.775	53067.095
101120	49.344	1.374	790.425	7.385	129185.200	53074.480
101130	14.669	12.075	320.065	67.245	129505.265	53141.725
101140	0.408	33.336	75.385	227.055	129580.650	53368.780
101150	0.646	37.733	5.270	355.345	129585.920	53724.125
101160	0.000	29.556	3.230	336.445	129589.150	54060.570
101170	9.170	16.269	45.850	229.125	129635.000	54289.695
101180	10.166	10.321	96.680	132.950	129731.680	54422.645
101190	12.598	8.977	113.820	96.490	129845.500	54519.135
101200	13.961	9.047	132.795	90.120	129978.295	54609.255
101210	10.623	13.162	122.920	111.045	130101.215	54720.300

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
101220	6.192	16.384	84.075	147.730	130185.290	54868.030
101230	8.860	18.750	75.260	175.670	130260.550	55043.700
101240	11.301	18.426	100.805	185.880	130361.355	55229.580
101250	16.264	13.484	137.825	159.550	130499.180	55389.130
101260	28.886	5.958	225.750	97.210	130724.930	55486.340
101270	27.093	6.927	279.895	64.425	131004.825	55550.765
101280	14.981	15.283	210.370	111.050	131215.195	55661.815
101290	11.184	19.083	130.825	171.830	131346.020	55833.645
101300	14.445	24.126	128.145	216.045	131474.165	56049.690
101310	18.818	22.289	166.315	232.075	131640.480	56281.765
101320	23.383	13.768	211.005	180.285	131851.485	56462.050
101330	29.389	0.690	263.860	72.290	132115.345	56534.340
101340	43.400	0.000	363.945	3.450	132479.290	56537.790
101350	39.398	0.000	413.990	0.000	132893.280	56537.790
101360	30.967	0.000	351.825	0.000	133245.105	56537.790
101370	22.790	0.000	268.785	0.000	133513.890	56537.790
101380	16.688	0.288	197.390	1.440	133711.280	56539.230
101390	20.301	0.024	184.945	1.560	133896.225	56540.790
101400	30.341	0.000	253.210	0.120	134149.435	56540.910
101410	45.858	0.000	380.995	0.000	134530.430	56540.910
101420	63.424	4.405	546.410	22.025	135076.840	56562.935
101430	85.961	7.796	746.925	61.005	135823.765	56623.940
101440	87.250	0.000	866.055	38.980	136689.820	56662.920
101450	66.681	12.003	769.655	60.015	137459.475	56722.935
101460	40.849	16.343	537.650	141.730	137997.125	56864.665
101470	25.061	19.388	329.550	178.655	138326.675	57043.320
101480	41.808	0.055	334.345	97.215	138661.020	57140.535
101490	73.439	0.040	576.235	0.475	139237.255	57141.010
101500	76.477	0.000	749.580	0.200	139986.835	57141.210
101510	68.594	0.000	725.355	0.000	140712.190	57141.210
101520	55.925	0.000	622.595	0.000	141334.785	57141.210
101530	38.781	0.000	473.530	0.000	141808.315	57141.210
101540	24.032	0.000	314.065	0.000	142122.380	57141.210
101550	11.829	0.000	179.305	0.000	142301.685	57141.210
101560	2.754	0.168	72.915	0.840	142374.600	57142.050
101570	0.311	8.571	15.325	43.695	142389.925	57185.745
101580	0.000	24.064	1.555	163.175	142391.480	57348.920
101590	0.000	52.375	0.000	382.195	142391.480	57731.115
101600	0.000	78.746	0.000	655.605	142391.480	58386.720
101610	0.000	77.446	0.000	780.960	142391.480	59167.680
101620	0.000	65.533	0.000	714.895	142391.480	59882.575
101630	0.000	50.702	0.000	581.175	142391.480	60463.750
101640	0.048	43.073	0.240	468.875	142391.720	60932.625
101650	0.554	35.045	3.010	390.590	142394.730	61323.215
101660	0.467	49.528	5.105	422.865	142399.835	61746.080
101670	1.384	43.422	9.255	464.750	142409.090	62210.830
101680	5.284	36.565	33.340	399.935	142442.430	62610.765
101690	15.942	15.164	106.130	258.645	142548.560	62869.410
101700	37.509	2.430	267.255	87.970	142815.815	62957.380
101710	73.186	0.000	553.475	12.150	143369.290	62969.530
101720	97.211	0.000	851.985	0.000	144221.275	62969.530
101730	128.532	0.000	1128.715	0.000	145349.990	62969.530
101740	116.899	2.370	1227.155	11.850	146577.145	62981.380
101750	85.695	6.389	1012.970	43.795	147590.115	63025.175
101760	53.541	18.205	696.180	122.970	148286.295	63148.145
101770	32.076	19.411	428.085	188.080	148714.380	63336.225
101780	36.501	17.335	342.885	183.730	149057.265	63519.955
101790	71.471	0.000	539.860	86.675	149597.125	63606.630
101800	112.268	0.000	918.695	0.000	150515.820	63606.630
101810	124.911	0.000	1185.895	0.000	151701.715	63606.630
101820	95.376	0.000	1101.435	0.000	152803.150	63606.630
101830	80.021	1.379	876.985	6.895	153680.135	63613.525
101840	68.096	6.276	740.585	38.275	154420.720	63651.800
101850	39.304	53.532	537.000	299.040	154957.720	63950.840
101860	7.617	79.313	234.605	664.225	155192.325	64615.065
101870	0.000	90.416	38.085	848.645	155230.410	65463.710
101880	8.765	39.891	43.825	651.535	155274.235	66115.245
101890	39.931	0.000	243.480	199.455	155517.715	66314.700
101900	31.931	0.000	359.310	0.000	155877.025	66314.700
101910	21.308	0.000	266.195	0.000	156143.220	66314.700
101920	12.202	0.410	167.550	2.050	156310.770	66316.750
101930	6.886	4.852	95.440	26.310	156406.210	66343.060
101940	3.347	11.361	51.165	81.065	156457.375	66424.125
101950	1.187	40.009	22.670	256.850	156480.045	66680.975
101960	0.140	34.083	6.635	370.460	156486.680	67051.435
101970	0.908	27.109	5.240	305.960	156491.920	67357.395
101980	2.313	26.599	16.105	268.540	156508.025	67625.935
101990	0.000	29.871	11.565	282.350	156519.590	67908.285
102000	0.000	28.285	0.000	290.780	156519.590	68199.065

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
102010	0.162	23.094	0.810	256.895	156520.400	68455.960
102020	1.799	19.292	9.805	211.930	156530.205	68667.890
102030	5.281	16.326	35.400	178.090	156565.605	68845.980
102040	6.865	15.956	60.730	161.410	156626.335	69007.390
102050	5.468	15.584	61.665	157.700	156688.000	69165.090
102060	3.457	15.455	44.625	155.195	156732.625	69320.285
102070	1.745	22.370	26.010	189.125	156758.635	69509.410
102080	0.423	17.186	10.840	197.780	156769.475	69707.190
102090	8.090	1.861	42.565	95.235	156812.040	69802.425
102100	17.256	0.000	126.730	9.305	156938.770	69811.730
102110	23.524	0.000	203.900	0.000	157142.670	69811.730
102120	24.482	0.000	240.030	0.000	157382.700	69811.730
102130	24.499	0.000	244.905	0.000	157627.605	69811.730
102140	23.282	0.000	238.905	0.000	157866.510	69811.730
102150	20.877	0.000	220.795	0.000	158087.305	69811.730
102160	16.818	0.000	188.475	0.000	158275.780	69811.730
102170	12.246	0.687	145.320	3.435	158421.100	69815.165
102180	8.238	3.121	102.420	19.040	158523.520	69834.205
102190	7.125	6.958	76.815	50.395	158600.335	69884.600
102200	7.239	6.031	71.820	64.945	158672.155	69949.545
102210	9.775	3.002	85.070	45.165	158757.225	69994.710
102220	7.750	3.939	87.625	34.705	158844.850	70029.415
102230	9.356	3.399	85.530	36.690	158930.380	70066.105
102240	12.116	1.288	107.360	23.435	159037.740	70089.540
102250	16.000	0.104	140.580	6.960	159178.320	70096.500
102260	20.911	0.000	184.555	0.520	159362.875	70097.020
102270	26.392	0.000	236.515	0.000	159599.390	70097.020
102280	32.394	0.000	293.930	0.000	159893.320	70097.020
102290	38.919	0.000	356.565	0.000	160249.885	70097.020
102300	45.964	0.000	424.415	0.000	160674.300	70097.020
102310	53.565	0.000	497.645	0.000	161171.945	70097.020
102320	62.012	0.000	577.885	0.000	161749.830	70097.020
102330	71.255	0.000	666.335	0.000	162416.165	70097.020
102340	80.961	0.000	761.080	0.000	163177.245	70097.020
102350	91.106	0.000	860.335	0.000	164037.580	70097.020
102360	101.692	0.000	963.990	0.000	165001.570	70097.020
102370	112.718	0.000	1072.050	0.000	166073.620	70097.020
102380	124.185	0.000	1184.515	0.000	167258.135	70097.020
102390	136.092	0.000	1301.385	0.000	168559.520	70097.020
102400	148.439	0.000	1422.655	0.000	169982.175	70097.020
102410	161.227	0.000	1548.330	0.000	171530.505	70097.020
102420	174.455	0.000	1678.410	0.000	173208.915	70097.020
102430	188.124	0.000	1812.895	0.000	175021.810	70097.020
102440	202.232	0.000	1951.780	0.000	176973.590	70097.020
102450	216.782	0.000	2095.070	0.000	179068.660	70097.020
102460	231.771	0.000	2242.765	0.000	181311.425	70097.020
102470	247.201	0.000	2394.860	0.000	183706.285	70097.020
102480	263.071	0.000	2551.360	0.000	186257.645	70097.020
102490	279.382	0.000	2712.265	0.000	188969.910	70097.020
102500	296.133	0.000	2877.575	0.000	191847.485	70097.020
102510	313.324	0.000	3047.285	0.000	194894.770	70097.020
102520	330.955	0.000	3221.395	0.000	198116.165	70097.020
102530	349.027	0.000	3399.910	0.000	201516.075	70097.020
102540	367.540	0.000	3582.835	0.000	205098.910	70097.020
102550	386.492	0.000	3770.160	0.000	208869.070	70097.020
102560	405.886	0.000	3961.890	0.000	212830.960	70097.020
102570	425.719	0.000	4158.025	0.000	216988.985	70097.020
102580	445.993	0.000	4358.560	0.000	221347.545	70097.020
102590	466.707	0.000	4563.500	0.000	225911.045	70097.020
102600	487.861	0.000	4772.840	0.000	230683.885	70097.020
102610	509.456	0.000	4986.585	0.000	235670.470	70097.020
102620	531.491	0.000	5204.735	0.000	240875.205	70097.020
102630	553.967	0.000	5427.290	0.000	246302.495	70097.020
102640	576.883	0.000	5654.250	0.000	251956.745	70097.020
102650	600.239	0.000	5885.610	0.000	257842.355	70097.020
102660	624.185	0.000	6122.120	0.000	263964.475	70097.020
102670	648.879	0.000	6365.320	0.000	270329.795	70097.020
102680	674.074	0.000	6614.765	0.000	276944.560	70097.020
102690	699.766	0.000	6869.200	0.000	283813.760	70097.020
102700	725.954	0.000	7128.600	0.000	290942.360	70097.020
102710	752.638	0.000	7392.960	0.000	298335.320	70097.020
102720	779.818	0.000	7662.280	0.000	305997.600	70097.020
102730	807.494	0.000	7936.560	0.000	313934.160	70097.020
102740	838.653	0.000	8230.735	0.000	322164.895	70097.020
102750	905.165	0.000	8719.090	0.000	330883.985	70097.020
102760	980.145	0.000	9426.550	0.000	340310.535	70097.020
102770	1060.451	0.000	10202.980	0.000	350513.515	70097.020
102780	961.097	0.000	10107.740	0.000	360621.255	70097.020
102790	740.022	0.000	8505.595	0.000	369126.850	70097.020

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
102800	424.231	0.000	5821.265	0.000	374948.115	70097.020
102810	130.907	0.000	2775.690	0.000	377723.805	70097.020
102820	16.253	2.483	735.800	12.415	378459.605	70109.435
102830	0.000	52.331	81.265	274.070	378540.870	70383.505
102840	0.000	118.838	0.000	855.845	378540.870	71239.350
102850	0.000	43.622	0.000	812.300	378540.870	72051.650
102860	213.664	4.550	1068.320	240.860	379609.190	72292.510
102870	501.962	0.000	3578.130	22.750	383187.320	72315.260
102880	771.375	0.000	6366.685	0.000	389554.005	72315.260
102890	1026.032	0.000	8987.035	0.000	398541.040	72315.260
102900	1102.344	0.000	10641.880	0.000	409182.920	72315.260
102910	752.323	0.000	9273.335	0.000	418456.255	72315.260
102920	418.704	0.000	5855.135	0.000	424311.390	72315.260
102930	76.703	0.000	2477.035	0.000	426788.425	72315.260
102940	0.000	29.614	383.515	148.070	427171.940	72463.330
102950	0.000	62.878	0.000	462.460	427171.940	72925.790
102960	52.088	0.516	260.440	316.970	427432.380	73242.760
102970	165.209	0.000	1086.485	2.580	428518.865	73245.340
102980	239.719	0.000	2024.640	0.000	430543.505	73245.340
102990	257.731	0.000	2487.250	0.000	433030.755	73245.340
103000	273.372	0.000	2655.515	0.000	435686.270	73245.340
103010	252.057	0.000	2627.145	0.000	438313.415	73245.340
103020	211.811	0.000	2319.340	0.000	440632.755	73245.340
103030	173.450	0.000	1926.305	0.000	442559.060	73245.340
103040	134.787	0.000	1541.185	0.000	444100.245	73245.340
103050	83.551	0.000	1091.690	0.000	445191.935	73245.340
103060	79.098	3.254	813.245	16.270	446005.180	73261.610
103070	15.444	5.483	472.710	43.685	446477.890	73305.295
103080	3.474	8.351	94.590	69.170	446572.480	73374.465
103090	39.699	4.379	215.865	63.650	446788.345	73438.115
103100	57.351	2.385	485.250	33.820	447273.595	73471.935
103110	52.877	3.224	551.140	28.045	447824.735	73499.980
103120	27.935	7.770	404.060	54.970	448228.795	73554.950
103130	9.707	12.483	188.210	101.265	448417.005	73656.215
103140	54.807	2.117	322.570	73.000	448739.575	73729.215
103150	105.695	0.000	802.510	10.585	449542.085	73739.800
103160	123.757	0.000	1147.260	0.000	450689.345	73739.800
103170	125.208	0.000	1244.825	0.000	451934.170	73739.800
103180	127.527	0.000	1263.675	0.000	453197.845	73739.800
103190	131.338	0.000	1294.325	0.000	454492.170	73739.800
103200	135.675	0.000	1335.065	0.000	455827.235	73739.800
103210	140.012	0.000	1378.435	0.000	457205.670	73739.800
103220	144.350	0.000	1421.810	0.000	458627.480	73739.800
103230	148.687	0.000	1465.185	0.000	460092.665	73739.800
103240	153.025	0.000	1508.560	0.000	461601.225	73739.800
103250	157.363	0.000	1551.940	0.000	463153.165	73739.800
103260	161.701	0.000	1595.320	0.000	464748.485	73739.800
103270	165.996	0.000	1638.485	0.000	466386.970	73739.800
103280	170.198	0.000	1680.970	0.000	468067.940	73739.800
103290	174.251	0.000	1722.245	0.000	469790.185	73739.800
103300	178.189	0.000	1762.200	0.000	471552.385	73739.800
103310	182.022	0.000	1801.055	0.000	473353.440	73739.800
103320	185.746	0.000	1838.840	0.000	475192.280	73739.800
103330	189.376	0.000	1875.610	0.000	477067.890	73739.800
103340	192.907	0.000	1911.415	0.000	478979.305	73739.800
103350	196.334	0.000	1946.205	0.000	480925.510	73739.800
103360	199.649	0.000	1979.915	0.000	482905.425	73739.800
103370	202.875	0.000	2012.620	0.000	484918.045	73739.800
103380	206.062	0.000	2044.685	0.000	486962.730	73739.800
103390	209.207	0.000	2076.345	0.000	489039.075	73739.800
103400	212.321	0.000	2107.640	0.000	491146.715	73739.800
103410	215.405	0.000	2138.630	0.000	493285.345	73739.800
103420	218.461	0.000	2169.330	0.000	495454.675	73739.800
103430	220.624	0.000	2195.425	0.000	497650.100	73739.800
103440	206.208	0.000	2134.160	0.000	499784.260	73739.800
103450	185.454	0.000	1958.310	0.000	501742.570	73739.800
103460	163.591	0.000	1745.225	0.000	503487.795	73739.800
103470	146.061	0.000	1548.260	0.000	505036.055	73739.800
103480	139.360	0.000	1427.105	0.000	506463.160	73739.800
103490	153.042	0.000	1462.010	0.000	507925.170	73739.800
103500	185.056	0.000	1690.490	0.000	509615.660	73739.800
103510	197.443	0.000	1912.495	0.000	511528.155	73739.800
103520	192.063	0.000	1947.530	0.000	513475.685	73739.800
103530	181.042	0.000	1865.525	0.000	515341.210	73739.800
103540	168.365	0.000	1747.035	0.000	517088.245	73739.800
103550	152.081	0.000	1602.230	0.000	518690.475	73739.800
103560	133.492	0.000	1427.865	0.000	520118.340	73739.800
103570	110.356	0.000	1219.240	0.000	521337.580	73739.800
103580	83.884	0.463	971.200	2.315	522308.780	73742.115

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
103590	57.570	2.766	707.270	16.145	523016.050	73758.260
103600	49.001	2.249	532.855	25.075	523548.905	73783.335
103610	50.103	4.045	495.520	31.470	524044.425	73814.805
103620	50.983	4.404	505.430	42.245	524549.855	73857.050
103630	54.784	3.264	528.835	38.340	525078.690	73895.390
103640	67.628	2.184	612.060	27.240	525690.750	73922.630
103650	95.245	1.474	814.365	18.290	526505.115	73940.920
103660	97.409	2.081	963.270	17.775	527468.385	73958.695
103670	46.124	3.180	717.665	26.305	528186.050	73985.000
103680	11.207	4.159	286.655	36.695	528472.705	74021.695
103690	0.874	6.979	60.405	55.690	528533.110	74077.385
103700	0.993	3.128	9.335	50.535	528542.445	74127.920
103710	19.406	0.506	101.995	18.170	528644.440	74146.090
103720	40.873	0.000	301.395	2.530	528945.835	74148.620
103730	58.984	0.000	499.285	0.000	529445.120	74148.620
103740	65.355	0.000	621.695	0.000	530066.815	74148.620
103750	71.256	0.000	683.055	0.000	530749.870	74148.620
103760	76.855	0.000	740.555	0.000	531490.425	74148.620
103770	74.999	0.000	759.270	0.000	532249.695	74148.620
103780	66.064	0.000	705.315	0.000	532955.010	74148.620
103790	57.484	0.000	617.740	0.000	533572.750	74148.620
103800	53.754	0.000	556.190	0.000	534128.940	74148.620
103810	53.311	0.000	535.325	0.000	534664.265	74148.620
103820	55.280	0.000	542.955	0.000	535207.220	74148.620
103830	57.324	0.000	563.020	0.000	535770.240	74148.620
103840	59.044	0.000	581.840	0.000	536352.080	74148.620
103850	60.447	0.000	597.455	0.000	536949.535	74148.620
103860	61.546	0.000	609.965	0.000	537559.500	74148.620
103870	62.370	0.000	619.580	0.000	538179.080	74148.620
103880	63.081	0.000	627.255	0.000	538806.335	74148.620
103890	65.184	0.000	641.325	0.000	539447.660	74148.620
103900	69.417	0.000	673.005	0.000	540120.665	74148.620
103910	75.770	0.000	725.935	0.000	540846.600	74148.620
103920	84.092	0.000	799.310	0.000	541645.910	74148.620
103930	75.820	0.010	799.560	0.050	542445.470	74148.670
103940	18.916	9.117	473.680	45.635	542919.150	74194.305
103950	0.851	22.086	98.835	156.015	543017.985	74350.320
103960	0.000	16.663	4.255	193.745	543022.240	74544.065
103970	139.274	13.124	696.370	148.935	543718.610	74693.000
103980	269.214	8.470	2042.440	107.970	545761.050	74800.970
103990	330.752	6.346	2999.830	74.080	548760.880	74875.050
104000	242.491	4.697	2866.215	55.215	551627.095	74930.265
104010	185.540	9.028	2140.155	68.625	553767.250	74998.890
104020	135.131	12.620	1603.355	108.240	555370.605	75107.130
104030	84.732	15.750	1099.315	141.850	556469.920	75248.980
104040	41.333	20.092	630.325	179.210	557100.245	75428.190
104050	14.483	28.796	279.080	244.440	557379.325	75672.630
104060	0.248	28.343	73.655	285.695	557452.980	75958.325
104070	0.000	29.271	1.240	288.070	557454.220	76246.395
104080	0.000	31.857	0.000	305.640	557454.220	76552.035
104090	0.000	37.459	0.000	346.580	557454.220	76898.615
104100	0.000	50.128	0.000	437.935	557454.220	77336.550
104110	0.000	12.595	0.000	313.615	557454.220	77650.165
104120	105.012	0.000	525.060	62.975	557979.280	77713.140
104130	81.142	0.000	930.770	0.000	558910.050	77713.140
104140	61.420	0.000	712.810	0.000	559622.860	77713.140
104150	45.624	0.000	535.220	0.000	560158.080	77713.140
104160	35.050	0.000	403.370	0.000	560561.450	77713.140
104170	37.090	0.000	360.700	0.000	560922.150	77713.140
104180	48.285	0.000	426.875	0.000	561349.025	77713.140
104190	61.380	0.000	548.325	0.000	561897.350	77713.140
104200	74.589	0.000	679.845	0.000	562577.195	77713.140
104210	87.573	0.000	810.810	0.000	563388.005	77713.140
104220	100.311	0.000	939.420	0.000	564327.425	77713.140
104230	112.715	0.000	1065.130	0.000	565392.555	77713.140
104240	124.191	0.000	1184.530	0.000	566577.085	77713.140
104250	133.650	0.000	1289.205	0.000	567866.290	77713.140
104260	133.525	0.000	1335.875	0.000	569202.165	77713.140
104270	83.809	0.000	1086.670	0.000	570288.835	77713.140
104280	3.931	0.371	438.700	1.855	570727.535	77714.995
104290	0.000	48.674	19.655	245.225	570747.190	77960.220
104300	0.000	34.145	0.000	414.095	570747.190	78374.315
104310	0.000	8.998	0.000	215.715	570747.190	78590.030
104320	3.131	6.613	15.655	78.055	570762.845	78668.085
104330	58.592	0.000	308.615	33.065	571071.460	78701.150
104340	138.272	0.000	984.320	0.000	572055.780	78701.150
104350	154.251	0.000	1462.615	0.000	573518.395	78701.150
104360	150.608	0.000	1524.295	0.000	575042.690	78701.150
104370	148.847	0.000	1497.275	0.000	576539.965	78701.150

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
104380	147.010	0.000	1479.285	0.000	578019.250	78701.150
104390	145.097	0.000	1460.535	0.000	579479.785	78701.150
104400	143.074	0.000	1440.855	0.000	580920.640	78701.150
104410	140.940	0.000	1420.070	0.000	582340.710	78701.150
104420	138.694	0.000	1398.170	0.000	583738.880	78701.150
104430	136.338	0.000	1375.160	0.000	585114.040	78701.150
104440	133.761	0.000	1350.495	0.000	586464.535	78701.150
104450	130.601	0.000	1321.810	0.000	587786.345	78701.150
104460	126.914	0.000	1287.575	0.000	589073.920	78701.150
104470	123.455	0.000	1251.845	0.000	590325.765	78701.150
104480	120.584	0.000	1220.195	0.000	591545.960	78701.150
104490	71.904	2.771	962.440	13.855	592508.400	78715.005
104500	5.268	31.754	385.860	172.625	592894.260	78887.630
104510	0.000	47.982	26.340	398.680	592920.600	79286.310
104520	23.442	11.003	117.210	294.925	593037.810	79581.235
104530	56.835	0.000	401.385	55.015	593439.195	79636.250
104540	51.780	0.000	543.075	0.000	593982.270	79636.250
104550	35.408	0.000	435.940	0.000	594418.210	79636.250
104560	40.852	0.000	381.300	0.000	594799.510	79636.250
104570	46.902	0.000	438.770	0.000	595238.280	79636.250
104580	53.605	0.000	502.535	0.000	595740.815	79636.250
104590	60.996	0.000	573.005	0.000	596313.820	79636.250
104600	69.175	0.000	650.855	0.000	596964.675	79636.250
104610	78.150	0.000	736.625	0.000	597701.300	79636.250
104620	87.996	0.000	830.730	0.000	598532.030	79636.250
104630	98.775	0.000	933.855	0.000	599465.885	79636.250
104640	110.464	0.000	1046.195	0.000	600512.080	79636.250
104650	122.820	0.000	1166.420	0.000	601678.500	79636.250
104660	135.643	0.000	1292.315	0.000	602970.815	79636.250
104670	148.813	0.000	1422.280	0.000	604393.095	79636.250
104680	162.255	0.000	1555.340	0.000	605948.435	79636.250
104690	175.970	0.000	1691.125	0.000	607639.560	79636.250
104700	189.956	0.000	1829.630	0.000	609469.190	79636.250
104710	204.214	0.000	1970.850	0.000	611440.040	79636.250
104720	218.745	0.000	2114.795	0.000	613554.835	79636.250
104730	233.547	0.000	2261.460	0.000	615816.295	79636.250
104740	248.621	0.000	2410.840	0.000	618227.135	79636.250
104750	263.967	0.000	2562.940	0.000	620790.075	79636.250
104760	279.585	0.000	2717.760	0.000	623507.835	79636.250
104770	295.474	0.000	2875.295	0.000	626383.130	79636.250
104780	311.636	0.000	3035.550	0.000	629418.680	79636.250
104790	328.070	0.000	3198.530	0.000	632617.210	79636.250
104800	340.677	0.000	3343.735	0.000	635960.945	79636.250
104810	325.935	0.000	3333.060	0.000	639294.005	79636.250
104820	270.463	0.000	2981.990	0.000	642275.995	79636.250
104830	159.590	0.000	2150.265	0.000	644426.260	79636.250
104840	121.632	0.000	1406.110	0.000	645832.370	79636.250
104850	101.109	0.000	1113.705	0.000	646946.075	79636.250
104860	100.441	0.000	1007.750	0.000	647953.825	79636.250
104870	99.885	2.490	1001.630	12.450	648955.455	79648.700
104880	105.177	5.514	1025.310	40.020	649980.765	79688.720
104890	103.853	0.000	1045.150	27.570	651025.915	79716.290
104900	111.095	0.000	1074.740	0.000	652100.655	79716.290
104910	118.161	0.000	1146.280	0.000	653246.935	79716.290
104920	110.041	0.000	1141.010	0.000	654387.945	79716.290
104930	123.259	0.000	1166.500	0.000	655554.445	79716.290
104940	132.489	0.000	1278.740	0.000	656833.185	79716.290
104950	135.879	0.000	1341.840	0.000	658175.025	79716.290
104960	112.904	0.000	1243.915	0.000	659418.940	79716.290
104970	67.601	0.000	902.525	0.000	660321.465	79716.290
104980	34.336	0.000	509.685	0.000	660831.150	79716.290
104990	22.196	0.000	282.660	0.000	661113.810	79716.290
105000	58.284	0.000	402.400	0.000	661516.210	79716.290
105010	72.231	0.047	652.575	0.235	662168.785	79716.525
105020	77.139	0.000	746.850	0.235	662915.635	79716.760
105030	62.384	0.000	697.615	0.000	663613.250	79716.760
105040	48.986	0.000	556.850	0.000	664170.100	79716.760
105050	39.369	0.000	441.775	0.000	664611.875	79716.760
105060	29.869	9.527	346.190	47.635	664958.065	79764.395
105070	22.227	21.292	260.480	154.095	665218.545	79918.490
105080	22.932	22.412	225.795	218.520	665444.340	80137.010
105090	32.211	15.805	275.715	191.085	665720.055	80328.095
105100	39.717	8.984	359.640	123.945	666079.695	80452.040
105110	44.603	0.000	421.600	44.920	666501.295	80496.960
105120	49.160	0.000	468.815	0.000	666970.110	80496.960
105130	49.165	0.000	491.625	0.000	667461.735	80496.960
105140	48.551	0.000	488.580	0.000	667950.315	80496.960
105150	47.120	0.000	478.355	0.000	668428.670	80496.960
105160	45.696	0.000	464.080	0.000	668892.750	80496.960

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
105170	38.271	0.000	419.835	0.000	669312.585	80496.960
105180	36.757	0.000	375.140	0.000	669687.725	80496.960
105190	34.905	0.000	358.310	0.000	670046.035	80496.960
105200	32.309	6.556	336.070	32.780	670382.105	80529.740
105210	29.970	7.949	311.395	72.525	670693.500	80602.265
105220	29.420	5.361	296.950	66.550	670990.450	80668.815
105230	20.793	13.267	251.065	93.140	671241.515	80761.955
105240	12.062	17.854	164.275	155.605	671405.790	80917.560
105250	9.371	27.444	107.165	226.490	671512.955	81144.050
105260	12.466	24.984	109.185	262.140	671622.140	81406.190
105270	15.210	10.239	138.380	176.115	671760.520	81582.305
105280	22.039	1.593	186.245	59.160	671946.765	81641.465
105290	29.647	0.247	258.430	9.200	672205.195	81650.665
105300	38.069	0.000	338.580	1.235	672543.775	81651.900
105310	47.061	0.000	425.650	0.000	672969.425	81651.900
105320	56.373	0.000	517.170	0.000	673486.595	81651.900
105330	65.993	0.000	611.830	0.000	674098.425	81651.900
105340	75.144	0.000	705.685	0.000	674804.110	81651.900
105350	79.170	0.000	771.570	0.000	675575.680	81651.900
105360	70.800	0.000	749.850	0.000	676325.530	81651.900
105370	40.578	0.000	556.890	0.000	676882.420	81651.900
105380	11.227	12.692	259.025	63.460	677141.445	81715.360
105390	29.392	14.431	203.095	135.615	677344.540	81850.975
105400	60.834	0.000	451.130	72.155	677795.670	81923.130
105410	88.106	0.000	744.700	0.000	678540.370	81923.130
105420	88.840	0.000	884.730	0.000	679425.100	81923.130
105430	84.682	0.000	867.610	0.000	680292.710	81923.130
105440	75.852	0.000	802.670	0.000	681095.380	81923.130
105450	65.597	0.000	707.245	0.000	681802.625	81923.130
105460	48.177	0.000	568.870	0.000	682371.495	81923.130
105470	26.436	0.000	373.065	0.000	682744.560	81923.130
105480	6.774	0.175	166.050	0.875	682910.610	81924.005
105490	0.624	1.857	36.990	10.160	682947.600	81934.165
105500	0.322	1.581	4.730	17.190	682952.330	81951.355
105510	0.175	1.765	2.485	16.730	682954.815	81968.085
105520	11.019	1.999	55.970	18.820	683010.785	81986.905
105530	21.027	1.912	160.230	19.555	683171.015	82006.460
105540	36.197	0.563	286.120	12.375	683457.135	82018.835
105550	56.765	0.305	464.810	4.340	683921.945	82023.175
105560	45.604	0.723	511.845	5.140	684433.790	82028.315
105570	34.816	0.581	402.100	6.520	684835.890	82034.835
105580	12.670	1.047	237.430	8.140	685073.320	82042.975
105590	1.032	1.886	68.510	14.665	685141.830	82057.640
105600	7.812	3.831	44.220	28.585	685186.050	82086.225
105610	3.422	6.343	56.170	50.870	685242.220	82137.095
105620	0.000	8.957	17.110	76.500	685259.330	82213.595
105630	0.000	12.726	0.000	108.415	685259.330	82322.010
105640	0.000	14.391	0.000	135.585	685259.330	82457.595
105650	0.000	13.017	0.000	137.040	685259.330	82594.635
105660	0.062	14.422	0.310	137.195	685259.640	82731.830
105670	0.000	18.226	0.310	163.240	685259.950	82895.070
105680	0.000	22.360	0.000	202.930	685259.950	83098.000
105690	0.000	20.694	0.000	215.270	685259.950	83313.270

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
105700	0.000	32.038	0.000	263.660	685259.950	83576.930
105710	0.700	37.642	3.500	348.400	685263.450	83925.330
105720	0.000	47.414	3.500	425.280	685266.950	84350.610
105730	3.777	50.964	18.885	491.890	685285.835	84842.500
105740	3.025	43.807	34.010	473.855	685319.845	85316.355
105750	2.714	37.604	28.695	407.055	685348.540	85723.410
105760	12.265	29.782	74.895	336.930	685423.435	86060.340
105770	25.281	20.252	187.730	250.170	685611.165	86310.510
105780	35.884	0.000	305.825	101.260	685916.990	86411.770
105790	41.293	0.000	385.885	0.000	686302.875	86411.770
105800	42.933	0.000	421.130	0.000	686724.005	86411.770
105810	42.998	0.000	429.655	0.000	687153.660	86411.770
105820	41.631	0.000	423.145	0.000	687576.805	86411.770
105830	41.828	0.000	417.295	0.000	687994.100	86411.770
105840	45.206	0.000	435.170	0.000	688429.270	86411.770
105850	29.049	12.624	371.275	63.120	688800.545	86474.890
105860	0.000	48.757	145.245	306.905	688945.790	86781.795
105870	0.000	43.213	0.000	459.850	688945.790	87241.645
105880	0.000	32.957	0.000	380.850	688945.790	87622.495
105890	0.000	23.383	0.000	281.700	688945.790	87904.195
105900	0.000	14.592	0.000	189.875	688945.790	88094.070
105910	0.000	6.663	0.000	106.275	688945.790	88200.345
105920	1.505	0.287	7.525	34.750	688953.315	88235.095
105930	9.214	0.000	53.595	1.435	689006.910	88236.530
105940	32.634	0.035	209.240	0.175	689216.150	88236.705
105950	37.185	0.039	349.095	0.370	689565.245	88237.075
105960	38.275	1.314	377.300	6.765	689942.545	88243.840
105970	31.982	3.549	351.285	24.315	690293.830	88268.155
105980	32.146	6.368	320.640	49.585	690614.470	88317.740
105990	27.760	9.655	299.530	80.115	690914.000	88397.855
106000	26.713	12.459	272.365	110.570	691186.365	88508.425
106010	26.086	14.502	263.995	134.805	691450.360	88643.230
106020	29.601	14.801	278.435	146.515	691728.795	88789.745
106030	26.656	18.587	281.285	166.940	692010.080	88956.685
106040	28.059	17.138	273.575	178.625	692283.655	89135.310
106050	23.426	17.192	257.425	171.650	692541.080	89306.960
106060	17.477	22.281	204.515	197.365	692745.595	89504.325
106070	15.772	22.712	166.245	224.965	692911.840	89729.290
106080	18.754	9.386	172.630	160.490	693084.470	89889.780
106090	29.124	4.278	239.390	68.320	693323.860	89958.100
106100	34.116	0.000	316.200	21.390	693640.060	89979.490
106110	33.487	0.000	338.015	0.000	693978.075	89979.490
106120	32.845	0.000	331.660	0.000	694309.735	89979.490
106130	31.350	0.000	320.975	0.000	694630.710	89979.490
106140	28.430	0.000	298.900	0.000	694929.610	89979.490
106150	24.172	0.000	263.010	0.000	695192.620	89979.490
106160	19.075	0.000	216.235	0.000	695408.855	89979.490
106170	14.476	0.000	167.755	0.000	695576.610	89979.490
106180	10.932	0.000	127.040	0.000	695703.650	89979.490
106190	8.554	0.000	97.430	0.000	695801.080	89979.490
106200	6.957	0.000	77.555	0.000	695878.635	89979.490
106210	5.569	0.000	62.630	0.000	695941.265	89979.490
106220	3.900	0.000	47.345	0.000	695988.610	89979.490
106230	2.089	0.403	29.945	2.015	696018.555	89981.505
106240	0.733	1.872	14.110	11.375	696032.665	89992.880
106250	0.025	1.742	3.790	18.070	696036.455	90010.950
106260	0.000	14.956	0.125	83.490	696036.580	90094.440
106270	0.000	9.609	0.000	122.825	696036.580	90217.265
106280	4.340	0.291	21.700	49.500	696058.280	90266.765
106290	5.387	1.200	48.635	7.455	696106.915	90274.220
106300	4.426	1.630	49.065	14.150	696155.980	90288.370
106310	0.000	6.014	22.130	38.220	696178.110	90326.590
106320	0.000	8.211	0.000	71.125	696178.110	90397.715
106330	1.194	5.961	5.970	70.860	696184.080	90468.575
106340	0.194	8.335	6.940	71.480	696191.020	90540.055
106350	0.000	10.642	0.970	94.885	696191.990	90634.940
106360	0.000	12.516	0.000	115.790	696191.990	90750.730
106370	0.000	14.503	0.000	135.095	696191.990	90885.825
106380	0.000	14.404	0.000	144.535	696191.990	91030.360
106390	0.000	14.376	0.000	143.900	696191.990	91174.260
106400	0.000	13.752	0.000	140.640	696191.990	91314.900
106410	0.000	12.822	0.000	132.870	696191.990	91447.770
106420	0.000	11.811	0.000	123.165	696191.990	91570.935
106430	0.000	10.816	0.000	113.135	696191.990	91684.070
106440	0.000	9.836	0.000	103.260	696191.990	91787.330
106450	0.000	8.872	0.000	93.540	696191.990	91880.870
106460	0.000	7.925	0.000	83.985	696191.990	91964.855
106470	0.000	6.993	0.000	74.590	696191.990	92039.445
106480	0.000	6.077	0.000	65.350	696191.990	92104.800

EARTHWORK CALCULATION						
CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
106480	0.000	6.077	0.000	0.000	0.000	0.000
106490	0.000	5.176	0.000	56.265	0.000	56.265
106500	0.000	4.292	0.000	47.340	0.000	103.605
106510	0.000	3.423	0.000	38.575	0.000	142.180
106520	0.000	2.570	0.000	29.965	0.000	172.145
106530	0.000	1.733	0.000	21.515	0.000	193.660
106540	0.011	0.922	0.055	13.275	0.055	206.935
106550	0.405	0.319	2.080	6.205	2.135	213.140
106560	1.003	0.028	7.040	1.735	9.175	214.875
106570	2.054	0.000	15.285	0.140	24.460	215.015
106580	3.304	0.000	26.790	0.000	51.250	215.015
106590	3.959	0.022	36.315	0.110	87.565	215.125
106600	4.110	0.976	40.345	4.990	127.910	220.115
106610	3.916	2.602	40.130	17.890	168.040	238.005
106620	4.021	3.761	39.685	31.815	207.725	269.820
106630	3.878	4.383	39.495	40.720	247.220	310.540
106640	3.215	4.329	35.465	43.560	282.685	354.100
106650	2.012	3.580	26.135	39.545	308.820	393.645
106660	0.568	2.137	12.900	28.585	321.720	422.230
106670	0.318	0.299	4.430	12.180	326.150	434.410
106680	2.474	0.000	13.960	1.495	340.110	435.905
106690	5.089	0.000	37.815	0.000	377.925	435.905
106700	7.808	0.000	64.485	0.000	442.410	435.905
106710	10.630	0.000	92.190	0.000	534.600	435.905
106720	13.502	0.000	120.660	0.000	655.260	435.905
106730	16.342	0.000	149.220	0.000	804.480	435.905
106740	19.151	0.000	177.465	0.000	981.945	435.905
106750	21.749	0.000	204.500	0.000	1186.445	435.905
106760	24.051	0.000	229.000	0.000	1415.445	435.905
106770	26.063	0.000	250.570	0.000	1666.015	435.905
106780	27.786	0.000	269.245	0.000	1935.260	435.905
106790	29.322	0.000	285.540	0.000	2220.800	435.905
106800	30.795	0.000	300.585	0.000	2521.385	435.905
106810	0.000	5.017	153.975	25.085	2675.360	460.990
106820	0.000	51.673	0.000	283.450	2675.360	744.440
106830	0.000	47.349	0.000	495.110	2675.360	1239.550
106840	0.000	46.408	0.000	468.785	2675.360	1708.335
106850	0.000	48.881	0.000	476.445	2675.360	2184.780
106860	0.000	54.111	0.000	514.960	2675.360	2699.740
106870	0.000	56.570	0.000	553.405	2675.360	3253.145
106880	0.000	56.275	0.000	564.225	2675.360	3817.370
106890	0.000	53.275	0.000	547.750	2675.360	4365.120
106900	0.000	55.355	0.000	543.150	2675.360	4908.270
106910	0.000	50.404	0.000	528.795	2675.360	5437.065
106920	0.000	46.214	0.000	483.090	2675.360	5920.155
106930	0.000	46.312	0.000	462.630	2675.360	6382.785
106940	0.000	46.591	0.000	464.515	2675.360	6847.300
106950	0.000	45.342	0.000	459.665	2675.360	7306.965
106960	0.000	42.120	0.000	437.310	2675.360	7744.275
106970	0.000	38.861	0.000	404.905	2675.360	8149.180
106980	0.000	36.188	0.000	375.245	2675.360	8524.425
106990	0.000	35.692	0.000	359.400	2675.360	8883.825
107000	0.000	36.500	0.000	360.960	2675.360	9244.785
107010	0.000	39.068	0.000	377.840	2675.360	9622.625
107020	0.000	43.281	0.000	411.745	2675.360	10034.370
107030	0.000	49.068	0.000	461.745	2675.360	10496.115
107040	0.000	58.085	0.000	535.765	2675.360	11031.880
107050	0.000	64.632	0.000	613.585	2675.360	11645.465
107060	0.000	70.521	0.000	675.765	2675.360	12321.230
107070	0.000	71.595	0.000	710.580	2675.360	13031.810
107080	3.433	40.566	17.165	560.805	2692.525	13592.615
107090	8.959	16.572	61.960	285.690	2754.485	13878.305
107100	18.392	0.097	136.755	83.345	2891.240	13961.650
107110	25.246	0.000	218.190	0.485	3109.430	13962.135
107120	26.806	0.000	260.260	0.000	3369.690	13962.135
107130	26.884	0.001	268.450	0.005	3638.140	13962.140
107140	26.369	0.000	266.265	0.005	3904.405	13962.145
107150	26.258	0.000	263.135	0.000	4167.540	13962.145
107160	24.173	0.000	252.155	0.000	4419.695	13962.145
107170	20.711	0.000	224.420	0.000	4644.115	13962.145
107180	17.530	0.000	191.205	0.000	4835.320	13962.145
107190	14.625	0.000	160.775	0.000	4996.095	13962.145
107200	11.964	0.000	132.945	0.000	5129.040	13962.145
107210	9.473	0.000	107.185	0.000	5236.225	13962.145
107220	7.104	0.000	82.885	0.000	5319.110	13962.145
107230	4.862	0.000	59.830	0.000	5378.940	13962.145

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
107240	2.830	0.000	38.460	0.000	5417.400	13962.145
107250	0.992	0.530	19.110	2.650	5436.510	13964.795
107260	0.193	2.760	5.925	16.450	5442.435	13981.245
107270	0.012	12.449	1.025	76.045	5443.460	14057.290
107280	0.000	18.699	0.060	155.740	5443.520	14213.030
107290	0.000	23.013	0.000	208.560	5443.520	14421.590
107300	0.000	25.259	0.000	241.360	5443.520	14662.950
107310	0.000	31.479	0.000	283.690	5443.520	14946.640
107320	0.000	32.423	0.000	319.510	5443.520	15266.150
107330	0.000	34.584	0.000	335.035	5443.520	15601.185
107340	0.000	35.768	0.000	351.760	5443.520	15952.945
107350	0.000	33.560	0.000	346.640	5443.520	16299.585
107360	0.000	35.201	0.000	343.805	5443.520	16643.390
107370	0.000	21.984	0.000	285.925	5443.520	16929.315
107380	0.000	4.648	0.000	133.160	5443.520	17062.475
107390	0.023	1.818	0.115	32.330	5443.635	17094.805
107400	0.109	1.182	0.660	15.000	5444.295	17109.805
107410	0.408	0.490	2.585	8.360	5446.880	17118.165
107420	1.259	0.000	8.335	2.450	5455.215	17120.615
107430	2.656	0.000	19.575	0.000	5474.790	17120.615
107440	4.086	0.000	33.710	0.000	5508.500	17120.615
107450	5.532	0.000	48.090	0.000	5556.590	17120.615
107460	6.976	0.000	62.540	0.000	5619.130	17120.615
107470	8.436	0.000	77.060	0.000	5696.190	17120.615
107480	9.958	0.000	91.970	0.000	5788.160	17120.615
107490	11.546	0.000	107.520	0.000	5895.680	17120.615
107500	13.384	0.000	124.650	0.000	6020.330	17120.615
107510	15.691	0.000	145.375	0.000	6165.705	17120.615
107520	18.477	0.000	170.840	0.000	6336.545	17120.615
107530	21.758	0.000	201.175	0.000	6537.720	17120.615
107540	25.499	0.000	236.285	0.000	6774.005	17120.615
107550	29.678	0.000	275.885	0.000	7049.890	17120.615
107560	34.117	0.000	318.975	0.000	7368.865	17120.615
107570	39.224	0.000	366.705	0.000	7735.570	17120.615
107580	45.200	0.000	422.120	0.000	8157.690	17120.615
107590	50.189	0.000	476.945	0.000	8634.635	17120.615
107600	59.626	0.000	549.075	0.000	9183.710	17120.615
107610	68.087	0.000	638.565	0.000	9822.275	17120.615
107620	73.150	0.000	706.185	0.000	10528.460	17120.615
107630	75.848	0.000	744.990	0.000	11273.450	17120.615
107640	75.902	0.000	758.750	0.000	12032.200	17120.615
107650	75.390	0.000	756.460	0.000	12788.660	17120.615
107660	75.482	0.000	754.360	0.000	13543.020	17120.615
107670	76.487	0.000	759.845	0.000	14302.865	17120.615
107680	78.062	0.000	772.745	0.000	15075.610	17120.615
107690	79.155	0.000	786.085	0.000	15861.695	17120.615
107700	67.492	0.000	733.235	0.000	16594.930	17120.615
107710	73.789	0.000	706.405	0.000	17301.335	17120.615
107720	87.579	0.000	806.840	0.000	18108.175	17120.615
107730	82.370	0.000	849.745	0.000	18957.920	17120.615
107740	77.435	0.000	799.025	0.000	19756.945	17120.615
107750	75.011	0.000	762.230	0.000	20519.175	17120.615
107760	73.589	0.000	743.000	0.000	21262.175	17120.615
107770	72.176	0.000	728.825	0.000	21991.000	17120.615
107780	70.773	0.000	714.745	0.000	22705.745	17120.615
107790	69.380	0.000	700.765	0.000	23406.510	17120.615
107800	67.996	0.000	686.880	0.000	24093.390	17120.615
107810	66.622	0.000	673.090	0.000	24766.480	17120.615
107820	65.257	0.000	659.395	0.000	25425.875	17120.615
107830	63.902	0.000	645.795	0.000	26071.670	17120.615
107840	62.559	0.000	632.305	0.000	26703.975	17120.615
107850	61.376	0.000	619.675	0.000	27323.650	17120.615
107860	60.438	0.000	609.070	0.000	27932.720	17120.615
107870	59.623	0.000	600.305	0.000	28533.025	17120.615
107880	58.741	0.000	591.820	0.000	29124.845	17120.615
107890	58.584	0.000	586.625	0.000	29711.470	17120.615
107900	57.884	0.000	582.340	0.000	30293.810	17120.615
107910	55.380	0.000	566.320	0.000	30860.130	17120.615
107920	50.031	0.000	527.055	0.000	31387.185	17120.615
107930	28.792	0.661	394.115	3.305	31781.300	17123.920
107940	25.980	2.613	273.860	16.370	32055.160	17140.290
107950	35.356	0.433	306.680	15.230	32361.840	17155.520
107960	49.309	0.134	423.325	2.835	32785.165	17158.355
107970	48.832	0.017	490.705	0.755	33275.870	17159.110
107980	38.982	0.061	439.070	0.390	33714.940	17159.500
107990	35.993	0.000	374.875	0.305	34089.815	17159.805
108000	35.967	0.000	359.800	0.000	34449.615	17159.805

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
108010	49.928	0.000	429.475	0.000	34879.090	17159.805
108020	55.731	0.000	528.295	0.000	35407.385	17159.805
108030	54.464	0.000	550.975	0.000	35958.360	17159.805
108040	53.377	0.000	539.205	0.000	36497.565	17159.805
108050	52.279	0.000	528.280	0.000	37025.845	17159.805
108060	51.210	0.000	517.445	0.000	37543.290	17159.805
108070	51.458	0.000	513.340	0.000	38056.630	17159.805
108080	51.754	0.000	516.060	0.000	38572.690	17159.805
108090	12.594	0.903	321.740	4.515	38894.430	17164.320
108100	0.000	19.640	62.970	102.715	38957.400	17267.035
108110	6.441	9.001	32.205	143.205	38989.605	17410.240
108120	24.957	2.205	156.990	56.030	39146.595	17466.270
108130	59.843	0.251	424.000	12.280	39570.595	17478.550
108140	121.249	0.000	905.460	1.255	40476.055	17479.805
108150	218.649	0.000	1699.490	0.000	42175.545	17479.805
108160	351.635	0.000	2851.420	0.000	45026.965	17479.805
108170	532.373	0.000	4420.040	0.000	49447.005	17479.805
108180	641.732	0.000	5870.525	0.000	55317.530	17479.805
108190	623.865	0.000	6327.985	0.000	61645.515	17479.805
108200	529.626	0.000	5767.455	0.000	67412.970	17479.805
108210	442.284	0.000	4859.550	0.000	72272.520	17479.805
108220	363.418	0.000	4028.510	0.000	76301.030	17479.805
108230	302.894	0.000	3331.560	0.000	79632.590	17479.805
108240	265.949	0.000	2844.215	0.000	82476.805	17479.805
108250	253.371	0.000	2596.600	0.000	85073.405	17479.805
108260	263.286	0.000	2583.285	0.000	87656.690	17479.805
108270	296.800	0.000	2800.430	0.000	90457.120	17479.805
108280	355.671	0.000	3262.355	0.000	93719.475	17479.805
108290	441.428	0.000	3985.495	0.000	97704.970	17479.805
108300	490.579	0.000	4660.035	0.000	102365.005	17479.805
108310	446.993	0.000	4687.860	0.000	107052.865	17479.805
108320	477.708	0.000	4623.505	0.000	111676.370	17479.805
108330	565.070	0.000	5213.890	0.000	116890.260	17479.805
108340	626.186	0.000	5956.280	0.000	122846.540	17479.805
108350	572.780	0.000	5994.830	0.000	128841.370	17479.805
108360	522.258	0.000	5475.190	0.000	134316.560	17479.805
108370	494.320	0.000	5082.890	0.000	139399.450	17479.805
108380	492.614	0.000	4934.670	0.000	144334.120	17479.805
108390	519.312	0.000	5059.630	0.000	149393.750	17479.805
108400	575.048	0.000	5471.800	0.000	154865.550	17479.805
108410	654.162	0.000	6146.050	0.000	161011.600	17479.805
108420	743.077	0.000	6986.195	0.000	167997.795	17479.805
108430	773.373	0.000	7582.250	0.000	175580.045	17479.805
108440	718.480	0.000	7459.265	0.000	183039.310	17479.805
108450	626.494	0.000	6724.870	0.000	189764.180	17479.805
108460	529.293	0.000	5778.935	0.000	195543.115	17479.805
108470	432.360	0.000	4808.265	0.000	200351.380	17479.805
108480	335.517	0.000	3839.385	0.000	204190.765	17479.805
108490	241.226	0.000	2883.715	0.000	207074.480	17479.805
108500	133.071	0.000	1871.485	0.000	208945.965	17479.805
108510	37.397	0.000	852.340	0.000	209798.305	17479.805
108520	1.564	18.742	194.805	93.710	209993.110	17573.515
108530	0.000	35.144	7.820	269.430	210000.930	17842.945
108540	0.000	42.693	0.000	389.185	210000.930	18232.130
108550	0.000	48.844	0.000	457.685	210000.930	18689.815
108560	0.309	22.331	1.545	355.875	210002.475	19045.690
108570	14.696	0.000	75.025	111.655	210077.500	19157.345
108580	27.732	0.000	212.140	0.000	210289.640	19157.345
108590	27.348	0.000	275.400	0.000	210565.040	19157.345
108600	27.388	0.000	273.680	0.000	210838.720	19157.345
108610	27.902	0.000	276.450	0.000	211115.170	19157.345
108620	28.924	0.000	284.130	0.000	211399.300	19157.345
108630	30.455	0.000	296.895	0.000	211696.195	19157.345
108640	32.490	0.000	314.725	0.000	212010.920	19157.345
108650	34.936	0.000	337.130	0.000	212348.050	19157.345
108660	37.695	0.000	363.155	0.000	212711.205	19157.345
108670	40.527	0.000	391.110	0.000	213102.315	19157.345
108680	43.408	0.000	419.675	0.000	213521.990	19157.345
108690	46.339	0.000	448.735	0.000	213970.725	19157.345
108700	49.319	0.000	478.290	0.000	214449.015	19157.345
108710	52.467	0.000	508.930	0.000	214957.945	19157.345
108720	55.902	0.000	541.845	0.000	215499.790	19157.345
108730	59.663	0.000	577.825	0.000	216077.615	19157.345
108740	63.727	0.000	616.950	0.000	216694.565	19157.345
108750	66.927	0.000	653.270	0.000	217347.835	19157.345
108760	71.182	0.000	690.545	0.000	218038.380	19157.345
108770	55.312	0.000	632.470	0.000	218670.850	19157.345

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
108780	64.748	0.000	600.300	0.000	219271.150	19157.345
108790	86.207	0.000	754.775	0.000	220025.925	19157.345
108800	95.115	0.000	906.610	0.000	220932.535	19157.345
108810	98.671	0.000	968.930	0.000	221901.465	19157.345
108820	102.168	0.000	1004.195	0.000	222905.660	19157.345
108830	105.595	0.000	1038.815	0.000	223944.475	19157.345
108840	108.966	0.000	1072.805	0.000	225017.280	19157.345
108850	112.287	0.000	1106.265	0.000	226123.545	19157.345
108860	115.560	0.000	1139.235	0.000	227262.780	19157.345
108870	118.784	0.000	1171.720	0.000	228434.500	19157.345
108880	121.977	0.000	1203.805	0.000	229638.305	19157.345
108890	125.192	0.000	1235.845	0.000	230874.150	19157.345
108900	128.474	0.000	1268.330	0.000	232142.480	19157.345
108910	131.852	0.000	1301.630	0.000	233444.110	19157.345
108920	135.329	0.000	1335.905	0.000	234780.015	19157.345
108930	138.902	0.000	1371.155	0.000	236151.170	19157.345
108940	142.573	0.000	1407.375	0.000	237558.545	19157.345
108950	146.341	0.000	1444.570	0.000	239003.115	19157.345
108960	150.206	0.000	1482.735	0.000	240485.850	19157.345
108970	149.323	0.000	1497.645	0.000	241983.495	19157.345
108980	132.224	0.000	1407.735	0.000	243391.230	19157.345
108990	105.965	0.000	1190.945	0.000	244582.175	19157.345
109000	76.710	0.000	913.375	0.000	245495.550	19157.345
109010	53.416	2.302	650.630	11.510	246146.180	19168.855
109020	61.793	0.303	576.045	13.025	246722.225	19181.880
109030	86.672	0.000	742.325	1.515	247464.550	19183.395
109040	98.825	0.000	927.485	0.000	248392.035	19183.395
109050	109.037	0.000	1039.310	0.000	249431.345	19183.395
109060	114.211	0.000	1116.240	0.000	250547.585	19183.395
109070	111.418	0.000	1128.145	0.000	251675.730	19183.395
109080	104.058	0.000	1077.380	0.000	252753.110	19183.395
109090	96.222	0.000	1001.400	0.000	253754.510	19183.395
109100	88.437	0.000	923.295	0.000	254677.805	19183.395
109110	80.699	0.000	845.680	0.000	255523.485	19183.395
109120	72.966	0.000	768.325	0.000	256291.810	19183.395
109130	65.238	0.000	691.020	0.000	256982.830	19183.395
109140	57.552	0.000	613.950	0.000	257596.780	19183.395
109150	50.157	0.000	538.545	0.000	258135.325	19183.395
109160	43.286	0.000	467.215	0.000	258602.540	19183.395
109170	36.997	0.000	401.415	0.000	259003.955	19183.395
109180	31.541	0.000	342.690	0.000	259346.645	19183.395
109190	27.137	0.000	293.390	0.000	259640.035	19183.395
109200	23.769	0.000	254.530	0.000	259894.565	19183.395
109210	21.404	0.000	225.865	0.000	260120.430	19183.395
109220	20.003	0.000	207.035	0.000	260327.465	19183.395
109230	19.443	0.000	197.230	0.000	260524.695	19183.395
109240	19.171	0.000	193.070	0.000	260717.765	19183.395
109250	18.807	0.000	189.890	0.000	260907.655	19183.395
109260	18.133	0.000	184.700	0.000	261092.355	19183.395
109270	17.267	0.000	177.000	0.000	261269.355	19183.395
109280	16.431	0.000	168.490	0.000	261437.845	19183.395
109290	15.850	0.000	161.405	0.000	261599.250	19183.395
109300	15.628	0.000	157.390	0.000	261756.640	19183.395
109310	15.982	0.000	158.050	0.000	261914.690	19183.395
109320	16.655	0.000	163.185	0.000	262077.875	19183.395
109330	17.246	0.000	169.505	0.000	262247.380	19183.395
109340	17.961	0.000	176.035	0.000	262423.415	19183.395
109350	17.303	0.000	176.320	0.000	262599.735	19183.395
109360	15.049	0.220	161.760	1.100	262761.495	19184.495
109370	11.907	1.006	134.780	6.130	262896.275	19190.625
109380	9.996	1.952	109.515	14.790	263005.790	19205.415
109390	6.407	3.677	82.015	28.145	263087.805	19233.560
109400	6.773	4.779	65.900	42.280	263153.705	19275.840
109410	8.799	7.077	77.860	59.280	263231.565	19335.120
109420	10.000	8.601	93.995	78.390	263325.560	19413.510
109430	9.847	9.359	99.235	89.800	263424.795	19503.310
109440	14.286	9.806	120.665	95.825	263545.460	19599.135
109450	15.329	10.863	148.075	103.345	263693.535	19702.480
109460	16.049	13.026	156.890	119.445	263850.425	19821.925
109470	17.164	13.363	166.065	131.945	264016.490	19953.870
109480	19.068	7.434	181.160	103.985	264197.650	20057.855
109490	22.422	4.406	207.450	59.200	264405.100	20117.055
109500	23.652	3.973	230.370	41.895	264635.470	20158.950
109510	24.667	3.583	241.595	37.780	264877.065	20196.730
109520	24.857	2.509	247.620	30.460	265124.685	20227.190
109530	24.417	2.076	246.370	22.925	265371.055	20250.115
109540	23.576	2.161	239.965	21.185	265611.020	20271.300

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
109550	21.214	3.015	223.950	25.880	265834.970	20297.180
109560	19.340	3.223	202.770	31.190	266037.740	20328.370
109570	17.818	2.373	185.790	27.980	266223.530	20356.350
109580	15.951	2.306	168.845	23.395	266392.375	20379.745
109590	14.044	2.409	149.975	23.575	266542.350	20403.320
109600	12.013	3.181	130.285	27.950	266672.635	20431.270
109610	10.635	3.432	113.240	33.065	266785.875	20464.335
109620	7.942	4.368	92.885	39.000	266878.760	20503.335
109630	5.397	5.299	66.695	48.335	266945.455	20551.670
109640	4.987	5.773	51.920	55.360	266997.375	20607.030
109650	4.951	6.566	49.690	61.695	267047.065	20668.725
109660	3.673	7.770	43.120	71.680	267090.185	20740.405
109670	4.087	8.777	38.800	82.735	267128.985	20823.140
109680	5.106	10.221	45.965	94.990	267174.950	20918.130
109690	4.356	13.682	47.310	119.515	267222.260	21037.645
109700	7.650	12.607	60.030	131.445	267282.290	21169.090
109710	7.952	12.541	78.010	125.740	267360.300	21294.830
109720	5.437	12.499	66.945	125.200	267427.245	21420.030
109730	6.514	11.808	59.755	121.535	267487.000	21541.565
109740	1.114	12.484	38.140	121.460	267525.140	21663.025
109750	10.256	6.061	56.850	92.725	267581.990	21755.750
109760	11.898	3.115	110.770	45.880	267692.760	21801.630
109770	3.267	1.812	75.825	24.635	267768.585	21826.265
109780	1.699	0.840	24.830	13.260	267793.415	21839.525
109790	5.023	0.247	33.610	5.435	267827.025	21844.960
109800	22.511	0.059	137.670	1.530	267964.695	21846.490
109810	35.168	0.058	288.395	0.585	268253.090	21847.075
109820	24.185	0.117	296.765	0.875	268549.855	21847.950
109830	3.238	0.399	137.115	2.580	268686.970	21850.530
109840	0.089	8.439	16.635	44.190	268703.605	21894.720
109850	0.000	21.528	0.445	149.835	268704.050	22044.555
109860	0.000	21.170	0.000	213.490	268704.050	22258.045
109870	0.000	19.060	0.000	201.150	268704.050	22459.195
109880	0.211	13.406	1.055	162.330	268705.105	22621.525
109890	19.441	6.703	98.260	100.545	268803.365	22722.070
109900	42.044	0.834	307.425	37.685	269110.790	22759.755
109910	53.332	0.111	476.880	4.725	269587.670	22764.480
109920	42.761	0.312	480.465	2.115	270068.135	22766.595
109930	31.832	1.167	372.965	7.395	270441.100	22773.990
109940	25.798	2.565	288.150	18.660	270729.250	22792.650
109950	23.538	5.727	246.680	41.460	270975.930	22834.110
109960	21.354	7.287	224.460	65.070	271200.390	22899.180
109970	18.214	0.412	197.840	38.495	271398.230	22937.675
109980	14.349	0.435	162.815	4.235	271561.045	22941.910
109990	7.140	1.583	107.445	10.090	271668.490	22952.000
110000	8.374	3.144	77.570	23.635	271746.060	22975.635
110010	11.173	1.714	97.735	24.290	271843.795	22999.925
110020	14.526	0.107	128.495	9.105	271972.290	23009.030
110030	15.150	0.303	148.380	2.050	272120.670	23011.080
110040	17.438	1.316	162.940	8.095	272283.610	23019.175
110050	18.230	7.274	178.340	42.950	272461.950	23062.125
110060	21.557	6.084	198.935	66.790	272660.885	23128.915
110070	26.145	1.564	238.510	38.240	272899.395	23167.155
110080	23.130	0.388	246.375	9.760	273145.770	23176.915
110090	27.999	0.926	255.645	6.570	273401.415	23183.485
110100	24.148	1.056	260.735	9.910	273662.150	23193.395
110110	15.521	1.682	198.345	13.690	273860.495	23207.085
110120	11.390	2.042	134.555	18.620	273995.050	23225.705
110130	9.948	0.189	106.690	11.155	274101.740	23236.860
110140	7.192	0.426	85.700	3.075	274187.440	23239.935
110150	5.278	1.006	62.350	7.160	274249.790	23247.095
110160	6.133	1.456	57.055	12.310	274306.845	23259.405
110170	3.701	3.006	49.170	22.310	274356.015	23281.715
110180	1.255	8.292	24.780	56.490	274380.795	23338.205
110190	3.213	6.213	22.340	72.525	274403.135	23410.730
110200	6.113	4.776	46.630	54.945	274449.765	23465.675
110210	7.681	2.394	68.970	35.850	274518.735	23501.525
110220	4.289	2.136	59.850	22.650	274578.585	23524.175
110230	4.975	3.674	46.320	29.050	274624.905	23553.225
110240	8.691	3.809	68.330	37.415	274693.235	23590.640
110250	17.087	2.026	128.890	29.175	274822.125	23619.815
110260	20.506	1.489	187.965	17.575	275010.090	23637.390
110270	25.020	1.972	227.630	17.305	275237.720	23654.695
110280	27.601	0.908	263.105	14.400	275500.825	23669.095
110290	18.428	3.356	230.145	21.320	275730.970	23690.415
110300	10.044	4.446	142.360	39.010	275873.330	23729.425
110310	0.000	9.611	50.220	70.285	275923.550	23799.710

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
110320	0.000	26.629	0.000	181.200	275923.550	23980.910
110330	0.000	18.219	0.000	224.240	275923.550	24205.150
110340	12.899	7.416	64.495	128.175	275988.045	24333.325
110350	29.814	4.384	213.565	59.000	276201.610	24392.325
110360	35.452	2.279	326.330	33.315	276527.940	24425.640
110370	40.268	1.968	378.600	21.235	276906.540	24446.875
110380	38.955	3.121	396.115	25.445	277302.655	24472.320
110390	36.617	4.803	377.860	39.620	277680.515	24511.940
110400	29.865	7.022	332.410	59.125	278012.925	24571.065
110410	26.090	5.169	279.775	60.955	278292.700	24632.020
110420	16.736	7.556	214.130	63.625	278506.830	24695.645
110430	17.489	5.157	171.125	63.565	278677.955	24759.210
110440	18.888	3.147	181.885	41.520	278859.840	24800.730
110450	19.293	2.576	190.905	28.615	279050.745	24829.345
110460	20.608	2.407	199.505	24.915	279250.250	24854.260
110470	21.973	0.962	212.905	16.845	279463.155	24871.105
110480	22.007	0.426	219.900	6.940	279683.055	24878.045
110490	19.561	0.741	207.840	5.835	279890.895	24883.880
110500	9.179	14.893	143.700	78.170	280034.595	24962.050
110510	1.324	15.597	52.515	152.450	280087.110	25114.500
110520	1.256	4.916	12.900	102.565	280100.010	25217.065
110530	2.847	3.593	20.515	42.545	280120.525	25259.610
110540	6.887	1.618	48.670	26.055	280169.195	25285.665
110550	8.837	1.484	78.620	15.510	280247.815	25301.175
110560	6.544	1.747	76.905	16.155	280324.720	25317.330
110570	3.365	3.586	49.545	26.665	280374.265	25343.995
110580	4.024	6.717	36.945	51.515	280411.210	25395.510
110590	3.963	5.416	39.935	60.665	280451.145	25456.175
110600	3.298	5.894	36.305	56.550	280487.450	25512.725
110610	2.484	5.565	28.910	57.295	280516.360	25570.020
110620	3.650	4.775	30.670	51.700	280547.030	25621.720
110630	5.322	5.250	44.860	50.125	280591.890	25671.845
110640	4.816	6.303	50.690	57.765	280642.580	25729.610
110650	3.233	5.650	40.245	59.765	280682.825	25789.375
110660	1.062	3.546	21.475	45.980	280704.300	25835.355
110670	0.166	3.395	6.140	34.705	280710.440	25870.060
110680	0.208	2.851	1.870	31.230	280712.310	25901.290
110690	0.350	1.891	2.790	23.710	280715.100	25925.000
110700	0.381	3.491	3.655	26.910	280718.755	25951.910
110710	0.883	5.344	6.320	44.175	280725.075	25996.085
110720	5.014	5.600	29.485	54.720	280754.560	26050.805
110730	6.775	6.123	58.945	58.615	280813.505	26109.420
110740	21.916	4.000	143.455	50.615	280956.960	26160.035
110750	29.873	3.134	258.945	35.670	281215.905	26195.705
110760	27.575	2.898	287.240	30.160	281503.145	26225.865
110770	37.056	1.055	323.155	19.765	281826.300	26245.630
110780	30.513	4.110	337.845	25.825	282164.145	26271.455
110790	21.296	5.610	259.045	48.600	282423.190	26320.055
110800	13.063	5.545	171.795	55.775	282594.985	26375.830
110810	13.093	4.564	130.780	50.545	282725.765	26426.375
110820	0.154	4.315	66.235	44.395	282792.000	26470.770
110830	0.000	4.764	0.770	45.395	282792.770	26516.165
110840	0.000	4.916	0.000	48.400	282792.770	26564.565
110850	0.000	3.881	0.000	43.985	282792.770	26608.550
110860	0.000	6.095	0.000	49.880	282792.770	26658.430
110870	0.205	2.399	1.025	42.470	282793.795	26700.900
110880	0.065	0.716	1.350	15.575	282795.145	26716.475
110890	0.117	4.976	0.910	28.460	282796.055	26744.935
110900	0.164	13.667	1.405	93.215	282797.460	26838.150
110910	0.174	8.637	1.690	111.520	282799.150	26949.670
110920	0.220	7.248	1.970	79.425	282801.120	27029.095
110930	0.395	9.916	3.075	85.820	282804.195	27114.915
110940	2.222	12.852	13.085	113.840	282817.280	27228.755
110950	5.562	16.879	38.920	148.655	282856.200	27377.410
110960	1.734	12.399	36.480	146.390	282892.680	27523.800
110970	2.412	8.606	20.730	105.025	282913.410	27628.825
110980	15.958	1.016	91.850	48.110	283005.260	27676.935
110990	36.496	0.576	262.270	7.960	283267.530	27684.895
111000	66.337	0.000	514.165	2.880	283781.695	27687.775
111010	61.747	0.194	640.420	0.970	284422.115	27688.745
111020	38.860	0.744	503.035	4.690	284925.150	27693.435
111030	46.522	0.538	426.910	6.410	285352.060	27699.845
111040	46.165	0.492	463.435	5.150	285815.495	27704.995
111050	41.887	0.174	440.260	3.330	286255.755	27708.325
111060	41.611	0.000	417.490	0.870	286673.245	27709.195
111070	41.736	0.000	416.735	0.000	287089.980	27709.195
111080	32.783	0.000	372.595	0.000	287462.575	27709.195

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
111090	31.815	0.000	322.990	0.000	287785.565	27709.195
111100	34.062	1.694	329.385	8.470	288114.950	27717.665
111110	28.362	0.001	312.120	8.475	288427.070	27726.140
111120	25.371	0.617	268.665	3.090	288695.735	27729.230
111130	16.684	11.708	210.275	61.625	288906.010	27790.855
111140	8.273	17.373	124.785	145.405	289030.795	27936.260
111150	18.398	7.098	133.355	122.355	289164.150	28058.615
111160	40.856	2.980	296.270	50.390	289460.420	28109.005
111170	50.804	2.276	458.300	26.280	289918.720	28135.285
111180	45.013	2.368	479.085	23.220	290397.805	28158.505
111190	39.210	2.509	421.115	24.385	290818.920	28182.890
111200	36.363	1.398	377.865	19.535	291196.785	28202.425
111210	45.669	0.492	410.160	9.450	291606.945	28211.875
111220	50.551	0.798	481.100	6.450	292088.045	28218.325
111230	42.284	0.337	464.175	5.675	292552.220	28224.000
111240	28.565	0.620	354.245	4.785	292906.465	28228.785
111250	13.216	1.262	208.905	9.410	293115.370	28238.195
111260	19.080	1.742	161.480	15.020	293276.850	28253.215
111270	36.358	2.354	277.190	20.480	293554.040	28273.695
111280	57.318	1.985	468.380	21.695	294022.420	28295.390
111290	83.415	1.774	703.665	18.795	294726.085	28314.185
111300	102.625	2.569	930.200	21.715	295656.285	28335.900
111310	104.906	2.882	1037.655	27.255	296693.940	28363.155
111320	97.492	4.608	1011.990	37.450	297705.930	28400.605
111330	78.071	13.797	877.815	92.025	298583.745	28492.630
111340	75.672	15.294	768.715	145.455	299352.460	28638.085
111350	71.591	2.532	736.315	89.130	300088.775	28727.215
111360	67.922	4.507	697.565	35.195	300786.340	28762.410
111370	68.009	4.113	679.655	43.100	301465.995	28805.510
111380	72.359	0.000	701.840	20.565	302167.835	28826.075
111390	73.281	0.000	728.200	0.000	302896.035	28826.075
111400	56.309	0.000	647.950	0.000	303543.985	28826.075
111410	44.609	0.000	504.590	0.000	304048.575	28826.075
111420	40.113	0.000	423.610	0.000	304472.185	28826.075
111430	54.858	0.000	474.855	0.000	304947.040	28826.075
111440	46.759	0.000	508.085	0.000	305455.125	28826.075
111450	32.552	0.000	396.555	0.000	305851.680	28826.075
111460	40.660	0.000	366.060	0.000	306217.740	28826.075
111470	33.346	0.000	370.030	0.000	306587.770	28826.075
111480	33.057	0.000	332.015	0.000	306919.785	28826.075
111490	35.393	0.000	342.250	0.000	307262.035	28826.075
111500	39.979	0.000	376.860	0.000	307638.895	28826.075
111510	38.591	0.393	392.850	1.965	308031.745	28828.040
111520	40.041	20.267	393.160	103.300	308424.905	28931.340
111530	46.554	9.413	432.975	148.400	308857.880	29079.740
111540	57.687	0.806	521.205	51.095	309379.085	29130.835
111550	65.962	0.422	618.245	6.140	309997.330	29136.975
111560	62.676	0.347	643.190	3.845	310640.520	29140.820
111570	83.221	0.330	729.485	3.385	311370.005	29144.205
111580	101.398	0.476	923.095	4.030	312293.100	29148.235
111590	114.086	0.541	1077.420	5.085	313370.520	29153.320
111600	111.647	0.638	1128.665	5.895	314499.185	29159.215
111610	90.523	0.860	1010.850	7.490	315510.035	29166.705
111620	66.537	2.581	785.300	17.205	316295.335	29183.910
111630	47.336	1.959	569.365	22.700	316864.700	29206.610
111640	29.908	2.277	386.220	21.180	317250.920	29227.790
111650	31.957	5.178	309.325	37.275	317560.245	29265.065
111660	52.186	2.471	420.715	38.245	317980.960	29303.310
111670	66.334	2.201	592.600	23.360	318573.560	29326.670
111680	60.737	1.587	635.355	18.940	319208.915	29345.610
111690	57.248	0.391	589.925	9.890	319798.840	29355.500
111700	63.301	0.000	602.745	1.955	320401.585	29357.455
111710	80.829	0.000	720.650	0.000	321122.235	29357.455
111720	104.118	0.000	924.735	0.000	322046.970	29357.455
111730	104.314	0.018	1042.160	0.090	323089.130	29357.545
111740	0.095	13.045	522.045	65.315	323611.175	29422.860
111750	0.000	56.293	0.475	346.690	323611.650	29769.550
111760	0.000	58.099	0.000	571.960	323611.650	30341.510
111770	0.000	64.153	0.000	611.260	323611.650	30952.770
111780	0.000	69.381	0.000	667.670	323611.650	31620.440
111790	0.000	73.822	0.000	716.015	323611.650	32336.455
111800	0.000	78.166	0.000	759.940	323611.650	33096.395
111810	0.000	78.641	0.000	784.035	323611.650	33880.430
111820	0.000	72.256	0.000	754.485	323611.650	34634.915
111830	0.000	54.488	0.000	633.720	323611.650	35268.635
111840	0.000	42.007	0.000	482.475	323611.650	35751.110
111850	6.770	33.107	33.850	375.570	323645.500	36126.680

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
111860	21.904	31.726	143.370	324.165	323788.870	36450.845
111870	34.493	21.583	281.985	266.545	324070.855	36717.390
111880	42.430	15.840	384.615	187.115	324455.470	36904.505
111890	45.332	13.388	438.810	146.140	324894.280	37050.645
111900	44.350	12.489	448.410	129.385	325342.690	37180.030
111910	30.261	0.638	373.055	65.635	325715.745	37245.665
111920	42.704	0.186	364.825	4.120	326080.570	37249.785
111930	43.063	0.153	428.835	1.695	326509.405	37251.480
111940	32.388	0.196	377.255	1.745	326886.660	37253.225
111950	17.764	0.141	250.760	1.685	327137.420	37254.910
111960	11.306	0.781	145.350	4.610	327282.770	37259.520
111970	13.190	1.131	122.480	9.560	327405.250	37269.080
111980	22.642	0.722	179.160	9.265	327584.410	37278.345
111990	39.329	0.057	309.855	3.895	327894.265	37282.240
112000	58.811	0.000	490.700	0.285	328384.965	37282.525
112010	82.764	0.332	707.875	1.660	329092.840	37284.185
112020	1.137	1.436	419.505	8.840	329512.345	37293.025
112030	0.000	41.751	5.685	215.935	329518.030	37508.960
112040	0.000	31.956	0.000	368.535	329518.030	37877.495
112050	0.000	27.908	0.000	299.320	329518.030	38176.815
112060	0.000	26.971	0.000	274.395	329518.030	38451.210
112070	0.000	28.854	0.000	279.125	329518.030	38730.335
112080	0.000	31.971	0.000	304.125	329518.030	39034.460
112090	0.000	35.527	0.000	337.490	329518.030	39371.950
112100	0.000	39.523	0.000	375.250	329518.030	39747.200
112110	0.000	44.063	0.000	417.930	329518.030	40165.130
112120	0.000	49.244	0.000	466.535	329518.030	40631.665
112130	0.000	55.066	0.000	521.550	329518.030	41153.215
112140	0.000	61.529	0.000	582.975	329518.030	41736.190
112150	0.000	68.632	0.000	650.805	329518.030	42386.995
112160	0.000	76.376	0.000	725.040	329518.030	43112.035
112170	0.000	83.249	0.000	798.125	329518.030	43910.160
112180	0.000	92.070	0.000	876.595	329518.030	44786.755
112190	0.000	100.178	0.000	961.240	329518.030	45747.995
112200	0.000	89.543	0.000	948.605	329518.030	46696.600
112210	0.000	68.399	0.000	789.710	329518.030	47486.310
112220	2.710	39.088	13.550	537.435	329531.580	48023.745
112230	1.353	23.598	20.315	313.430	329551.895	48337.175
112240	5.816	15.057	35.845	193.275	329587.740	48530.450
112250	12.137	21.862	89.765	184.595	329677.505	48715.045
112260	15.914	25.004	140.255	234.330	329817.760	48949.375
112270	27.326	22.463	216.200	237.335	330033.960	49186.710
112280	24.527	1.183	259.265	118.230	330293.225	49304.940
112290	39.953	0.304	322.400	7.435	330615.625	49312.375
112300	79.443	0.134	596.980	2.190	331212.605	49314.565
112310	86.026	0.264	827.345	1.990	332039.950	49316.555
112320	76.120	0.000	810.730	1.320	332850.680	49317.875
112330	56.058	0.727	660.890	3.635	333511.570	49321.510
112340	33.025	1.169	445.415	9.480	333956.985	49330.990
112350	11.884	4.099	224.545	26.340	334181.530	49357.330
112360	1.171	7.534	65.275	58.165	334246.805	49415.495
112370	4.170	6.698	26.705	71.160	334273.510	49486.655
112380	5.558	5.926	48.640	63.120	334322.150	49549.775
112390	7.283	4.398	64.205	51.620	334386.355	49601.395
112400	10.013	1.917	86.480	31.575	334472.835	49632.970
112410	13.171	0.950	115.920	14.335	334588.755	49647.305
112420	12.996	0.616	130.835	7.830	334719.590	49655.135
112430	14.444	0.542	137.200	5.790	334856.790	49660.925
112440	15.439	0.255	149.415	3.985	335006.205	49664.910
112450	15.026	0.608	152.325	4.315	335158.530	49669.225
112460	11.632	0.994	133.290	8.010	335291.820	49677.235
112470	7.902	3.625	97.670	23.095	335389.490	49700.330
112480	9.728	2.373	88.150	29.990	335477.640	49730.320
112490	13.411	2.187	115.695	22.800	335593.335	49753.120
112500	10.391	6.264	119.010	42.255	335712.345	49795.375
112510	3.723	7.863	70.570	70.635	335782.915	49866.010
112520	8.584	8.714	61.535	82.885	335844.450	49948.895
112530	10.846	7.990	97.150	83.520	335941.600	50032.415
112540	15.803	0.763	133.245	43.765	336074.845	50076.180
112550	17.887	0.611	168.450	6.870	336243.295	50083.050
112560	17.572	0.730	177.295	6.705	336420.590	50089.755
112570	20.970	0.958	192.710	8.440	336613.300	50098.195
112580	21.594	0.853	212.820	9.055	336826.120	50107.250
112590	23.949	0.042	227.715	4.475	337053.835	50111.725
112600	28.792	0.000	263.705	0.210	337317.540	50111.935
112610	30.872	0.000	298.320	0.000	337615.860	50111.935
112620	26.400	0.018	286.360	0.090	337902.220	50112.025

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
112630	18.024	0.150	222.120	0.840	338124.340	50112.865
112640	17.854	0.490	179.390	3.200	338303.730	50116.065
112650	23.016	0.315	204.350	4.025	338508.080	50120.090
112660	24.367	0.494	236.915	4.045	338744.995	50124.135
112670	24.633	0.846	245.000	6.700	338989.995	50130.835
112680	25.154	1.879	248.935	13.625	339238.930	50144.460
112690	17.585	3.291	213.695	25.850	339452.625	50170.310
112700	13.489	4.333	155.370	38.120	339607.995	50208.430
112710	12.557	4.349	130.230	43.410	339738.225	50251.840
112720	18.692	1.304	156.245	28.265	339894.470	50280.105
112730	35.078	0.000	268.850	6.520	340163.320	50286.625
112740	59.602	0.000	473.400	0.000	340636.720	50286.625
112750	88.976	0.000	742.890	0.000	341379.610	50286.625
112760	125.903	0.000	1074.395	0.000	342454.005	50286.625
112770	162.243	0.000	1440.730	0.000	343894.735	50286.625
112780	135.900	0.000	1490.715	0.000	345385.450	50286.625
112790	88.848	7.361	1123.740	36.805	346509.190	50323.430
112800	65.497	17.965	771.725	126.630	347280.915	50450.060
112810	51.984	35.298	587.405	266.315	347868.320	50716.375
112820	49.820	50.557	509.020	429.275	348377.340	51145.650
112830	67.061	0.000	584.405	252.785	348961.745	51398.435
112840	74.987	0.000	710.240	0.000	349671.985	51398.435
112850	65.474	0.000	702.305	0.000	350374.290	51398.435
112860	36.507	0.015	509.905	0.075	350884.195	51398.510
112870	39.287	19.709	378.970	98.620	351263.165	51497.130
112880	37.049	8.319	381.680	140.140	351644.845	51637.270
112890	39.289	0.000	381.690	41.595	352026.535	51678.865
112900	40.055	0.000	396.720	0.000	352423.255	51678.865
112910	38.611	10.515	393.330	52.575	352816.585	51731.440
112920	33.511	0.075	360.610	52.950	353177.195	51784.390
112930	27.165	0.146	303.380	1.105	353480.575	51785.495
112940	24.079	0.437	256.220	2.915	353736.795	51788.410
112950	17.033	5.417	205.560	29.270	353942.355	51817.680
112960	5.599	17.698	113.160	115.575	354055.515	51933.255
112970	0.025	23.485	28.120	205.915	354083.635	52139.170
112980	0.041	14.146	0.330	188.155	354083.965	52327.325
112990	20.854	11.001	104.475	125.735	354188.440	52453.060
113000	54.644	1.859	377.490	64.300	354565.930	52517.360
113010	110.813	0.119	827.285	9.890	355393.215	52527.250
113020	173.767	0.000	1422.900	0.595	356816.115	52527.845
113030	190.897	0.000	1823.320	0.000	358639.435	52527.845
113040	192.049	0.000	1914.730	0.000	360554.165	52527.845
113050	165.047	0.000	1785.480	0.000	362339.645	52527.845
113060	146.685	0.000	1558.660	0.000	363898.305	52527.845
113070	90.642	0.000	1186.635	0.000	365084.940	52527.845
113080	56.139	6.229	733.905	31.145	365818.845	52558.990
113090	38.044	13.632	470.915	99.305	366289.760	52658.295
113100	29.349	0.330	336.965	69.810	366626.725	52728.105
113110	56.422	0.048	428.855	1.890	367055.580	52729.995
113120	111.557	0.000	839.895	0.240	367895.475	52730.235
113130	127.470	0.000	1195.135	0.000	369090.610	52730.235
113140	137.365	0.000	1324.175	0.000	370414.785	52730.235
113150	143.032	0.000	1401.985	0.000	371816.770	52730.235
113160	68.159	0.000	1055.955	0.000	372872.725	52730.235
113170	22.351	0.608	452.550	3.040	373325.275	52733.275
113180	2.861	8.875	126.060	47.415	373451.335	52780.690
113190	0.482	7.424	16.715	81.495	373468.050	52862.185
113200	0.000	5.562	2.410	64.930	373470.460	52927.115
113210	0.000	3.853	0.000	47.075	373470.460	52974.190
113220	0.000	2.300	0.000	30.765	373470.460	53004.955
113230	9.449	0.571	47.245	14.355	373517.705	53019.310
113240	12.140	0.957	107.945	7.640	373625.650	53026.950
113250	29.501	1.418	208.205	11.875	373833.855	53038.825
113260	41.995	1.433	357.480	14.255	374191.335	53053.080
113270	47.391	1.923	446.930	16.780	374638.265	53069.860
113280	43.438	2.630	454.145	22.765	375092.410	53092.625
113290	36.799	3.386	401.185	30.080	375493.595	53122.705
113300	34.926	3.166	358.625	32.760	375852.220	53155.465
113310	33.081	3.054	340.035	31.100	376192.255	53186.565
113320	30.426	1.927	317.535	24.905	376509.790	53211.470
113330	25.310	2.472	278.680	21.995	376788.470	53233.465
113340	24.095	2.523	247.025	24.975	377035.495	53258.440
113350	19.601	2.994	218.480	27.585	377253.975	53286.025
113360	14.781	3.893	171.910	34.435	377425.885	53320.460
113370	14.302	3.108	145.415	35.005	377571.300	53355.465
113380	14.958	2.033	146.300	25.705	377717.600	53381.170
113390	18.709	1.434	168.335	17.335	377885.935	53398.505

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
113400	13.600	0.650	161.545	10.420	378047.480	53408.925
113410	12.146	0.577	128.730	6.135	378176.210	53415.060
113420	6.354	0.872	92.500	7.245	378268.710	53422.305
113430	1.553	0.974	39.535	9.230	378308.245	53431.535
113440	0.099	2.008	8.260	14.910	378316.505	53446.445
113450	0.020	2.956	0.595	24.820	378317.100	53471.265
113460	0.000	5.689	0.100	43.225	378317.200	53514.490
113470	0.000	3.795	0.000	47.420	378317.200	53561.910
113480	0.000	6.275	0.000	50.350	378317.200	53612.260
113490	4.237	3.551	21.185	49.130	378338.385	53661.390
113500	18.018	4.828	111.275	41.895	378449.660	53703.285
113510	19.759	3.705	188.885	42.665	378638.545	53745.950
113520	44.321	3.081	320.400	33.930	378958.945	53779.880
113530	15.137	2.488	297.290	27.845	379256.235	53807.725
113540	33.549	0.526	243.430	15.070	379499.665	53822.795
113550	23.334	0.909	284.415	7.175	379784.080	53829.970
113560	18.414	1.546	208.740	12.275	379992.820	53842.245
113570	28.430	1.590	234.220	15.680	380227.040	53857.925
113580	26.618	1.028	275.240	13.090	380502.280	53871.015
113590	24.132	4.046	253.750	25.370	380756.030	53896.385
113600	18.082	17.266	211.070	106.560	380967.100	54002.945
113610	8.161	31.879	131.215	245.725	381098.315	54248.670
113620	0.000	40.154	40.805	360.165	381139.120	54608.835
113630	0.000	45.261	0.000	427.075	381139.120	55035.910
113640	0.000	38.601	0.000	419.310	381139.120	55455.220
113650	0.000	17.388	0.000	279.945	381139.120	55735.165
113660	0.193	2.705	0.965	100.465	381140.085	55835.630
113670	12.096	0.345	61.445	15.250	381201.530	55850.880
113680	17.273	2.486	146.845	14.155	381348.375	55865.035
113690	19.587	3.425	184.300	29.555	381532.675	55894.590
113700	23.877	1.485	217.320	24.550	381749.995	55919.140
113710	32.703	0.033	282.900	7.590	382032.895	55926.730
113720	53.066	0.000	428.845	0.165	382461.740	55926.895
113730	74.087	0.000	635.765	0.000	383097.505	55926.895
113740	83.125	0.000	786.060	0.000	383883.565	55926.895
113750	79.717	0.000	814.210	0.000	384697.775	55926.895
113760	61.029	0.000	703.730	0.000	385401.505	55926.895
113770	52.040	0.000	565.345	0.000	385966.850	55926.895
113780	50.953	0.000	514.965	0.000	386481.815	55926.895
113790	79.566	0.000	652.595	0.000	387134.410	55926.895
113800	116.988	0.000	982.770	0.000	388117.180	55926.895
113810	140.669	0.000	1288.285	0.000	389405.465	55926.895
113820	178.946	0.000	1598.075	0.000	391003.540	55926.895
113830	240.942	0.000	2099.440	0.000	393102.980	55926.895
113840	281.996	0.000	2614.690	0.000	395717.670	55926.895
113850	316.156	0.000	2990.760	0.000	398708.430	55926.895
113860	356.833	0.000	3364.945	0.000	402073.375	55926.895
113870	371.449	0.000	3641.410	0.000	405714.785	55926.895
113880	366.154	0.000	3688.015	0.000	409402.800	55926.895
113890	347.121	0.000	3566.375	0.000	412969.175	55926.895
113900	316.986	0.000	3320.535	0.000	416289.710	55926.895
113910	285.331	0.000	3011.585	0.000	419301.295	55926.895
113920	256.214	0.000	2707.725	0.000	422009.020	55926.895
113930	240.552	0.000	2483.830	0.000	424492.850	55926.895
113940	233.258	0.000	2369.050	0.000	426861.900	55926.895
113950	229.792	0.000	2315.250	0.000	429177.150	55926.895
113960	227.056	0.000	2284.240	0.000	431461.390	55926.895
113970	223.645	0.000	2253.505	0.000	433714.895	55926.895
113980	220.047	0.000	2218.460	0.000	435933.355	55926.895
113990	216.800	0.000	2184.235	0.000	438117.590	55926.895
114000	216.196	0.000	2164.980	0.000	440282.570	55926.895
114010	229.787	0.000	2229.915	0.000	442512.485	55926.895
114020	249.983	0.000	2398.850	0.000	444911.335	55926.895
114030	267.922	0.000	2589.525	0.000	447500.860	55926.895
114040	284.040	0.000	2759.810	0.000	450260.670	55926.895
114050	298.641	0.000	2913.405	0.000	453174.075	55926.895
114060	315.471	0.000	3070.560	0.000	456244.635	55926.895
114070	315.990	0.000	3157.305	0.000	459401.940	55926.895
114080	164.833	0.000	2404.115	0.000	461806.055	55926.895
114090	111.260	0.000	1380.465	0.000	463186.520	55926.895
114100	73.446	0.000	923.530	0.000	464110.050	55926.895
114110	67.503	0.000	704.745	0.000	464814.795	55926.895
114120	51.689	0.000	595.960	0.000	465410.755	55926.895
114130	36.655	0.000	441.720	0.000	465852.475	55926.895
114140	22.319	0.000	294.870	0.000	466147.345	55926.895
114150	8.680	0.000	154.995	0.000	466302.340	55926.895
114160	0.000	5.033	43.400	25.165	466345.740	55952.060

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
114170	0.000	21.787	0.000	134.100	466345.740	56086.160
114180	0.000	38.965	0.000	303.760	466345.740	56389.920
114190	0.000	54.947	0.000	469.560	466345.740	56859.480
114200	0.000	13.301	0.000	341.240	466345.740	57200.720
114210	41.281	0.000	206.405	66.505	466552.145	57267.225
114220	39.396	0.000	403.385	0.000	466955.530	57267.225
114230	38.624	0.000	390.100	0.000	467345.630	57267.225
114240	38.531	0.000	385.775	0.000	467731.405	57267.225
114250	38.709	0.000	386.200	0.000	468117.605	57267.225
114260	37.994	0.000	383.515	0.000	468501.120	57267.225
114270	35.386	0.000	366.900	0.000	468868.020	57267.225
114280	31.386	0.000	333.860	0.000	469201.880	57267.225
114290	26.619	0.000	290.025	0.000	469491.905	57267.225
114300	21.676	0.000	241.475	0.000	469733.380	57267.225
114310	17.113	0.000	193.945	0.000	469927.325	57267.225
114320	12.953	0.000	150.330	0.000	470077.655	57267.225
114330	9.303	0.000	111.280	0.000	470188.935	57267.225
114340	0.000	27.715	46.515	138.575	470235.450	57405.800
114350	0.000	51.294	0.000	395.045	470235.450	57800.845
114360	0.000	30.564	0.000	409.290	470235.450	58210.135
114370	0.347	12.907	1.735	217.355	470237.185	58427.490
114380	4.167	1.882	22.570	73.945	470259.755	58501.435
114390	3.357	0.104	37.620	9.930	470297.375	58511.365
114400	5.550	0.000	44.535	0.520	470341.910	58511.885
114410	9.245	0.000	73.975	0.000	470415.885	58511.885
114420	13.637	0.000	114.410	0.000	470530.295	58511.885
114430	17.515	1.516	155.760	7.580	470686.055	58519.465
114440	19.562	1.545	185.385	15.305	470871.440	58534.770
114450	26.100	0.308	228.310	9.265	471099.750	58544.035
114460	31.053	0.000	285.765	1.540	471385.515	58545.575
114470	34.024	0.000	325.385	0.000	471710.900	58545.575
114480	37.254	0.000	356.390	0.000	472067.290	58545.575
114490	37.710	0.000	374.820	0.000	472442.110	58545.575
114500	45.261	0.000	414.855	0.000	472856.965	58545.575
114510	17.703	8.001	314.820	40.005	473171.785	58585.580
114520	6.243	30.094	119.730	190.475	473291.515	58776.055
114530	0.104	55.060	31.735	425.770	473323.250	59201.825
114540	0.000	61.576	0.520	583.180	473323.770	59785.005
114550	0.000	53.555	0.000	575.655	473323.770	60360.660
114560	0.000	44.867	0.000	492.110	473323.770	60852.770
114570	8.082	30.401	40.410	376.340	473364.180	61229.110
114580	15.473	1.205	117.775	158.030	473481.955	61387.140
114590	24.905	0.396	201.890	8.005	473683.845	61395.145
114600	30.784	0.000	278.445	1.980	473962.290	61397.125
114610	31.419	0.000	311.015	0.000	474273.305	61397.125
114620	34.050	0.000	327.345	0.000	474600.650	61397.125
114630	32.755	0.000	334.025	0.000	474934.675	61397.125
114640	6.239	15.949	194.970	79.745	475129.645	61476.870
114650	0.000	39.587	31.195	277.680	475160.840	61754.550
114660	0.000	46.204	0.000	428.955	475160.840	62183.505
114670	0.000	35.268	0.000	407.360	475160.840	62590.865
114680	0.000	26.124	0.000	306.960	475160.840	62897.825
114690	0.000	20.353	0.000	232.385	475160.840	63130.210
114700	0.000	13.083	0.000	167.180	475160.840	63297.390
114710	0.000	9.301	0.000	111.920	475160.840	63409.310
114720	0.002	6.992	0.010	81.465	475160.850	63490.775
114730	0.088	4.342	0.450	56.670	475161.300	63547.445
114740	0.441	2.830	2.645	35.860	475163.945	63583.305
114750	1.055	2.018	7.480	24.240	475171.425	63607.545
114760	1.761	1.825	14.080	19.215	475185.505	63626.760
114770	2.454	0.931	21.075	13.780	475206.580	63640.540
114780	3.188	0.664	28.210	7.975	475234.790	63648.515
114790	4.253	0.299	37.205	4.815	475271.995	63653.330
114800	5.699	0.000	49.760	1.495	475321.755	63654.825
114810	6.947	0.000	63.230	0.000	475384.985	63654.825
114820	7.944	0.000	74.455	0.000	475459.440	63654.825
114830	8.643	0.000	82.935	0.000	475542.375	63654.825
114840	9.042	0.000	88.425	0.000	475630.800	63654.825
114850	8.286	0.000	86.640	0.000	475717.440	63654.825
114860	6.539	0.165	74.125	0.825	475791.565	63655.650
114870	5.286	1.120	59.125	6.425	475850.690	63662.075
114880	5.315	1.332	53.005	12.260	475903.695	63674.335
114890	4.603	1.265	49.590	12.985	475953.285	63687.320
114900	3.934	0.114	42.685	6.895	475995.970	63694.215
114910	3.839	0.000	38.865	0.570	476034.835	63694.785
114920	4.120	0.000	39.795	0.000	476074.630	63694.785
114930	4.734	0.000	44.270	0.000	476118.900	63694.785

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
114940	5.600	0.000	51.670	0.000	476170.570	63694.785
114950	6.642	0.000	61.210	0.000	476231.780	63694.785
114960	7.814	0.000	72.280	0.000	476304.060	63694.785
114970	9.081	0.000	84.475	0.000	476388.535	63694.785
114980	10.422	0.000	97.515	0.000	476486.050	63694.785
114990	11.824	0.000	111.230	0.000	476597.280	63694.785
115000	13.282	0.000	125.530	0.000	476722.810	63694.785
115010	14.769	0.000	140.255	0.000	476863.065	63694.785
115020	16.281	0.000	155.250	0.000	477018.315	63694.785
115030	17.819	0.000	170.500	0.000	477188.815	63694.785
115040	19.383	0.000	186.010	0.000	477374.825	63694.785
115050	21.213	0.000	202.980	0.000	477577.805	63694.785
115060	23.522	0.000	223.675	0.000	477801.480	63694.785
115070	26.109	0.000	248.155	0.000	478049.635	63694.785
115080	28.939	0.000	275.240	0.000	478324.875	63694.785
115090	28.628	0.000	287.835	0.000	478612.710	63694.785
115100	16.860	0.961	227.440	4.805	478840.150	63699.590
115110	5.794	4.114	113.270	25.375	478953.420	63724.965
115120	16.706	1.112	112.500	26.130	479065.920	63751.095
115130	12.478	0.389	145.920	7.505	479211.840	63758.600
115140	12.034	1.195	122.560	7.920	479334.400	63766.520
115150	8.885	3.755	104.595	24.750	479438.995	63791.270
115160	4.420	5.008	66.525	43.815	479505.520	63835.085
115170	2.302	17.134	33.610	110.710	479539.130	63945.795
115180	3.826	20.870	30.640	190.020	479569.770	64135.815
115190	6.135	15.337	49.805	181.035	479619.575	64316.850
115200	8.264	12.361	71.995	138.490	479691.570	64455.340
115210	10.340	3.559	93.020	79.600	479784.590	64534.940
115220	10.389	4.562	103.645	40.605	479888.235	64575.545
115230	11.602	5.108	109.955	48.350	479998.190	64623.895
115240	12.888	7.472	122.450	62.900	480120.640	64686.795
115250	15.129	2.687	140.085	50.795	480260.725	64737.590
115260	22.534	1.021	188.315	18.540	480449.040	64756.130
115270	33.296	0.000	279.150	5.105	480728.190	64761.235
115280	29.440	0.000	313.680	0.000	481041.870	64761.235
115290	17.689	1.147	235.645	5.735	481277.515	64766.970
115300	4.604	12.912	111.465	70.295	481388.980	64837.265
115310	2.900	1.352	37.520	71.320	481426.500	64908.585
115320	16.665	0.231	97.825	7.915	481524.325	64916.500
115330	23.901	0.000	202.830	1.155	481727.155	64917.655
115340	28.853	0.000	263.770	0.000	481990.925	64917.655
115350	35.433	0.000	321.430	0.000	482312.355	64917.655
115360	40.461	0.854	379.470	4.270	482691.825	64921.925
115370	30.289	32.310	353.750	165.820	483045.575	65087.745
115380	14.651	73.986	224.700	531.480	483270.275	65619.225
115390	0.000	82.880	73.255	784.330	483343.530	66403.555
115400	0.000	71.268	0.000	770.740	483343.530	67174.295
115410	0.000	57.573	0.000	644.205	483343.530	67818.500
115420	0.000	48.212	0.000	528.925	483343.530	68347.425
115430	5.188	24.622	25.940	364.170	483369.470	68711.595
115440	30.320	0.429	177.540	125.255	483547.010	68836.850
115450	50.865	0.000	405.925	2.145	483952.935	68838.995
115460	61.443	0.000	561.540	0.000	484514.475	68838.995
115470	74.044	0.000	677.435	0.000	485191.910	68838.995
115480	88.875	0.000	814.595	0.000	486006.505	68838.995
115490	104.180	0.000	965.275	0.000	486971.780	68838.995
115500	118.738	0.000	1114.590	0.000	488086.370	68838.995
115510	131.412	0.000	1250.750	0.000	489337.120	68838.995
115520	142.031	0.000	1367.215	0.000	490704.335	68838.995
115530	151.486	0.000	1467.585	0.000	492171.920	68838.995
115540	160.139	0.000	1558.125	0.000	493730.045	68838.995
115550	166.600	0.000	1633.695	0.000	495363.740	68838.995
115560	168.662	0.000	1676.310	0.000	497040.050	68838.995
115570	166.289	0.000	1674.755	0.000	498714.805	68838.995
115580	160.023	0.000	1631.560	0.000	500346.365	68838.995
115590	153.285	0.000	1566.540	0.000	501912.905	68838.995
115600	146.668	0.000	1499.765	0.000	503412.670	68838.995
115610	140.174	0.000	1434.210	0.000	504846.880	68838.995
115620	133.800	0.000	1369.870	0.000	506216.750	68838.995
115630	127.539	0.000	1306.695	0.000	507523.445	68838.995
115640	121.389	0.000	1244.640	0.000	508768.085	68838.995
115650	115.350	0.000	1183.695	0.000	509951.780	68838.995
115660	109.422	0.000	1123.860	0.000	511075.640	68838.995
115670	103.604	0.000	1065.130	0.000	512140.770	68838.995
115680	97.898	0.000	1007.510	0.000	513148.280	68838.995
115690	92.302	0.000	951.000	0.000	514099.280	68838.995
115700	86.817	0.000	895.595	0.000	514994.875	68838.995

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
115710	81.443	0.000	841.300	0.000	515836.175	68838.995
115720	76.179	0.000	788.110	0.000	516624.285	68838.995
115730	71.027	0.000	736.030	0.000	517360.315	68838.995
115740	65.985	0.000	685.060	0.000	518045.375	68838.995
115750	61.054	0.000	635.195	0.000	518680.570	68838.995
115760	56.234	0.000	586.440	0.000	519267.010	68838.995
115770	48.550	0.000	523.920	0.000	519790.930	68838.995
115780	32.131	0.021	403.405	0.105	520194.335	68839.100
115790	23.019	0.723	275.750	3.720	520470.085	68842.820
115800	21.621	0.971	223.200	8.470	520693.285	68851.290
115810	23.277	11.942	224.490	64.565	520917.775	68915.855
115820	28.970	0.435	261.235	61.885	521179.010	68977.740
115830	33.602	0.296	312.860	3.655	521491.870	68981.395
115840	37.624	0.000	356.130	1.480	521848.000	68982.875
115850	38.902	0.000	382.630	0.000	522230.630	68982.875
115860	38.198	0.000	385.500	0.000	522616.130	68982.875
115870	33.970	0.000	360.840	0.000	522976.970	68982.875
115880	24.500	0.075	292.350	0.375	523269.320	68983.250
115890	25.780	0.178	251.400	1.265	523520.720	68984.515
115900	26.557	0.488	261.685	3.330	523782.405	68987.845
115910	30.271	0.456	284.140	4.720	524066.545	68992.565
115920	30.482	0.084	303.765	2.700	524370.310	68995.265
115930	32.092	0.000	312.870	0.420	524683.180	68995.685
115940	27.533	0.000	298.125	0.000	524981.305	68995.685
115950	12.782	3.474	201.575	17.370	525182.880	69013.055
115960	27.593	0.000	201.875	17.370	525384.755	69030.425
115970	68.061	0.000	478.270	0.000	525863.025	69030.425
115980	84.155	0.000	761.080	0.000	526624.105	69030.425
115990	86.469	0.000	853.120	0.000	527477.225	69030.425
116000	80.532	0.000	835.005	0.000	528312.230	69030.425
116010	71.404	0.000	759.680	0.000	529071.910	69030.425
116020	57.725	0.000	645.645	0.000	529717.555	69030.425
116030	51.315	0.000	545.200	0.000	530262.755	69030.425
116040	55.128	0.000	532.215	0.000	530794.970	69030.425
116050	49.271	0.000	521.995	0.000	531316.965	69030.425
116060	43.627	0.000	464.490	0.000	531781.455	69030.425
116070	39.185	0.000	414.060	0.000	532195.515	69030.425
116080	36.584	0.000	378.845	0.000	532574.360	69030.425
116090	36.501	0.000	365.425	0.000	532939.785	69030.425
116100	39.522	0.000	380.115	0.000	533319.900	69030.425
116110	45.497	0.000	425.095	0.000	533744.995	69030.425
116120	52.085	0.000	487.910	0.000	534232.905	69030.425
116130	42.472	0.000	472.785	0.000	534705.690	69030.425
116140	43.975	0.000	432.235	0.000	535137.925	69030.425
116150	61.683	0.000	528.290	0.000	535666.215	69030.425
116160	62.990	0.000	623.365	0.000	536289.580	69030.425
116170	64.574	0.000	637.820	0.000	536927.400	69030.425
116180	65.550	0.000	650.620	0.000	537578.020	69030.425
116190	65.690	0.000	656.200	0.000	538234.220	69030.425
116200	65.637	0.000	656.635	0.000	538890.855	69030.425
116210	65.625	0.000	656.310	0.000	539547.165	69030.425
116220	65.680	0.000	656.525	0.000	540203.690	69030.425
116230	65.800	0.000	657.400	0.000	540861.090	69030.425
116240	65.988	0.000	658.940	0.000	541520.030	69030.425
116250	66.241	0.000	661.145	0.000	542181.175	69030.425
116260	66.561	0.000	664.010	0.000	542845.185	69030.425
116270	66.969	0.000	667.650	0.000	543512.835	69030.425
116280	77.854	0.000	724.115	0.000	544236.950	69030.425
116290	94.306	0.000	860.800	0.000	545097.750	69030.425
116300	105.577	0.000	999.415	0.000	546097.165	69030.425
116310	111.813	0.000	1086.950	0.000	547184.115	69030.425
116320	119.862	0.000	1158.375	0.000	548342.490	69030.425
116330	123.111	0.000	1214.865	0.000	549557.355	69030.425
116340	126.497	0.000	1248.040	0.000	550805.395	69030.425
116350	129.615	0.000	1280.560	0.000	552085.955	69030.425
116360	132.288	0.000	1309.515	0.000	553395.470	69030.425
116370	134.542	0.000	1334.150	0.000	554729.620	69030.425
116380	136.426	0.000	1354.840	0.000	556084.460	69030.425
116390	138.064	0.000	1372.450	0.000	557456.910	69030.425
116400	139.928	0.000	1389.960	0.000	558846.870	69030.425
116410	142.231	0.000	1410.795	0.000	560257.665	69030.425
116420	144.985	0.000	1436.080	0.000	561693.745	69030.425
116430	148.200	0.000	1465.925	0.000	563159.670	69030.425
116440	151.887	0.000	1500.435	0.000	564660.105	69030.425
116450	155.904	0.000	1538.955	0.000	566199.060	69030.425
116460	158.672	0.000	1572.880	0.000	567771.940	69030.425
116470	159.785	0.000	1592.285	0.000	569364.225	69030.425

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
116480	159.247	0.000	1595.160	0.000	570959.385	69030.425
116490	157.466	0.000	1583.565	0.000	572542.950	69030.425
116500	155.997	0.000	1567.315	0.000	574110.265	69030.425
116510	154.981	0.000	1554.890	0.000	575665.155	69030.425
116520	154.414	0.000	1546.975	0.000	577212.130	69030.425
116530	154.286	0.000	1543.500	0.000	578755.630	69030.425
116540	154.627	0.000	1544.565	0.000	580300.195	69030.425
116550	155.405	0.000	1550.160	0.000	581850.355	69030.425
116560	155.327	0.000	1553.660	0.000	583404.015	69030.425
116570	153.193	0.000	1542.600	0.000	584946.615	69030.425
116580	148.949	0.000	1510.710	0.000	586457.325	69030.425
116590	143.001	0.000	1459.750	0.000	587917.075	69030.425
116600	137.237	0.000	1401.190	0.000	589318.265	69030.425
116610	129.214	0.000	1332.255	0.000	590650.520	69030.425
116620	118.777	0.000	1239.955	0.000	591890.475	69030.425
116630	108.518	0.000	1136.475	0.000	593026.950	69030.425
116640	83.681	0.000	960.995	0.000	593987.945	69030.425
116650	43.084	6.484	633.825	32.420	594621.770	69062.845
116660	0.000	19.326	215.420	129.050	594837.190	69191.895
116670	0.000	38.105	0.000	287.155	594837.190	69479.050
116680	0.000	48.863	0.000	434.840	594837.190	69913.890
116690	0.000	44.475	0.000	466.690	594837.190	70380.580
116700	0.000	34.639	0.000	395.570	594837.190	70776.150
116710	0.000	29.803	0.000	322.210	594837.190	71098.360
116720	0.000	24.702	0.000	272.525	594837.190	71370.885
116730	3.521	26.332	17.605	255.170	594854.795	71626.055
116740	5.163	30.059	43.420	281.955	594898.215	71908.010
116750	9.666	15.347	74.145	227.030	594972.360	72135.040
116760	15.121	3.449	123.935	93.980	595096.295	72229.020
116770	23.518	0.871	193.195	21.600	595289.490	72250.620
116780	28.873	0.241	261.955	5.560	595551.445	72256.180
116790	37.486	0.000	331.795	1.205	595883.240	72257.385
116800	42.537	0.000	400.115	0.000	596283.355	72257.385
116810	43.434	0.000	429.855	0.000	596713.210	72257.385
116820	43.636	0.000	435.350	0.000	597148.560	72257.385
116830	43.558	0.000	435.970	0.000	597584.530	72257.385
116840	42.680	0.000	431.190	0.000	598015.720	72257.385
116850	41.002	0.000	418.410	0.000	598434.130	72257.385
116860	39.316	0.000	401.590	0.000	598835.720	72257.385
116870	32.783	0.159	360.495	0.795	599196.215	72258.180
116880	32.443	0.276	326.130	2.175	599522.345	72260.355
116890	30.607	0.413	315.250	3.445	599837.595	72263.800
116900	31.399	0.053	310.030	2.330	600147.625	72266.130
116910	13.993	0.000	226.960	0.265	600374.585	72266.395
116920	0.014	1.120	70.035	5.600	600444.620	72271.995
116930	0.000	11.669	0.070	63.945	600444.690	72335.940
116940	0.000	18.650	0.000	151.595	600444.690	72487.535
116950	0.000	28.537	0.000	235.935	600444.690	72723.470
116960	0.000	37.719	0.000	331.280	600444.690	73054.750
116970	0.000	42.065	0.000	398.920	600444.690	73453.670
116980	1.063	33.182	5.315	376.235	600450.005	73829.905
116990	1.513	23.666	12.880	284.240	600462.885	74114.145
117000	2.259	19.855	18.860	217.605	600481.745	74331.750
117010	2.305	15.048	22.820	174.515	600504.565	74506.265
117020	4.260	9.565	32.825	123.065	600537.390	74629.330
117030	7.084	2.252	56.720	59.085	600594.110	74688.415
117040	6.412	1.750	67.480	20.010	600661.590	74708.425
117050	0.463	3.596	34.375	26.730	600695.965	74735.155
117060	0.000	10.308	2.315	69.520	600698.280	74804.675
117070	0.000	16.628	0.000	134.680	600698.280	74939.355
117080	0.000	14.954	0.000	157.910	600698.280	75097.265
117090	0.077	3.828	0.385	93.910	600698.665	75191.175
117100	2.369	0.094	12.230	19.610	600710.895	75210.785
117110	6.615	0.000	44.920	0.470	600755.815	75211.255
117120	15.265	0.000	109.400	0.000	600865.215	75211.255
117130	20.811	0.000	180.380	0.000	601045.595	75211.255
117140	18.148	0.000	194.795	0.000	601240.390	75211.255
117150	19.120	0.000	186.340	0.000	601426.730	75211.255
117160	19.935	0.000	195.275	0.000	601622.005	75211.255
117170	20.324	0.000	201.295	0.000	601823.300	75211.255
117180	20.288	0.000	203.060	0.000	602026.360	75211.255
117190	19.825	0.000	200.565	0.000	602226.925	75211.255
117200	18.941	0.000	193.830	0.000	602420.755	75211.255
117210	18.091	0.000	185.160	0.000	602605.915	75211.255
117220	17.611	0.000	178.510	0.000	602784.425	75211.255
117230	17.501	0.000	175.560	0.000	602959.985	75211.255
117240	17.760	0.000	176.305	0.000	603136.290	75211.255

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
117250	18.389	0.000	180.745	0.000	603317.035	75211.255
117260	19.233	0.000	188.110	0.000	603505.145	75211.255
117270	20.079	0.000	196.560	0.000	603701.705	75211.255
117280	20.925	0.000	205.020	0.000	603906.725	75211.255
117290	21.770	0.000	213.475	0.000	604120.200	75211.255
117300	22.616	0.000	221.930	0.000	604342.130	75211.255
117310	23.461	0.000	230.385	0.000	604572.515	75211.255
117320	24.306	0.000	238.835	0.000	604811.350	75211.255
117330	25.151	0.000	247.285	0.000	605058.635	75211.255
117340	25.996	0.000	255.735	0.000	605314.370	75211.255
117350	26.841	0.000	264.185	0.000	605578.555	75211.255
117360	27.686	0.000	272.635	0.000	605851.190	75211.255
117370	28.530	0.000	281.080	0.000	606132.270	75211.255
117380	29.375	0.000	289.525	0.000	606421.795	75211.255
117390	30.219	0.000	297.970	0.000	606719.765	75211.255
117400	31.064	0.000	306.415	0.000	607026.180	75211.255
117410	31.908	0.000	314.860	0.000	607341.040	75211.255
117420	32.752	0.000	323.300	0.000	607664.340	75211.255
117430	33.596	0.000	331.740	0.000	607996.080	75211.255
117440	34.440	0.000	340.180	0.000	608336.260	75211.255
117450	35.284	0.000	348.620	0.000	608684.880	75211.255
117460	36.127	0.000	357.055	0.000	609041.935	75211.255
117470	36.971	0.000	365.490	0.000	609407.425	75211.255
117480	37.815	0.000	373.930	0.000	609781.355	75211.255
117490	38.658	0.000	382.365	0.000	610163.720	75211.255
117500	39.501	0.000	390.795	0.000	610554.515	75211.255
117510	40.345	0.000	399.230	0.000	610953.745	75211.255
117520	41.188	0.000	407.665	0.000	611361.410	75211.255
117530	42.032	0.000	416.100	0.000	611777.510	75211.255
117540	42.881	0.000	424.565	0.000	612202.075	75211.255
117550	43.734	0.000	433.075	0.000	612635.150	75211.255
117560	44.593	0.000	441.635	0.000	613076.785	75211.255
117570	45.457	0.000	450.250	0.000	613527.035	75211.255
117580	46.326	0.000	458.915	0.000	613985.950	75211.255
117590	47.200	0.000	467.630	0.000	614453.580	75211.255
117600	48.080	0.000	476.400	0.000	614929.980	75211.255
117610	48.866	0.000	484.730	0.000	615414.710	75211.255
117620	54.008	0.000	514.370	0.000	615929.080	75211.255
117630	56.421	0.000	552.145	0.000	616481.225	75211.255
117640	47.403	5.483	519.120	27.415	617000.345	75238.670
117650	41.074	6.975	442.385	62.290	617442.730	75300.960
117660	26.624	15.733	338.490	113.540	617781.220	75414.500
117670	6.234	24.305	164.290	200.190	617945.510	75614.690
117680	0.000	40.876	31.170	325.905	617976.680	75940.595
117690	0.000	42.416	0.000	416.460	617976.680	76357.055
117700	0.000	16.791	0.000	296.035	617976.680	76653.090
117710	24.586	1.993	122.930	93.920	618099.610	76747.010
117720	80.289	0.012	524.375	10.025	618623.985	76757.035
117730	96.987	0.000	886.380	0.060	619510.365	76757.095
117740	75.247	0.000	861.170	0.000	620371.535	76757.095
117750	45.231	0.000	602.390	0.000	620973.925	76757.095
117760	7.655	4.994	264.430	24.970	621238.355	76782.065
117770	40.846	5.660	242.505	53.270	621480.860	76835.335
117780	77.114	0.000	589.800	28.300	622070.660	76863.635
117790	96.755	0.000	869.345	0.000	622940.005	76863.635
117800	102.090	0.000	994.225	0.000	623934.230	76863.635
117810	71.648	0.000	868.690	0.000	624802.920	76863.635
117820	29.561	2.562	506.045	12.810	625308.965	76876.445
117830	13.044	0.738	213.025	16.500	625521.990	76892.945
117840	40.748	0.000	268.960	3.690	625790.950	76896.635
117850	70.229	0.000	554.885	0.000	626345.835	76896.635
117860	123.773	0.000	970.010	0.000	627315.845	76896.635
117870	141.338	0.000	1325.555	0.000	628641.400	76896.635
117880	148.421	0.000	1448.795	0.000	630090.195	76896.635
117890	137.335	0.000	1428.780	0.000	631518.975	76896.635
117900	104.939	0.000	1211.370	0.000	632730.345	76896.635
117910	74.123	1.374	895.310	6.870	633625.655	76903.505
117920	40.977	2.369	575.500	18.715	634201.155	76922.220
117930	39.478	0.011	402.275	11.900	634603.430	76934.120
117940	44.189	0.000	418.335	0.055	635021.765	76934.175
117950	52.779	0.000	484.840	0.000	635506.605	76934.175
117960	30.883	0.984	418.310	4.920	635924.915	76939.095
117970	18.068	0.000	244.755	4.920	636169.670	76944.015
117980	96.378	0.000	572.230	0.000	636741.900	76944.015
117990	152.808	0.000	1245.930	0.000	637987.830	76944.015
118000	156.177	0.000	1544.925	0.000	639532.755	76944.015
118010	164.512	0.000	1603.445	0.000	641136.200	76944.015

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
118020	172.530	0.000	1685.210	0.000	642821.410	76944.015
118030	178.315	0.000	1754.225	0.000	644575.635	76944.015
118040	182.531	0.000	1804.230	0.000	646379.865	76944.015
118050	186.518	0.000	1845.245	0.000	648225.110	76944.015
118060	190.317	0.000	1884.175	0.000	650109.285	76944.015
118070	193.930	0.000	1921.235	0.000	652030.520	76944.015
118080	197.358	0.000	1956.440	0.000	653986.960	76944.015
118090	200.601	0.000	1989.795	0.000	655976.755	76944.015
118100	203.659	0.000	2021.300	0.000	657998.055	76944.015
118110	206.370	0.000	2050.145	0.000	660048.200	76944.015
118120	195.455	0.000	2009.125	0.000	662057.325	76944.015
118130	164.855	0.000	1801.550	0.000	663858.875	76944.015
118140	156.331	0.000	1605.930	0.000	665464.805	76944.015
118150	121.135	0.000	1387.330	0.000	666852.135	76944.015
118160	64.090	0.278	926.125	1.390	667778.260	76945.405
118170	72.812	0.000	684.510	1.390	668462.770	76946.795
118180	136.918	0.000	1048.650	0.000	669511.420	76946.795
118190	193.826	0.000	1653.720	0.000	671165.140	76946.795
118200	206.236	0.000	2000.310	0.000	673165.450	76946.795
118210	211.292	0.000	2087.640	0.000	675253.090	76946.795
118220	198.792	0.000	2050.420	0.000	677303.510	76946.795
118230	191.325	0.000	1950.585	0.000	679254.095	76946.795
118240	196.730	0.000	1940.275	0.000	681194.370	76946.795
118250	228.304	0.000	2125.170	0.000	683319.540	76946.795
118260	248.373	0.000	2383.385	0.000	685702.925	76946.795
118270	269.940	0.000	2591.565	0.000	688294.490	76946.795
118280	291.602	0.000	2807.710	0.000	691102.200	76946.795
118290	309.223	0.000	3004.125	0.000	694106.325	76946.795
118300	319.752	0.000	3144.875	0.000	697251.200	76946.795
118310	324.532	0.000	3221.420	0.000	700472.620	76946.795
118320	327.522	0.000	3260.270	0.000	703732.890	76946.795
118330	329.827	0.000	3286.745	0.000	707019.635	76946.795
118340	331.546	0.000	3306.865	0.000	710326.500	76946.795
118350	332.724	0.000	3321.350	0.000	713647.850	76946.795
118360	333.355	0.000	3330.395	0.000	716978.245	76946.795
118370	333.377	0.000	3333.660	0.000	720311.905	76946.795
118380	332.676	0.000	3330.265	0.000	723642.170	76946.795
118390	331.084	0.000	3318.800	0.000	726960.970	76946.795
118400	328.414	0.000	3297.490	0.000	730258.460	76946.795
118410	324.830	0.000	3266.220	0.000	733524.680	76946.795
118420	320.392	0.000	3226.110	0.000	736750.790	76946.795
118430	315.096	0.000	3177.440	0.000	739928.230	76946.795
118440	308.946	0.000	3120.210	0.000	743048.440	76946.795
118450	301.950	0.000	3054.480	0.000	746102.920	76946.795
118460	294.122	0.000	2980.360	0.000	749083.280	76946.795
118470	285.479	0.000	2898.005	0.000	751981.285	76946.795
118480	276.841	0.000	2811.600	0.000	754792.885	76946.795
118490	268.983	0.000	2729.120	0.000	757522.005	76946.795
118500	262.070	0.000	2655.265	0.000	760177.270	76946.795
118510	256.064	0.000	2590.670	0.000	762767.940	76946.795
118520	250.932	0.000	2534.980	0.000	765302.920	76946.795
118530	246.644	0.000	2487.880	0.000	767790.800	76946.795
118540	243.178	0.000	2449.110	0.000	770239.910	76946.795
118550	240.513	0.000	2418.455	0.000	772658.365	76946.795
118560	238.634	0.000	2395.735	0.000	775054.100	76946.795
118570	237.448	0.000	2380.410	0.000	777434.510	76946.795
118580	237.038	0.000	2372.430	0.000	779806.940	76946.795
118590	237.633	0.000	2373.355	0.000	782180.295	76946.795
118600	238.838	0.000	2382.355	0.000	784562.650	76946.795
118610	240.819	0.000	2398.285	0.000	786960.935	76946.795
118620	243.588	0.000	2422.035	0.000	789382.970	76946.795
118630	247.161	0.000	2453.745	0.000	791836.715	76946.795
118640	251.556	0.000	2493.585	0.000	794330.300	76946.795
118650	256.385	0.000	2539.705	0.000	796870.005	76946.795
118660	259.420	0.000	2579.025	0.000	799449.030	76946.795
118670	260.809	0.000	2601.145	0.000	802050.175	76946.795
118680	260.675	0.000	2607.420	0.000	804657.595	76946.795
118690	258.579	0.000	2596.270	0.000	807253.865	76946.795
118700	254.912	0.000	2567.455	0.000	809821.320	76946.795
118710	250.111	0.000	2525.115	0.000	812346.435	76946.795
118720	244.557	0.000	2473.340	0.000	814819.775	76946.795
118730	238.581	0.000	2415.690	0.000	817235.465	76946.795
118740	232.465	0.000	2355.230	0.000	819590.695	76946.795
118750	226.454	0.000	2294.595	0.000	821885.290	76946.795
118760	220.749	0.000	2236.015	0.000	824121.305	76946.795
118770	215.517	0.000	2181.330	0.000	826302.635	76946.795
118780	210.890	0.000	2132.035	0.000	828434.670	76946.795

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
118790	206.966	0.000	2089.280	0.000	830523.950	76946.795
118800	203.814	0.000	2053.900	0.000	832577.850	76946.795
118810	201.468	0.000	2026.410	0.000	834604.260	76946.795
118820	199.932	0.000	2007.000	0.000	836611.260	76946.795
118830	199.180	0.000	1995.560	0.000	838606.820	76946.795
118840	199.155	0.000	1991.675	0.000	840598.495	76946.795
118850	199.767	0.000	1994.610	0.000	842593.105	76946.795
118860	200.891	0.000	2003.290	0.000	844596.395	76946.795
118870	202.292	0.000	2015.915	0.000	846612.310	76946.795
118880	203.490	0.000	2028.910	0.000	848641.220	76946.795
118890	204.560	0.000	2040.250	0.000	850681.470	76946.795
118900	204.015	0.000	2042.875	0.000	852724.345	76946.795
118910	155.228	0.000	1796.215	0.000	854520.560	76946.795
118920	131.740	0.000	1434.840	0.000	855955.400	76946.795
118930	120.738	0.000	1262.390	0.000	857217.790	76946.795
118940	239.187	0.000	1799.625	0.000	859017.415	76946.795
118950	267.041	0.000	2531.140	0.000	861548.555	76946.795
118960	225.403	0.000	2462.220	0.000	864010.775	76946.795
118970	202.714	0.000	2140.585	0.000	866151.360	76946.795
118980	187.142	0.000	1949.280	0.000	868100.640	76946.795
118990	178.142	0.000	1826.420	0.000	869927.060	76946.795
119000	172.510	0.000	1753.260	0.000	871680.320	76946.795
119010	169.292	0.000	1709.010	0.000	873389.330	76946.795
119020	162.812	0.000	1660.520	0.000	875049.850	76946.795
119030	149.423	0.000	1561.175	0.000	876611.025	76946.795
119040	131.859	0.000	1406.410	0.000	878017.435	76946.795
119050	105.988	0.000	1189.235	0.000	879206.670	76946.795
119060	87.670	0.000	968.290	0.000	880174.960	76946.795
119070	55.199	0.000	714.345	0.000	880889.305	76946.795
119080	46.110	0.249	506.545	1.245	881395.850	76948.040
119090	62.823	0.000	544.665	1.245	881940.515	76949.285
119100	101.986	0.000	824.045	0.000	882764.560	76949.285
119110	113.266	0.000	1076.260	0.000	883840.820	76949.285
119120	121.838	0.000	1175.520	0.000	885016.340	76949.285
119130	113.253	0.000	1175.455	0.000	886191.795	76949.285
119140	94.646	0.000	1039.495	0.000	887231.290	76949.285
119150	84.199	0.000	894.225	0.000	888125.515	76949.285
119160	70.097	0.000	771.480	0.000	888896.995	76949.285
119170	63.081	0.044	665.890	0.220	889562.885	76949.505
119180	54.611	0.157	588.460	1.005	890151.345	76950.510
119190	55.659	0.138	551.350	1.475	890702.695	76951.985
119200	66.512	0.000	610.855	0.690	891313.550	76952.675
119210	81.663	0.000	740.875	0.000	892054.425	76952.675
119220	93.482	0.000	875.725	0.000	892930.150	76952.675
119230	89.373	0.000	914.275	0.000	893844.425	76952.675
119240	77.418	0.000	833.955	0.000	894678.380	76952.675
119250	66.569	0.608	719.935	3.040	895398.315	76955.715
119260	45.528	1.128	560.485	8.680	895958.800	76964.395
119270	16.641	5.965	310.845	35.465	896269.645	76999.860
119280	0.000	19.933	83.205	129.490	896352.850	77129.350
119290	0.000	19.145	0.000	195.390	896352.850	77324.740
119300	23.945	1.253	119.725	101.990	896472.575	77426.730
119310	78.431	0.000	511.880	6.265	896984.455	77432.995
119320	96.988	0.010	877.095	0.050	897861.550	77433.045
119330	98.327	0.000	976.575	0.050	898838.125	77433.095
119340	85.731	0.000	920.290	0.000	899758.415	77433.095
119350	63.041	0.000	743.860	0.000	900502.275	77433.095
119360	52.280	0.000	576.605	0.000	901078.880	77433.095
119370	75.646	0.000	639.630	0.000	901718.510	77433.095
119380	108.484	0.000	920.650	0.000	902639.160	77433.095
119390	129.428	0.000	1189.560	0.000	903828.720	77433.095
119400	96.050	0.000	1127.390	0.000	904956.110	77433.095
119410	57.118	0.000	765.840	0.000	905721.950	77433.095
119420	42.502	2.834	498.100	14.170	906220.050	77447.265
119430	23.039	7.226	327.705	50.300	906547.755	77497.565
119440	43.438	6.174	332.385	67.000	906880.140	77564.565
119450	70.922	1.183	571.800	36.785	907451.940	77601.350
119460	47.223	4.986	590.725	30.845	908042.665	77632.195
119470	22.378	15.805	348.005	103.955	908390.670	77736.150
119480	5.308	19.538	138.430	176.715	908529.100	77912.865
119490	44.126	1.195	247.170	103.665	908776.270	78016.530
119500	83.527	0.000	638.265	5.975	909414.535	78022.505
119510	119.512	0.000	1015.195	0.000	910429.730	78022.505
119520	136.280	0.000	1278.960	0.000	911708.690	78022.505
119530	133.196	0.000	1347.380	0.000	913056.070	78022.505
119540	129.651	0.000	1314.235	0.000	914370.305	78022.505
119550	126.125	0.000	1278.880	0.000	915649.185	78022.505

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
119560	122.295	0.000	1242.100	0.000	916891.285	78022.505
119570	99.058	0.000	1106.765	0.000	917998.050	78022.505
119580	56.529	0.503	777.935	2.515	918775.985	78025.020
119590	13.008	14.133	347.685	73.180	919123.670	78098.200
119600	0.000	26.159	65.040	201.460	919188.710	78299.660
119610	0.000	27.737	0.000	269.480	919188.710	78569.140
119620	9.371	3.539	46.855	156.380	919235.565	78725.520
119630	69.077	0.000	392.240	17.695	919627.805	78743.215
119640	63.991	0.000	665.340	0.000	920293.145	78743.215
119650	52.539	0.000	582.650	0.000	920875.795	78743.215
119660	46.960	0.000	497.495	0.000	921373.290	78743.215
119670	45.781	0.000	463.705	0.000	921836.995	78743.215
119680	44.702	0.000	452.415	0.000	922289.410	78743.215
119690	43.400	0.000	440.510	0.000	922729.920	78743.215
119700	40.242	0.000	418.210	0.000	923148.130	78743.215
119710	34.930	0.000	375.860	0.000	923523.990	78743.215
119720	33.983	0.000	344.565	0.000	923868.555	78743.215
119730	32.893	0.000	334.380	0.000	924202.935	78743.215
119740	31.814	0.000	323.535	0.000	924526.470	78743.215
119750	30.743	0.000	312.785	0.000	924839.255	78743.215
119760	29.682	0.000	302.125	0.000	925141.380	78743.215
119770	28.631	0.000	291.565	0.000	925432.945	78743.215
119780	27.589	0.000	281.100	0.000	925714.045	78743.215
119790	26.556	0.000	270.725	0.000	925984.770	78743.215
119800	25.533	0.000	260.445	0.000	926245.215	78743.215
119810	24.519	0.000	250.260	0.000	926495.475	78743.215
119820	23.515	0.000	240.170	0.000	926735.645	78743.215
119830	22.520	0.000	230.175	0.000	926965.820	78743.215
119840	21.535	0.000	220.275	0.000	927186.095	78743.215
119850	20.559	0.000	210.470	0.000	927396.565	78743.215
119860	19.593	0.000	200.760	0.000	927597.325	78743.215
119870	18.636	0.000	191.145	0.000	927788.470	78743.215
119880	17.688	0.000	181.620	0.000	927970.090	78743.215
119890	16.750	0.000	172.190	0.000	928142.280	78743.215
119900	15.822	0.000	162.860	0.000	928305.140	78743.215
119910	14.903	0.000	153.625	0.000	928458.765	78743.215
119920	13.993	0.000	144.480	0.000	928603.245	78743.215
119930	13.093	0.000	135.430	0.000	928738.675	78743.215
119940	12.202	0.000	126.475	0.000	928865.150	78743.215
119950	11.321	0.000	117.615	0.000	928982.765	78743.215
119960	10.449	0.000	108.850	0.000	929091.615	78743.215
119970	9.587	0.000	100.180	0.000	929191.795	78743.215
119980	8.734	0.000	91.605	0.000	929283.400	78743.215
119990	7.890	0.000	83.120	0.000	929366.520	78743.215
120000	7.056	0.000	74.730	0.000	929441.250	78743.215
120010	6.232	0.000	66.440	0.000	929507.690	78743.215
120020	5.417	0.000	58.245	0.000	929565.935	78743.215
120030	4.611	0.000	50.140	0.000	929616.075	78743.215
120040	3.815	0.000	42.130	0.000	929658.205	78743.215
120050	3.028	0.000	34.215	0.000	929692.420	78743.215
120060	2.305	0.057	26.665	0.285	929719.085	78743.500
120070	1.754	0.293	20.295	1.750	929739.380	78745.250
120080	1.342	0.675	15.480	4.840	929754.860	78750.090
120090	0.982	1.115	11.620	8.950	929766.480	78759.040
120100	0.667	1.608	8.245	13.615	929774.725	78772.655
120110	0.397	2.154	5.320	18.810	929780.045	78791.465
120120	0.172	2.792	2.845	24.730	929782.890	78816.195
120130	0.027	3.498	0.995	31.450	929783.885	78847.645
120140	0.000	4.226	0.135	38.620	929784.020	78886.265
120150	0.000	4.875	0.000	45.505	929784.020	78931.770
120160	0.000	5.282	0.000	50.785	929784.020	78982.555
120170	0.000	5.383	0.000	53.325	929784.020	79035.880
120180	0.031	5.005	0.155	51.940	929784.175	79087.820
120190	0.401	3.587	2.160	42.960	929786.335	79130.780
120200	1.711	1.488	10.560	25.375	929796.895	79156.155
120210	1.979	0.211	18.450	8.495	929815.345	79164.650
120220	3.309	0.128	26.440	1.695	929841.785	79166.345
120230	8.619	0.170	59.640	1.490	929901.425	79167.835
120240	5.725	0.326	71.720	2.480	929973.145	79170.315
120250	5.387	2.977	55.560	16.515	930028.705	79186.830
120260	7.057	2.418	62.220	26.975	930090.925	79213.805
120270	7.568	2.078	73.125	22.480	930164.050	79236.285
120280	13.402	0.767	104.850	14.225	930268.900	79250.510
120290	17.120	0.252	152.610	5.095	930421.510	79255.605
120300	21.816	0.001	194.680	1.265	930616.190	79256.870
120310	23.620	0.000	227.180	0.005	930843.370	79256.875
120320	21.523	0.000	225.715	0.000	931069.085	79256.875

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
120330	23.978	0.000	227.505	0.000	931296.590	79256.875
120340	20.635	0.000	223.065	0.000	931519.655	79256.875
120350	20.614	0.000	206.245	0.000	931725.900	79256.875
120360	24.150	0.000	223.820	0.000	931949.720	79256.875
120370	25.053	0.000	246.015	0.000	932195.735	79256.875
120380	14.695	0.000	198.740	0.000	932394.475	79256.875
120390	0.000	33.439	73.475	167.195	932467.950	79424.070
120400	0.000	39.610	0.000	365.245	932467.950	79789.315
120410	0.000	67.190	0.000	534.000	932467.950	80323.315
120420	0.000	65.305	0.000	662.475	932467.950	80985.790
120430	0.000	59.388	0.000	623.465	932467.950	81609.255
120440	0.000	47.990	0.000	536.890	932467.950	82146.145
120450	0.000	30.007	0.000	389.985	932467.950	82536.130
120460	0.000	31.984	0.000	309.955	932467.950	82846.085
120470	1.927	21.805	9.635	268.945	932477.585	83115.030
120480	0.000	35.138	9.635	284.715	932487.220	83399.745
120490	0.000	32.566	0.000	338.520	932487.220	83738.265
120500	0.000	24.640	0.000	286.030	932487.220	84024.295
120510	1.879	14.759	9.395	196.995	932496.615	84221.290
120520	10.740	8.590	63.095	116.745	932559.710	84338.035
120530	21.707	4.698	162.235	66.440	932721.945	84404.475
120540	41.047	2.538	313.770	36.180	933035.715	84440.655
120550	39.962	1.405	405.045	19.715	933440.760	84460.370
120560	13.712	3.416	268.370	24.105	933709.130	84484.475
120570	0.000	26.842	68.560	151.290	933777.690	84635.765
120580	0.000	57.939	0.000	423.905	933777.690	85059.670
120590	0.000	78.219	0.000	680.790	933777.690	85740.460
120600	0.000	77.569	0.000	778.940	933777.690	86519.400
120610	0.000	61.567	0.000	695.680	933777.690	87215.080
120620	0.000	47.134	0.000	543.505	933777.690	87758.585
120630	0.000	35.179	0.000	411.565	933777.690	88170.150
120640	0.000	24.458	0.000	298.185	933777.690	88468.335
120650	0.000	14.918	0.000	196.880	933777.690	88665.215
120660	9.550	8.114	47.750	115.160	933825.440	88780.375
120670	38.009	2.325	237.795	52.195	934063.235	88832.570
120680	46.372	0.485	421.905	14.050	934485.140	88846.620
120690	44.912	0.011	456.420	2.480	934941.560	88849.100
120700	43.644	0.000	442.780	0.055	935384.340	88849.155
120710	42.569	0.000	431.065	0.000	935815.405	88849.155
120720	42.173	0.000	423.710	0.000	936239.115	88849.155
120730	44.350	0.000	432.615	0.000	936671.730	88849.155
120740	42.280	0.000	433.150	0.000	937104.880	88849.155
120750	13.078	7.734	276.790	38.670	937381.670	88887.825
120760	4.516	25.831	87.970	167.825	937469.640	89055.650
120770	0.988	26.639	27.520	262.350	937497.160	89318.000
120780	8.366	23.934	46.770	252.865	937543.930	89570.865
120790	20.718	16.302	145.420	201.180	937689.350	89772.045
120800	27.935	12.367	243.265	143.345	937932.615	89915.390
120810	32.102	11.609	300.185	119.880	938232.800	90035.270
120820	30.010	11.546	310.560	115.775	938543.360	90151.045
120830	26.037	13.313	280.235	124.295	938823.595	90275.340
120840	18.390	16.192	222.135	147.525	939045.730	90422.865
120850	13.448	21.046	159.190	186.190	939204.920	90609.055
120860	10.453	25.820	119.505	234.330	939324.425	90843.385
120870	12.052	26.107	112.525	259.635	939436.950	91103.020
120880	18.168	24.900	151.100	255.035	939588.050	91358.055
120890	27.996	17.464	230.820	211.820	939818.870	91569.875
120900	35.319	7.909	316.575	126.865	940135.445	91696.740
120910	44.559	5.492	399.390	67.005	940534.835	91763.745
120920	46.173	3.717	453.660	46.045	940988.495	91809.790
120930	47.468	2.475	468.205	30.960	941456.700	91840.750
120940	47.826	2.014	476.470	22.445	941933.170	91863.195
120950	43.645	3.147	457.355	25.805	942390.525	91889.000
120960	39.171	5.749	414.080	44.480	942804.605	91933.480
120970	23.009	21.342	310.900	135.455	943115.505	92068.935
120980	12.608	34.132	178.085	277.370	943293.590	92346.305
120990	5.194	35.173	89.010	346.525	943382.600	92692.830
121000	21.948	25.869	135.710	305.210	943518.310	92998.040
121010	29.726	19.172	258.370	225.205	943776.680	93223.245
121020	34.764	11.934	322.450	155.530	944099.130	93378.775
121030	40.595	0.025	376.795	59.795	944475.925	93438.570
121040	42.402	0.000	414.985	0.125	944890.910	93438.695
121050	47.864	0.000	451.330	0.000	945342.240	93438.695
121060	42.263	0.000	450.635	0.000	945792.875	93438.695
121070	37.224	0.000	397.435	0.000	946190.310	93438.695
121080	36.320	0.000	367.720	0.000	946558.030	93438.695
121090	40.156	0.000	382.380	0.000	946940.410	93438.695

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
121100	49.138	0.000	446.470	0.000	947386.880	93438.695
121110	52.525	0.003	508.315	0.015	947895.195	93438.710
121120	50.664	1.704	515.945	8.535	948411.140	93447.245
121130	48.261	1.096	494.625	14.000	948905.765	93461.245
121140	33.247	1.649	407.540	13.725	949313.305	93474.970
121150	18.354	10.677	258.005	61.630	949571.310	93536.600
121160	0.000	20.658	91.770	156.675	949663.080	93693.275
121170	0.000	27.852	0.000	242.550	949663.080	93935.825
121180	0.000	7.118	0.000	174.850	949663.080	94110.675
121190	67.644	0.000	338.220	35.590	950001.300	94146.265
121200	74.849	0.000	712.465	0.000	950713.765	94146.265
121210	85.077	0.000	799.630	0.000	951513.395	94146.265
121220	97.976	0.000	915.265	0.000	952428.660	94146.265
121230	102.136	0.000	1000.560	0.000	953429.220	94146.265
121240	101.089	0.000	1016.125	0.000	954445.345	94146.265
121250	106.072	0.000	1035.805	0.000	955481.150	94146.265
121260	107.431	0.000	1067.515	0.000	956548.665	94146.265
121270	102.689	0.000	1050.600	0.000	957599.265	94146.265
121280	97.762	0.000	1002.255	0.000	958601.520	94146.265
121290	89.189	0.000	934.755	0.000	959536.275	94146.265
121300	80.908	0.000	850.485	0.000	960386.760	94146.265
121310	74.204	0.000	775.560	0.000	961162.320	94146.265
121320	69.076	0.000	716.400	0.000	961878.720	94146.265
121330	65.577	0.000	673.265	0.000	962551.985	94146.265
121340	63.055	0.000	643.160	0.000	963195.145	94146.265
121350	60.567	0.000	618.110	0.000	963813.255	94146.265
121360	58.113	0.000	593.400	0.000	964406.655	94146.265
121370	55.695	0.000	569.040	0.000	964975.695	94146.265
121380	53.312	0.000	545.035	0.000	965520.730	94146.265
121390	50.965	0.000	521.385	0.000	966042.115	94146.265
121400	48.654	0.000	498.095	0.000	966540.210	94146.265
121410	46.378	0.000	475.160	0.000	967015.370	94146.265
121420	44.138	0.000	452.580	0.000	967467.950	94146.265
121430	41.933	0.000	430.355	0.000	967898.305	94146.265
121440	39.768	0.000	408.505	0.000	968306.810	94146.265
121450	37.757	0.000	387.625	0.000	968694.435	94146.265
121460	35.945	0.000	368.510	0.000	969062.945	94146.265
121470	34.338	0.000	351.415	0.000	969414.360	94146.265
121480	32.928	0.000	336.330	0.000	969750.690	94146.265
121490	31.698	0.000	323.130	0.000	970073.820	94146.265
121500	30.678	0.000	311.880	0.000	970385.700	94146.265
121510	29.829	0.000	302.535	0.000	970688.235	94146.265
121520	29.158	0.000	294.935	0.000	970983.170	94146.265
121530	28.663	0.000	289.105	0.000	971272.275	94146.265
121540	28.326	0.000	284.945	0.000	971557.220	94146.265
121550	28.074	0.000	282.000	0.000	971839.220	94146.265
121560	27.825	0.000	279.495	0.000	972118.715	94146.265
121570	27.579	0.000	277.020	0.000	972395.735	94146.265
121580	27.336	0.000	274.575	0.000	972670.310	94146.265
121590	27.546	0.000	274.410	0.000	972944.720	94146.265
121600	30.767	0.000	291.565	0.000	973236.285	94146.265
121610	33.918	0.000	323.425	0.000	973559.710	94146.265
121620	36.904	0.000	354.110	0.000	973913.820	94146.265
121630	39.724	0.000	383.140	0.000	974296.960	94146.265
121640	42.379	0.000	410.515	0.000	974707.475	94146.265
121650	44.868	0.000	436.235	0.000	975143.710	94146.265
121660	47.143	0.000	460.055	0.000	975603.765	94146.265
121670	48.061	0.000	476.020	0.000	976079.785	94146.265
121680	47.141	0.000	476.010	0.000	976555.795	94146.265
121690	44.758	0.000	459.495	0.000	977015.290	94146.265
121700	42.291	0.000	435.245	0.000	977450.535	94146.265
121710	39.865	0.000	410.780	0.000	977861.315	94146.265
121720	37.481	0.000	386.730	0.000	978248.045	94146.265
121730	35.452	0.000	364.665	0.000	978612.710	94146.265
121740	34.193	0.000	348.225	0.000	978960.935	94146.265
121750	32.635	0.000	334.140	0.000	979295.075	94146.265
121760	29.983	0.000	313.090	0.000	979608.165	94146.265
121770	26.290	0.000	281.365	0.000	979889.530	94146.265
121780	19.945	1.469	231.175	7.345	980120.705	94153.610
121790	23.986	0.000	219.655	7.345	980340.360	94160.955
121800	26.508	0.000	252.470	0.000	980592.830	94160.955
121810	26.582	0.000	265.450	0.000	980858.280	94160.955
121820	28.022	0.000	273.020	0.000	981131.300	94160.955
121830	28.917	0.000	284.695	0.000	981415.995	94160.955
121840	29.321	0.000	291.190	0.000	981707.185	94160.955
121850	29.649	0.000	294.850	0.000	982002.035	94160.955
121860	29.978	0.000	298.135	0.000	982300.170	94160.955

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
121870	30.309	0.000	301.435	0.000	982601.605	94160.955
121880	30.640	0.000	304.745	0.000	982906.350	94160.955
121890	30.973	0.000	308.065	0.000	983214.415	94160.955
121900	31.307	0.000	311.400	0.000	983525.815	94160.955
121910	31.642	0.000	314.745	0.000	983840.560	94160.955
121920	31.979	0.000	318.105	0.000	984158.665	94160.955
121930	32.317	0.000	321.480	0.000	984480.145	94160.955
121940	32.656	0.000	324.865	0.000	984805.010	94160.955
121950	32.996	0.000	328.260	0.000	985133.270	94160.955
121960	33.338	0.000	331.670	0.000	985464.940	94160.955
121970	33.681	0.000	335.095	0.000	985800.035	94160.955
121980	34.025	0.000	338.530	0.000	986138.565	94160.955
121990	34.370	0.000	341.975	0.000	986480.540	94160.955
122000	34.717	0.000	345.435	0.000	986825.975	94160.955
122010	35.064	0.000	348.905	0.000	987174.880	94160.955
122020	35.413	0.000	352.385	0.000	987527.265	94160.955
122030	35.764	0.000	355.885	0.000	987883.150	94160.955
122040	36.115	0.000	359.395	0.000	988242.545	94160.955
122050	36.468	0.000	362.915	0.000	988605.460	94160.955
122060	36.822	0.000	366.450	0.000	988971.910	94160.955
122070	37.177	0.000	369.995	0.000	989341.905	94160.955
122080	37.534	0.000	373.555	0.000	989715.460	94160.955
122090	37.891	0.000	377.125	0.000	990092.585	94160.955
122100	38.250	0.000	380.705	0.000	990473.290	94160.955
122110	38.611	0.000	384.305	0.000	990857.595	94160.955
122120	38.972	0.000	387.915	0.000	991245.510	94160.955
122130	39.337	0.000	391.545	0.000	991637.055	94160.955
122140	39.725	0.000	395.310	0.000	992032.365	94160.955
122150	40.142	0.000	399.335	0.000	992431.700	94160.955
122160	40.585	0.000	403.635	0.000	992835.335	94160.955
122170	41.016	0.000	408.005	0.000	993243.340	94160.955
122180	41.418	0.000	412.170	0.000	993655.510	94160.955
122190	41.793	0.000	416.055	0.000	994071.565	94160.955
122200	42.140	0.000	419.665	0.000	994491.230	94160.955
122210	42.459	0.000	422.995	0.000	994914.225	94160.955
122220	42.749	0.000	426.040	0.000	995340.265	94160.955
122230	43.012	0.000	428.805	0.000	995769.070	94160.955
122240	43.247	0.000	431.295	0.000	996200.365	94160.955
122250	43.454	0.000	433.505	0.000	996633.870	94160.955
122260	43.633	0.000	435.435	0.000	997069.305	94160.955
122270	43.784	0.000	437.085	0.000	997506.390	94160.955
122280	43.835	0.000	438.095	0.000	997944.485	94160.955
122290	41.168	0.000	425.015	0.000	998369.500	94160.955
122300	31.235	0.469	362.015	2.345	998731.515	94163.300
122310	18.814	10.766	250.245	56.175	998981.760	94219.475
122320	10.922	16.668	148.680	137.170	999130.440	94356.645
122330	16.317	11.394	136.195	140.310	999266.635	94496.955
122340	18.233	9.244	172.750	103.190	999439.385	94600.145
122350	30.906	6.988	245.695	81.160	999685.080	94681.305
122360	37.892	4.696	343.990	58.420	1000029.070	94739.725
122370	36.742	0.000	373.170	23.480	1000402.240	94763.205
122380	50.660	0.000	437.010	0.000	1000839.250	94763.205
122390	43.266	0.000	469.630	0.000	1001308.880	94763.205
122400	56.388	0.000	498.270	0.000	1001807.150	94763.205
122410	59.692	0.000	580.400	0.000	1002387.550	94763.205
122420	63.281	0.000	614.865	0.000	1003002.415	94763.205
122430	66.219	1.494	647.500	7.470	1003649.915	94770.675
122440	61.656	2.218	639.375	18.560	1004289.290	94789.235
122450	66.397	0.757	640.265	14.875	1004929.555	94804.110
122460	70.056	1.556	682.265	11.565	1005611.820	94815.675
122470	71.448	0.572	707.520	10.640	1006319.340	94826.315
122480	85.344	0.000	783.960	2.860	1007103.300	94829.175
122490	61.230	0.000	732.870	0.000	1007836.170	94829.175
122500	45.834	0.462	535.320	2.310	1008371.490	94831.485
122510	30.292	2.942	380.630	17.020	1008752.120	94848.505
122520	18.681	5.853	244.865	43.975	1008996.985	94892.480
122530	3.017	8.655	108.490	72.540	1009105.475	94965.020
122540	11.512	10.612	72.645	96.335	1009178.120	95061.355
122550	0.000	22.796	57.560	167.040	1009235.680	95228.395
122560	0.000	20.917	0.000	218.565	1009235.680	95446.960
122570	0.000	18.956	0.000	199.365	1009235.680	95646.325
122580	0.000	16.795	0.000	178.755	1009235.680	95825.080
122590	0.000	14.699	0.000	157.470	1009235.680	95982.550
122600	0.000	12.707	0.000	137.030	1009235.680	96119.580
122610	0.000	10.817	0.000	117.620	1009235.680	96237.200
122620	0.000	9.018	0.000	99.175	1009235.680	96336.375
122630	0.000	7.303	0.000	81.605	1009235.680	96417.980

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
122640	0.000	5.664	0.000	64.835	1009235.680	96482.815
122650	0.000	4.100	0.000	48.820	1009235.680	96531.635
122660	0.000	2.645	0.000	33.725	1009235.680	96565.360
122670	0.047	1.341	0.235	19.930	1009235.915	96585.290
122680	0.495	0.498	2.710	9.195	1009238.625	96594.485
122690	1.269	0.008	8.820	2.530	1009247.445	96597.015
122700	2.494	0.000	18.815	0.040	1009266.260	96597.055
122710	3.692	0.000	30.930	0.000	1009297.190	96597.055
122720	3.185	0.335	34.385	1.675	1009331.575	96598.730
122730	0.028	68.138	16.065	342.365	1009347.640	96941.095
122740	0.000	131.753	0.140	999.455	1009347.780	97940.550
122750	0.000	127.009	0.000	1293.810	1009347.780	99234.360
122760	0.000	78.430	0.000	1027.195	1009347.780	100261.555
122770	0.253	27.616	1.265	530.230	1009349.045	100791.785
122780	10.416	0.689	53.345	141.525	1009402.390	100933.310
122790	0.080	1.048	52.480	8.685	1009454.870	100941.995
122800	0.000	1.567	0.400	13.075	1009455.270	100955.070
122810	0.000	2.172	0.000	18.695	1009455.270	100973.765
122820	0.000	2.789	0.000	24.805	1009455.270	100998.570
122830	0.000	3.416	0.000	31.025	1009455.270	101029.595
122840	0.000	4.054	0.000	37.350	1009455.270	101066.945
122850	0.000	4.704	0.000	43.790	1009455.270	101110.735
122860	0.000	5.364	0.000	50.340	1009455.270	101161.075
122870	0.000	6.036	0.000	57.000	1009455.270	101218.075
122880	0.000	6.719	0.000	63.775	1009455.270	101281.850
122890	0.000	7.412	0.000	70.655	1009455.270	101352.505
122900	0.000	8.117	0.000	77.645	1009455.270	101430.150
122910	0.000	8.831	0.000	84.740	1009455.270	101514.890
122920	0.000	9.550	0.000	91.905	1009455.270	101606.795
122930	0.000	10.270	0.000	99.100	1009455.270	101705.895
122940	0.000	11.000	0.000	106.350	1009455.270	101812.245
122950	0.000	11.754	0.000	113.770	1009455.270	101926.015
122960	0.000	12.530	0.000	121.420	1009455.270	102047.435
122970	0.000	13.329	0.000	129.295	1009455.270	102176.730
122980	0.000	14.151	0.000	137.400	1009455.270	102314.130
122990	0.000	14.996	0.000	145.735	1009455.270	102459.865
123000	0.000	15.863	0.000	154.295	1009455.270	102614.160
123010	0.000	16.754	0.000	163.085	1009455.270	102777.245
123020	0.000	18.281	0.000	175.175	1009455.270	102952.420
123030	0.000	19.622	0.000	189.515	1009455.270	103141.935
123040	0.000	20.883	0.000	202.525	1009455.270	103344.460
123050	0.000	64.717	0.000	428.000	1009455.270	103772.460
123060	0.000	62.987	0.000	638.520	1009455.270	104410.980
123070	0.000	32.143	0.000	475.650	1009455.270	104886.630
123080	0.170	14.501	0.850	233.220	1009456.120	105119.850
123090	0.295	15.341	2.325	149.210	1009458.445	105269.060
123100	2.275	20.104	12.850	177.225	1009471.295	105446.285
123110	4.901	28.624	35.880	243.640	1009507.175	105689.925
123120	6.928	39.373	59.145	339.985	1009566.320	106029.910
123130	7.617	51.695	72.725	455.340	1009639.045	106485.250
123140	6.898	65.380	72.575	585.375	1009711.620	107070.625
123150	4.769	78.486	58.335	719.330	1009769.955	107789.955
123160	0.000	90.069	23.845	842.775	1009793.800	108632.730
123170	0.000	99.306	0.000	946.875	1009793.800	109579.605
123180	0.000	106.117	0.000	1027.115	1009793.800	110606.720
123190	0.000	110.502	0.000	1083.095	1009793.800	111689.815
123200	0.000	112.462	0.000	1114.820	1009793.800	112804.635
123210	0.000	111.997	0.000	1122.295	1009793.800	113926.930
123220	0.000	108.728	0.000	1103.625	1009793.800	115030.555
123230	0.000	102.669	0.000	1056.985	1009793.800	116087.540
123240	0.000	96.630	0.000	996.495	1009793.800	117084.035
123250	0.000	90.660	0.000	936.450	1009793.800	118020.485
123260	0.000	84.759	0.000	877.095	1009793.800	118897.580
123270	0.000	78.926	0.000	818.425	1009793.800	119716.005
123280	0.000	73.162	0.000	760.440	1009793.800	120476.445
123290	0.000	67.467	0.000	703.145	1009793.800	121179.590
123300	0.000	61.840	0.000	646.535	1009793.800	121826.125
123310	0.000	56.282	0.000	590.610	1009793.800	122416.735
123320	0.000	50.793	0.000	535.375	1009793.800	122952.110
123330	0.000	45.372	0.000	480.825	1009793.800	123432.935
123340	0.000	40.020	0.000	426.960	1009793.800	123859.895
123350	0.000	34.737	0.000	373.785	1009793.800	124233.680
123360	0.000	29.522	0.000	321.295	1009793.800	124554.975
123370	0.000	24.376	0.000	269.490	1009793.800	124824.465
123380	0.124	19.337	0.620	218.565	1009794.420	125043.030
123390	1.007	14.763	5.655	170.500	1009800.075	125213.530
123400	1.292	10.752	11.495	127.575	1009811.570	125341.105

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
123410	0.858	7.304	10.750	90.280	1009822.320	125431.385
123420	0.274	4.689	5.660	59.965	1009827.980	125491.350
123430	19.981	3.096	101.275	38.925	1009929.255	125530.275
123440	35.570	1.257	277.755	21.765	1010207.010	125552.040
123450	0.091	42.153	178.305	217.050	1010385.315	125769.090
123460	7.295	61.485	36.930	518.190	1010422.245	126287.280
123470	26.379	33.540	168.370	475.125	1010590.615	126762.405
123480	56.907	0.000	416.430	167.700	1011007.045	126930.105
123490	97.968	0.000	774.375	0.000	1011781.420	126930.105
123500	112.439	0.000	1052.035	0.000	1012833.455	126930.105
123510	116.958	0.000	1146.985	0.000	1013980.440	126930.105
123520	120.275	0.000	1186.165	0.000	1015166.605	126930.105
123530	122.299	0.000	1212.870	0.000	1016379.475	126930.105
123540	123.013	0.000	1226.560	0.000	1017606.035	126930.105
123550	122.404	0.000	1227.085	0.000	1018833.120	126930.105
123560	120.686	0.000	1215.450	0.000	1020048.570	126930.105
123570	117.823	0.000	1192.545	0.000	1021241.115	126930.105
123580	114.517	0.000	1161.700	0.000	1022402.815	126930.105
123590	111.237	0.000	1128.770	0.000	1023531.585	126930.105
123600	107.984	0.000	1096.105	0.000	1024627.690	126930.105
123610	104.756	0.000	1063.700	0.000	1025691.390	126930.105
123620	101.555	0.000	1031.555	0.000	1026722.945	126930.105
123630	98.379	0.000	999.670	0.000	1027722.615	126930.105
123640	95.230	0.000	968.045	0.000	1028690.660	126930.105
123650	92.107	0.000	936.685	0.000	1029627.345	126930.105
123660	89.025	0.000	905.660	0.000	1030533.005	126930.105
123670	86.134	0.000	875.795	0.000	1031408.800	126930.105
123680	83.458	0.000	847.960	0.000	1032256.760	126930.105
123690	80.651	0.000	820.545	0.000	1033077.305	126930.105
123700	77.573	0.000	791.120	0.000	1033868.425	126930.105
123710	74.226	0.000	758.995	0.000	1034627.420	126930.105
123720	70.609	0.000	724.175	0.000	1035351.595	126930.105
123730	66.722	0.000	686.655	0.000	1036038.250	126930.105
123740	62.565	0.000	646.435	0.000	1036684.685	126930.105
123750	58.138	0.000	603.515	0.000	1037288.200	126930.105
123760	53.441	0.000	557.895	0.000	1037846.095	126930.105
123770	48.475	0.000	509.580	0.000	1038355.675	126930.105
123780	43.239	0.000	458.570	0.000	1038814.245	126930.105
123790	37.732	0.000	404.855	0.000	1039219.100	126930.105
123800	31.956	0.001	348.440	0.005	1039567.540	126930.110
123810	26.336	2.653	291.460	13.270	1039859.000	126943.380
123820	20.978	1.864	236.570	22.585	1040095.570	126965.965
123830	21.167	0.000	210.725	9.320	1040306.295	126975.285
123840	34.988	0.000	280.775	0.000	1040587.070	126975.285
123850	43.301	1.283	391.445	6.415	1040978.515	126981.700
123860	45.492	1.237	443.965	12.600	1041422.480	126994.300
123870	46.290	3.086	458.910	21.615	1041881.390	127015.915
123880	56.202	1.281	512.460	21.835	1042393.850	127037.750
123890	82.740	0.000	694.710	6.405	1043088.560	127044.155
123900	91.524	0.000	871.320	0.000	1043959.880	127044.155
123910	99.311	0.000	954.175	0.000	1044914.055	127044.155
123920	101.544	0.000	1004.275	0.000	1045918.330	127044.155
123930	95.618	0.064	985.810	0.320	1046904.140	127044.475
123940	87.298	0.509	914.580	2.865	1047818.720	127047.340
123950	85.442	0.998	863.700	7.535	1048682.420	127054.875
123960	62.846	6.085	741.440	35.415	1049423.860	127090.290
123970	47.240	4.554	550.430	53.195	1049974.290	127143.485
123980	72.338	7.687	597.890	61.205	1050572.180	127204.690
123990	80.921	9.770	766.295	87.285	1051338.475	127291.975
124000	97.327	0.672	891.240	52.210	1052229.715	127344.185
124010	109.954	0.718	1036.405	6.950	1053266.120	127351.135
124020	107.572	0.882	1087.630	8.000	1054353.750	127359.135
124030	115.215	0.402	1113.935	6.420	1055467.685	127365.555
124040	128.575	0.228	1218.950	3.150	1056686.635	127368.705
124050	140.747	0.000	1346.610	1.140	1058033.245	127369.845
124060	147.321	0.000	1440.340	0.000	1059473.585	127369.845
124070	150.748	0.000	1490.345	0.000	1060963.930	127369.845
124080	147.872	0.000	1493.100	0.000	1062457.030	127369.845
124090	138.620	0.000	1432.460	0.000	1063889.490	127369.845
124100	128.839	0.000	1337.295	0.000	1065226.785	127369.845
124110	100.401	0.000	1146.200	0.000	1066372.985	127369.845
124120	67.276	0.010	838.385	0.050	1067211.370	127369.895
124130	56.377	0.153	618.265	0.815	1067829.635	127370.710
124140	49.229	1.820	528.030	9.865	1068357.665	127380.575
124150	49.508	3.612	493.685	27.160	1068851.350	127407.735
124160	46.972	8.671	482.400	61.415	1069333.750	127469.150
124170	51.066	9.285	490.190	89.780	1069823.940	127558.930

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
124180	61.434	0.399	562.500	48.420	1070386.440	127607.350
124190	84.818	0.000	731.260	1.995	1071117.700	127609.345
124200	100.492	0.000	926.550	0.000	1072044.250	127609.345
124210	122.885	0.000	1116.885	0.000	1073161.135	127609.345
124220	142.021	0.000	1324.530	0.000	1074485.665	127609.345
124230	158.693	0.000	1503.570	0.000	1075989.235	127609.345
124240	166.938	0.000	1628.155	0.000	1077617.390	127609.345
124250	170.560	0.000	1687.490	0.000	1079304.880	127609.345
124260	174.651	0.000	1726.055	0.000	1081030.935	127609.345
124270	177.024	0.000	1758.375	0.000	1082789.310	127609.345
124280	193.707	0.000	1853.655	0.000	1084642.965	127609.345
124290	191.688	0.000	1926.975	0.000	1086569.940	127609.345
124300	183.870	0.000	1877.790	0.000	1088447.730	127609.345
124310	173.577	0.000	1787.235	0.000	1090234.965	127609.345
124320	161.306	0.000	1674.415	0.000	1091909.380	127609.345
124330	148.940	0.000	1551.230	0.000	1093460.610	127609.345
124340	136.663	0.000	1428.015	0.000	1094888.625	127609.345
124350	124.472	0.000	1305.675	0.000	1096194.300	127609.345
124360	112.370	0.000	1184.210	0.000	1097378.510	127609.345
124370	100.354	0.000	1063.620	0.000	1098442.130	127609.345
124380	89.428	0.000	948.910	0.000	1099391.040	127609.345
124390	79.993	0.000	847.105	0.000	1100238.145	127609.345
124400	70.949	0.000	754.710	0.000	1100992.855	127609.345
124410	62.295	0.000	666.220	0.000	1101659.075	127609.345
124420	54.032	0.000	581.635	0.000	1102240.710	127609.345
124430	46.159	0.000	500.955	0.000	1102741.665	127609.345
124430	46.159	0.000	0.000	0.000	1102741.665	127609.345
124440	38.676	0.000	424.175	0.000	1103165.840	127609.345
124450	31.585	0.000	351.305	0.000	1103517.145	127609.345
124460	22.910	0.717	272.475	3.585	1103789.620	127612.930
124470	7.687	6.004	152.985	33.605	1103942.610	127646.535

EARTHWORK CALCULATION						
CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
124470	7.687	6.004	0.000	0.000	0.000	0.000
124480	0.430	12.396	40.585	92.000	40.585	92.000
124490	5.356	6.685	28.930	95.405	69.515	187.405
124500	6.841	4.116	60.985	54.005	130.500	241.410
124510	7.869	3.027	73.550	35.715	204.050	277.125
124520	8.330	2.848	80.995	29.375	285.045	306.500
124530	7.698	3.125	80.140	29.865	365.185	336.365
124540	5.067	3.297	63.825	32.110	429.010	368.475
124550	1.627	3.549	33.470	34.230	462.480	402.705
124560	1.455	3.835	15.410	36.920	477.890	439.625
124570	1.540	3.686	14.975	37.605	492.865	477.230
124580	1.943	3.019	17.415	33.525	510.280	510.755
124590	2.672	2.082	23.075	25.505	533.355	536.260
124600	3.551	1.267	31.115	16.745	564.470	553.005
124610	4.618	0.648	40.845	9.575	605.315	562.580
124620	5.881	0.234	52.495	4.410	657.810	566.990
124630	7.340	0.024	66.105	1.290	723.915	568.280
124640	8.982	0.000	81.610	0.120	805.525	568.400
124650	10.680	0.000	98.310	0.000	903.835	568.400
124660	12.414	0.000	115.470	0.000	1019.305	568.400
124670	14.186	0.000	133.000	0.000	1152.305	568.400
124680	15.995	0.000	150.905	0.000	1303.210	568.400
124690	17.840	0.000	169.175	0.000	1472.385	568.400
124700	19.722	0.000	187.810	0.000	1660.195	568.400
124710	21.641	0.000	206.815	0.000	1867.010	568.400
124720	23.413	0.000	225.270	0.000	2092.280	568.400
124730	22.945	0.000	231.790	0.000	2324.070	568.400
124740	19.718	0.000	213.315	0.000	2537.385	568.400
124750	14.761	0.000	172.395	0.000	2709.780	568.400
124760	9.594	0.000	121.775	0.000	2831.555	568.400
124770	12.774	0.000	111.840	0.000	2943.395	568.400
124780	8.341	0.000	105.575	0.000	3048.970	568.400
124790	1.743	0.179	50.420	0.895	3099.390	569.295
124800	0.450	5.542	10.965	28.605	3110.355	597.900
124810	0.264	11.608	3.570	85.750	3113.925	683.650
124820	0.269	15.992	2.665	138.000	3116.590	821.650
124830	0.455	14.690	3.620	153.410	3120.210	975.060
124840	0.584	8.400	5.195	115.450	3125.405	1090.510
124850	0.377	4.736	4.805	65.680	3130.210	1156.190
124860	0.221	4.444	2.990	45.900	3133.200	1202.090
124870	0.000	4.902	1.105	46.730	3134.305	1248.820
124880	0.000	7.617	0.000	62.595	3134.305	1311.415
124890	0.000	9.256	0.000	84.365	3134.305	1395.780
124900	0.000	9.489	0.000	93.725	3134.305	1489.505
124910	0.000	9.711	0.000	96.000	3134.305	1585.505
124920	0.000	8.176	0.000	89.435	3134.305	1674.940
124930	0.000	15.811	0.000	119.935	3134.305	1794.875
124940	0.000	16.642	0.000	162.265	3134.305	1957.140
124950	0.000	17.606	0.000	171.240	3134.305	2128.380
124960	0.000	17.700	0.000	176.530	3134.305	2304.910
124970	0.000	17.232	0.000	174.660	3134.305	2479.570
124980	0.000	17.615	0.000	174.235	3134.305	2653.805
124990	0.000	19.124	0.000	183.695	3134.305	2837.500
125000	0.000	19.902	0.000	195.130	3134.305	3032.630
125010	0.000	21.304	0.000	206.030	3134.305	3238.660
125020	0.000	24.873	0.000	230.885	3134.305	3469.545
125030	0.000	33.240	0.000	290.565	3134.305	3760.110
125040	0.000	41.219	0.000	372.295	3134.305	4132.405
125050	0.000	49.873	0.000	455.460	3134.305	4587.865
125060	0.000	54.918	0.000	523.955	3134.305	5111.820
125070	0.000	53.680	0.000	542.990	3134.305	5654.810
125080	0.000	47.103	0.000	503.915	3134.305	6158.725
125090	0.000	37.206	0.000	421.545	3134.305	6580.270
125100	0.000	29.441	0.000	333.235	3134.305	6913.505
125110	0.000	25.627	0.000	275.340	3134.305	7188.845
125120	0.000	25.540	0.000	255.835	3134.305	7444.680
125130	0.000	27.026	0.000	262.830	3134.305	7707.510
125140	0.000	29.380	0.000	282.030	3134.305	7989.540
125150	0.000	32.122	0.000	307.510	3134.305	8297.050
125160	0.000	35.252	0.000	336.870	3134.305	8633.920
125170	0.000	38.364	0.000	368.080	3134.305	9002.000
125180	0.000	41.578	0.000	399.710	3134.305	9401.710
125190	0.000	39.717	0.000	406.475	3134.305	9808.185
125200	0.000	29.212	0.000	344.645	3134.305	10152.830
125210	0.000	17.824	0.000	235.180	3134.305	10388.010
125220	0.000	11.376	0.000	146.000	3134.305	10534.010

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
125230	1.658	4.696	8.290	80.360	3142.595	10614.370
125240	3.096	4.192	23.770	44.440	3166.365	10658.810
125250	4.131	2.740	36.135	34.660	3202.500	10693.470
125260	0.032	6.311	20.815	45.255	3223.315	10738.725
125270	0.000	12.370	0.160	93.405	3223.475	10832.130
125280	0.000	19.457	0.000	159.135	3223.475	10991.265
125290	0.000	27.602	0.000	235.295	3223.475	11226.560
125300	0.000	30.493	0.000	290.475	3223.475	11517.035
125310	0.000	29.799	0.000	301.460	3223.475	11818.495
125320	0.000	22.531	0.000	261.650	3223.475	12080.145
125330	0.000	16.367	0.000	194.490	3223.475	12274.635
125340	0.000	10.628	0.000	134.975	3223.475	12409.610
125350	0.259	7.975	1.295	93.015	3224.770	12502.625
125360	1.490	10.686	8.745	93.305	3233.515	12595.930
125370	3.326	15.258	24.080	129.720	3257.595	12725.650
125380	0.000	22.479	16.630	188.685	3274.225	12914.335
125390	0.000	34.896	0.000	286.875	3274.225	13201.210
125400	0.000	33.165	0.000	340.305	3274.225	13541.515
125410	0.000	28.990	0.000	310.775	3274.225	13852.290
125420	0.000	21.383	0.000	251.865	3274.225	14104.155
125430	0.000	14.706	0.000	180.445	3274.225	14284.600
125440	3.689	7.841	18.445	112.735	3292.670	14397.335
125450	7.872	0.188	57.805	40.145	3350.475	14437.480
125460	14.397	0.000	111.345	0.940	3461.820	14438.420
125470	15.404	0.023	149.005	0.115	3610.825	14438.535
125480	15.919	0.223	156.615	1.230	3767.440	14439.765
125490	15.100	0.625	155.095	4.240	3922.535	14444.005
125500	14.449	0.318	147.745	4.715	4070.280	14448.720
125510	13.141	0.531	137.950	4.245	4208.230	14452.965
125520	10.892	0.868	120.165	6.995	4328.395	14459.960
125530	8.277	0.293	95.845	5.805	4424.240	14465.765
125540	7.426	0.462	78.515	3.775	4502.755	14469.540
125550	6.645	2.499	70.355	14.805	4573.110	14484.345
125560	1.291	7.825	39.680	51.620	4612.790	14535.965
125570	0.000	9.185	6.455	85.050	4619.245	14621.015
125580	0.000	6.310	0.000	77.475	4619.245	14698.490
125590	0.000	6.278	0.000	62.940	4619.245	14761.430
125600	0.000	8.382	0.000	73.300	4619.245	14834.730
125610	0.000	10.665	0.000	95.235	4619.245	14929.965
125620	0.000	13.136	0.000	119.005	4619.245	15048.970
125630	0.000	14.603	0.000	138.695	4619.245	15187.665
125640	0.000	12.462	0.000	135.325	4619.245	15322.990
125650	0.009	8.521	0.045	104.915	4619.290	15427.905
125660	0.000	7.940	0.045	82.305	4619.335	15510.210
125670	0.000	6.591	0.000	72.655	4619.335	15582.865
125680	0.000	7.891	0.000	72.410	4619.335	15655.275
125690	0.000	16.578	0.000	122.345	4619.335	15777.620
125700	0.000	21.809	0.000	191.935	4619.335	15969.555
125710	0.000	19.749	0.000	207.790	4619.335	16177.345
125720	0.000	14.815	0.000	172.820	4619.335	16350.165
125730	0.154	3.336	0.770	90.755	4620.105	16440.920
125740	5.915	0.904	30.345	21.200	4650.450	16462.120
125750	8.442	0.162	71.785	5.330	4722.235	16467.450
125760	11.894	0.000	101.680	0.810	4823.915	16468.260
125770	15.091	0.000	134.925	0.000	4958.840	16468.260
125780	17.902	0.000	164.965	0.000	5123.805	16468.260
125790	20.361	0.000	191.315	0.000	5315.120	16468.260
125800	22.469	0.000	214.150	0.000	5529.270	16468.260
125810	24.225	0.000	233.470	0.000	5762.740	16468.260
125820	25.467	0.000	248.460	0.000	6011.200	16468.260
125830	22.041	0.000	237.540	0.000	6248.740	16468.260
125840	17.310	0.220	196.755	1.100	6445.495	16469.360
125850	13.602	1.702	154.560	9.610	6600.055	16478.970
125860	15.367	2.628	144.845	21.650	6744.900	16500.620
125870	18.366	2.003	168.665	23.155	6913.565	16523.775
125880	19.885	1.252	191.255	16.275	7104.820	16540.050
125890	16.061	0.966	179.730	11.090	7284.550	16551.140
125900	8.952	1.960	125.065	14.630	7409.615	16565.770
125910	3.104	0.683	60.280	13.215	7469.895	16578.985
125920	2.097	0.000	26.005	3.415	7495.900	16582.400
125930	5.243	0.000	36.700	0.000	7532.600	16582.400
125940	8.685	0.000	69.640	0.000	7602.240	16582.400
125950	12.283	0.000	104.840	0.000	7707.080	16582.400
125960	13.984	0.000	131.335	0.000	7838.415	16582.400
125970	13.076	0.000	135.300	0.000	7973.715	16582.400
125980	12.296	0.000	126.860	0.000	8100.575	16582.400
125990	12.553	0.000	124.245	0.000	8224.820	16582.400

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
126000	14.597	0.000	135.750	0.000	8360.570	16582.400
126010	19.036	0.000	168.165	0.000	8528.735	16582.400
126020	23.927	0.000	214.815	0.000	8743.550	16582.400
126030	19.066	0.000	214.965	0.000	8958.515	16582.400
126040	11.231	0.000	151.485	0.000	9110.000	16582.400
126050	18.301	0.000	147.660	0.000	9257.660	16582.400
126060	24.728	0.000	215.145	0.000	9472.805	16582.400
126070	22.149	0.000	234.385	0.000	9707.190	16582.400
126080	19.403	0.000	207.760	0.000	9914.950	16582.400
126090	16.967	0.000	181.850	0.000	10096.800	16582.400
126100	16.282	0.000	166.245	0.000	10263.045	16582.400
126110	25.281	0.000	207.815	0.000	10470.860	16582.400
126120	32.529	0.000	289.050	0.000	10759.910	16582.400
126130	32.488	0.000	325.085	0.000	11084.995	16582.400
126140	31.366	0.000	319.270	0.000	11404.265	16582.400
126150	27.462	0.000	294.140	0.000	11698.405	16582.400
126160	25.570	0.000	265.160	0.000	11963.565	16582.400
126170	24.823	0.000	251.965	0.000	12215.530	16582.400
126180	25.278	0.000	250.505	0.000	12466.035	16582.400
126190	26.092	0.000	256.850	0.000	12722.885	16582.400
126200	23.104	0.000	245.980	0.000	12968.865	16582.400
126210	22.291	0.013	226.975	0.065	13195.840	16582.465
126220	12.942	0.776	176.165	3.945	13372.005	16586.410
126230	2.398	5.252	76.700	30.140	13448.705	16616.550
126240	0.016	12.658	12.070	89.550	13460.775	16706.100
126250	0.000	14.405	0.080	135.315	13460.855	16841.415
126260	0.000	10.916	0.000	126.605	13460.855	16968.020
126270	0.000	8.168	0.000	95.420	13460.855	17063.440
126280	1.441	4.737	7.205	64.525	13468.060	17127.965
126290	1.834	2.670	16.375	37.035	13484.435	17165.000
126300	0.105	1.754	9.695	22.120	13494.130	17187.120
126310	0.495	3.308	3.000	25.310	13497.130	17212.430
126320	0.624	4.469	5.595	38.885	13502.725	17251.315
126330	0.067	5.758	3.455	51.135	13506.180	17302.450
126340	0.000	6.221	0.335	59.895	13506.515	17362.345
126350	0.008	5.790	0.040	60.055	13506.555	17422.400
126360	0.998	2.714	5.030	42.520	13511.585	17464.920
126370	4.657	0.132	28.275	14.230	13539.860	17479.150
126380	13.197	0.000	89.270	0.660	13629.130	17479.810
126390	14.895	0.000	140.460	0.000	13769.590	17479.810
126400	16.125	0.000	155.100	0.000	13924.690	17479.810
126410	22.363	0.000	192.440	0.000	14117.130	17479.810
126420	28.081	0.000	252.220	0.000	14369.350	17479.810
126430	25.071	0.000	265.760	0.000	14635.110	17479.810
126440	18.033	6.980	215.520	34.900	14850.630	17514.710
126450	13.811	11.858	159.220	94.190	15009.850	17608.900
126460	17.226	13.259	155.185	125.585	15165.035	17734.485
126470	17.932	0.031	175.790	66.450	15340.825	17800.935
126480	18.852	0.360	183.920	1.955	15524.745	17802.890
126490	18.515	0.782	186.835	5.710	15711.580	17808.600
126500	18.892	0.417	187.035	5.995	15898.615	17814.595
126510	14.664	0.598	167.780	5.075	16066.395	17819.670
126520	8.777	1.068	117.205	8.330	16183.600	17828.000
126530	3.446	14.029	61.115	75.485	16244.715	17903.485
126540	5.075	12.869	42.605	134.490	16287.320	18037.975
126550	11.558	1.255	83.165	70.620	16370.485	18108.595
126560	15.898	0.338	137.280	7.965	16507.765	18116.560
126570	19.384	0.078	176.410	2.080	16684.175	18118.640
126580	22.464	2.195	209.240	11.365	16893.415	18130.005
126590	21.886	0.000	221.750	10.975	17115.165	18140.980
126600	16.520	13.460	192.030	67.300	17307.195	18208.280
126610	17.565	13.620	170.425	135.400	17477.620	18343.680
126620	23.411	10.238	204.880	119.290	17682.500	18462.970
126630	34.283	0.310	288.470	52.740	17970.970	18515.710
126640	34.117	0.000	342.000	1.550	18312.970	18517.260
126650	31.366	0.000	327.415	0.000	18640.385	18517.260
126660	30.725	0.000	310.455	0.000	18950.840	18517.260
126670	32.881	0.000	318.030	0.000	19268.870	18517.260
126680	37.385	0.000	351.330	0.000	19620.200	18517.260
126690	38.017	0.000	377.010	0.000	19997.210	18517.260
126700	34.775	0.000	363.960	0.000	20361.170	18517.260
126710	29.150	0.000	319.625	0.000	20680.795	18517.260
126720	27.405	0.000	282.775	0.000	20963.570	18517.260
126730	27.412	0.000	274.085	0.000	21237.655	18517.260
126740	26.799	0.000	271.055	0.000	21508.710	18517.260
126750	26.916	0.000	268.575	0.000	21777.285	18517.260
126760	27.896	0.000	274.060	0.000	22051.345	18517.260

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
126770	30.013	0.000	289.545	0.000	22340.890	18517.260
126780	0.029	1.486	150.210	7.430	22491.100	18524.690
126790	0.000	24.211	0.145	128.485	22491.245	18653.175
126800	6.899	0.000	34.495	121.055	22525.740	18774.230
126810	40.700	0.000	237.995	0.000	22763.735	18774.230
126820	84.260	0.000	624.800	0.000	23388.535	18774.230
126830	114.053	0.000	991.565	0.000	24380.100	18774.230
126840	108.667	0.000	1113.600	0.000	25493.700	18774.230
126850	78.890	0.000	937.785	0.000	26431.485	18774.230
126860	57.550	0.981	682.200	4.905	27113.685	18779.135
126870	33.961	1.907	457.555	14.440	27571.240	18793.575
126880	20.196	3.954	270.785	29.305	27842.025	18822.880
126890	9.593	5.942	148.945	49.480	27990.970	18872.360
126900	0.444	7.672	50.185	68.070	28041.155	18940.430
126910	0.000	8.522	2.220	80.970	28043.375	19021.400
126920	0.000	7.793	0.000	81.575	28043.375	19102.975
126930	0.000	7.073	0.000	74.330	28043.375	19177.305
126940	0.000	6.527	0.000	68.000	28043.375	19245.305
126950	0.000	6.070	0.000	62.985	28043.375	19308.290
126960	0.000	5.166	0.000	56.180	28043.375	19364.470
126970	0.000	4.647	0.000	49.065	28043.375	19413.535
126980	0.000	4.186	0.000	44.165	28043.375	19457.700
126990	0.000	4.739	0.000	44.625	28043.375	19502.325
127000	0.000	4.362	0.000	45.505	28043.375	19547.830
127010	0.000	3.049	0.000	37.055	28043.375	19584.885
127020	0.000	2.687	0.000	28.680	28043.375	19613.565
127030	0.000	3.176	0.000	29.315	28043.375	19642.880
127040	0.000	2.788	0.000	29.820	28043.375	19672.700
127050	0.000	2.402	0.000	25.950	28043.375	19698.650
127060	0.000	1.264	0.000	18.330	28043.375	19716.980
127070	0.000	1.641	0.000	14.525	28043.375	19731.505
127080	0.000	1.266	0.000	14.535	28043.375	19746.040
127090	0.013	0.905	0.065	10.855	28043.440	19756.895
127100	0.080	0.596	0.465	7.505	28043.905	19764.400
127110	0.586	0.081	3.330	3.385	28047.235	19767.785
127120	0.410	0.168	4.980	1.245	28052.215	19769.030
127130	0.677	0.052	5.435	1.100	28057.650	19770.130
127140	1.013	0.002	8.450	0.270	28066.100	19770.400
127150	1.958	0.000	14.855	0.010	28080.955	19770.410
127160	1.907	0.000	19.325	0.000	28100.280	19770.410
127170	3.136	0.000	25.215	0.000	28125.495	19770.410
127180	3.874	0.000	35.050	0.000	28160.545	19770.410
127190	4.142	0.000	40.080	0.000	28200.625	19770.410
127200	4.944	0.000	45.430	0.000	28246.055	19770.410
127210	6.234	0.000	55.890	0.000	28301.945	19770.410
127220	6.605	0.000	64.195	0.000	28366.140	19770.410
127230	7.893	0.000	72.490	0.000	28438.630	19770.410
127240	8.736	0.000	83.145	0.000	28521.775	19770.410
127250	9.585	0.000	91.605	0.000	28613.380	19770.410
127260	10.050	0.000	98.175	0.000	28711.555	19770.410
127270	10.913	0.000	104.815	0.000	28816.370	19770.410
127280	11.768	0.000	113.405	0.000	28929.775	19770.410
127290	12.609	0.000	121.885	0.000	29051.660	19770.410
127300	13.735	0.000	131.720	0.000	29183.380	19770.410
127310	14.231	0.000	139.830	0.000	29323.210	19770.410
127320	15.255	0.000	147.430	0.000	29470.640	19770.410
127330	15.960	0.000	156.075	0.000	29626.715	19770.410
127340	16.415	0.000	161.875	0.000	29788.590	19770.410
127350	17.047	0.000	167.310	0.000	29955.900	19770.410
127360	17.764	0.000	174.055	0.000	30129.955	19770.410
127370	18.116	0.000	179.400	0.000	30309.355	19770.410
127380	18.532	0.000	183.240	0.000	30492.595	19770.410
127390	18.904	0.000	187.180	0.000	30679.775	19770.410
127400	19.078	0.000	189.910	0.000	30869.685	19770.410
127410	0.000	7.502	95.390	37.510	30965.075	19807.920
127420	0.215	17.699	1.075	126.005	30966.150	19933.925
127430	4.184	9.557	21.995	136.280	30988.145	20070.205
127440	5.033	7.889	46.085	87.230	31034.230	20157.435
127450	5.379	6.053	52.060	69.710	31086.290	20227.145
127460	5.733	3.940	55.560	49.965	31141.850	20277.110
127470	6.088	1.975	59.105	29.575	31200.955	20306.685
127480	7.067	0.794	65.775	13.845	31266.730	20320.530
127490	8.605	0.212	78.360	5.030	31345.090	20325.560
127500	10.478	0.000	95.415	1.060	31440.505	20326.620
127510	12.391	0.000	114.345	0.000	31554.850	20326.620
127520	14.429	0.000	134.100	0.000	31688.950	20326.620
127530	16.762	0.000	155.955	0.000	31844.905	20326.620

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
127540	19.589	0.000	181.755	0.000	32026.660	20326.620
127550	23.167	0.000	213.780	0.000	32240.440	20326.620
127560	25.159	0.000	241.630	0.000	32482.070	20326.620
127570	0.023	23.860	125.910	119.300	32607.980	20445.920
127580	0.000	58.738	0.115	412.990	32608.095	20858.910
127590	0.000	57.706	0.000	582.220	32608.095	21441.130
127600	0.000	53.280	0.000	554.930	32608.095	21996.060
127610	3.276	46.761	16.380	500.205	32624.475	22496.265
127620	12.019	29.677	76.475	382.190	32700.950	22878.455
127630	14.458	12.975	132.385	213.260	32833.335	23091.715
127640	14.703	2.228	145.805	76.015	32979.140	23167.730
127650	14.279	0.937	144.910	15.825	33124.050	23183.555
127660	13.188	0.129	137.335	5.330	33261.385	23188.885
127670	11.354	9.356	122.710	47.425	33384.095	23236.310
127680	8.946	23.604	101.500	164.800	33485.595	23401.110
127690	6.416	29.096	76.810	263.500	33562.405	23664.610
127700	6.382	40.472	63.990	347.840	33626.395	24012.450
127710	8.265	37.109	73.235	387.905	33699.630	24400.355
127720	8.064	43.594	81.645	403.515	33781.275	24803.870
127730	8.201	32.486	81.325	380.400	33862.600	25184.270
127740	8.777	29.538	84.890	310.120	33947.490	25494.390
127750	8.017	17.701	83.970	236.195	34031.460	25730.585
127760	8.137	13.232	80.770	154.665	34112.230	25885.250
127770	9.694	11.967	89.155	125.995	34201.385	26011.245
127780	13.704	0.000	116.990	59.835	34318.375	26071.080
127790	17.988	0.000	158.460	0.000	34476.835	26071.080
127800	21.815	0.000	199.015	0.000	34675.850	26071.080
127810	23.540	5.550	226.775	27.750	34902.625	26098.830
127820	16.581	12.550	200.605	90.500	35103.230	26189.330
127830	0.000	36.853	82.905	247.015	35186.135	26436.345
127840	0.000	49.490	0.000	431.715	35186.135	26868.060
127850	0.000	32.105	0.000	407.975	35186.135	27276.035
127860	7.165	0.000	35.825	160.525	35221.960	27436.560
127870	40.359	0.000	237.620	0.000	35459.580	27436.560
127880	41.004	0.000	406.815	0.000	35866.395	27436.560
127890	29.814	0.000	354.090	0.000	36220.485	27436.560
127900	21.551	0.000	256.825	0.000	36477.310	27436.560
127910	12.994	0.000	172.725	0.000	36650.035	27436.560
127920	5.040	0.000	90.170	0.000	36740.205	27436.560
127930	0.343	1.674	26.915	8.370	36767.120	27444.930
127940	0.389	1.963	3.660	18.185	36770.780	27463.115
127950	0.259	1.877	3.240	19.200	36774.020	27482.315
127960	0.118	0.970	1.885	14.235	36775.905	27496.550
127970	0.444	0.664	2.810	8.170	36778.715	27504.720
127980	1.298	1.522	8.710	10.930	36787.425	27515.650
127990	0.436	4.471	8.670	29.965	36796.095	27545.615
128000	0.082	3.577	2.590	40.240	36798.685	27585.855
128010	4.388	3.054	22.350	33.155	36821.035	27619.010
128020	11.636	3.491	80.120	32.725	36901.155	27651.735
128030	18.827	3.993	152.315	37.420	37053.470	27689.155
128040	27.025	1.908	229.260	29.505	37282.730	27718.660
128050	32.088	2.126	295.565	20.170	37578.295	27738.830
128060	30.394	1.377	312.410	17.515	37890.705	27756.345
128070	27.885	2.551	291.395	19.640	38182.100	27775.985
128080	24.237	3.078	260.610	28.145	38442.710	27804.130
128090	25.027	2.608	246.320	28.430	38689.030	27832.560
128100	29.951	1.770	274.890	21.890	38963.920	27854.450
128110	39.610	1.044	347.805	14.070	39311.725	27868.520
128120	58.007	0.000	488.085	5.220	39799.810	27873.740
128130	73.063	0.000	655.350	0.000	40455.160	27873.740
128140	88.135	0.000	805.990	0.000	41261.150	27873.740
128150	88.186	0.000	881.605	0.000	42142.755	27873.740
128160	76.302	0.000	822.440	0.000	42965.195	27873.740
128170	69.009	0.000	726.555	0.000	43691.750	27873.740
128180	67.893	0.000	684.510	0.000	44376.260	27873.740
128190	66.765	0.000	673.290	0.000	45049.550	27873.740
128200	65.645	0.000	662.050	0.000	45711.600	27873.740
128210	64.531	0.000	650.880	0.000	46362.480	27873.740
128220	63.424	0.000	639.775	0.000	47002.255	27873.740
128230	62.324	0.000	628.740	0.000	47630.995	27873.740
128240	61.230	0.000	617.770	0.000	48248.765	27873.740
128250	59.972	0.000	606.010	0.000	48854.775	27873.740
128260	58.150	0.000	590.610	0.000	49445.385	27873.740
128270	55.749	0.000	569.495	0.000	50014.880	27873.740
128280	52.769	0.000	542.590	0.000	50557.470	27873.740
128290	49.509	0.000	511.390	0.000	51068.860	27873.740
128300	43.610	1.215	465.595	6.075	51534.455	27879.815

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
128310	24.545	9.586	340.775	54.005	51875.230	27933.820
128320	16.443	12.365	204.940	109.755	52080.170	28043.575
128330	17.117	6.776	167.800	95.705	52247.970	28139.280
128340	12.652	6.322	148.845	65.490	52396.815	28204.770
128350	8.559	4.673	106.055	54.975	52502.870	28259.745
128360	8.532	3.267	85.455	39.700	52588.325	28299.445
128370	14.271	1.756	114.015	25.115	52702.340	28324.560
128380	21.225	0.263	177.480	10.095	52879.820	28334.655
128390	28.982	0.000	251.035	1.315	53130.855	28335.970
128400	34.311	0.000	316.465	0.000	53447.320	28335.970
128410	36.796	0.000	355.535	0.000	53802.855	28335.970
128420	36.307	0.000	365.515	0.000	54168.370	28335.970
128430	0.000	19.293	181.535	96.465	54349.905	28432.435
128440	0.000	24.423	0.000	218.580	54349.905	28651.015
128450	0.000	21.964	0.000	231.935	54349.905	28882.950
128460	0.000	16.668	0.000	193.160	54349.905	29076.110
128470	0.000	9.284	0.000	129.760	54349.905	29205.870
128480	1.965	0.866	9.825	50.750	54359.730	29256.620
128490	0.385	10.606	11.750	57.360	54371.480	29313.980
128500	0.000	23.727	1.925	171.665	54373.405	29485.645
128510	0.000	31.363	0.000	275.450	54373.405	29761.095
128520	0.000	33.867	0.000	326.150	54373.405	30087.245
128530	0.061	20.987	0.305	274.270	54373.710	30361.515
128540	12.484	2.679	62.725	118.330	54436.435	30479.845
128550	31.484	0.482	219.840	15.805	54656.275	30495.650
128560	43.256	0.127	373.700	3.045	55029.975	30498.695
128570	37.894	7.377	405.750	37.520	55435.725	30536.215
128580	38.440	6.458	381.670	69.175	55817.395	30605.390
128590	34.410	7.722	364.250	70.900	56181.645	30676.290
128600	28.276	10.759	313.430	92.405	56495.075	30768.695
128610	29.628	11.623	289.520	111.910	56784.595	30880.605
128620	29.735	7.672	296.815	96.475	57081.410	30977.080
128630	22.094	7.804	259.145	77.380	57340.555	31054.460
128640	19.540	13.549	208.170	106.765	57548.725	31161.225
128650	16.389	21.082	179.645	173.155	57728.370	31334.380
128660	18.048	23.078	172.185	220.800	57900.555	31555.180
128670	22.801	20.557	204.245	218.175	58104.800	31773.355
128680	28.673	18.731	257.370	196.440	58362.170	31969.795
128690	34.640	17.494	316.565	181.125	58678.735	32150.920
128700	41.531	9.494	380.855	134.940	59059.590	32285.860
128710	53.093	3.261	473.120	63.775	59532.710	32349.635
128720	68.737	0.000	609.150	16.305	60141.860	32365.940
128730	79.080	0.000	739.085	0.000	60880.945	32365.940
128740	78.281	1.591	786.805	7.955	61667.750	32373.895
128750	64.178	9.846	712.295	57.185	62380.045	32431.080
128760	35.532	24.885	498.550	173.655	62878.595	32604.735
128770	25.699	34.122	306.155	295.035	63184.750	32899.770
128780	23.793	33.469	247.460	337.955	63432.210	33237.725
128790	21.532	33.337	226.625	334.030	63658.835	33571.755
128800	26.699	21.697	241.155	275.170	63899.990	33846.925
128810	37.153	15.542	319.260	186.195	64219.250	34033.120
128820	38.892	12.059	380.225	138.005	64599.475	34171.125
128830	37.419	11.276	381.555	116.675	64981.030	34287.800
128840	37.386	9.688	374.025	104.820	65355.055	34392.620
128850	33.992	11.656	356.890	106.720	65711.945	34499.340
128860	36.904	1.727	354.480	66.915	66066.425	34566.255
128870	38.144	0.908	375.240	13.175	66441.665	34579.430
128880	39.176	1.451	386.600	11.795	66828.265	34591.225
128890	44.601	0.255	418.885	8.530	67247.150	34599.755
128900	48.458	0.003	465.295	1.290	67712.445	34601.045
128910	48.818	0.000	486.380	0.015	68198.825	34601.060
128920	49.166	0.031	489.920	0.155	68688.745	34601.215
128930	45.152	0.496	471.590	2.635	69160.335	34603.850
128940	29.099	7.662	371.255	40.790	69531.590	34644.640
128950	32.569	1.728	308.340	46.950	69839.930	34691.590
128960	45.536	0.067	390.525	8.975	70230.455	34700.565
128970	52.835	0.004	491.855	0.355	70722.310	34700.920
128980	54.831	0.000	538.330	0.020	71260.640	34700.940
128990	53.051	0.031	539.410	0.155	71800.050	34701.095
129000	60.005	0.009	565.280	0.200	72365.330	34701.295
129010	56.273	0.131	581.390	0.700	72946.720	34701.995
129020	48.642	1.028	524.575	5.795	73471.295	34707.790
129030	40.968	1.313	448.050	11.705	73919.345	34719.495
129040	39.500	1.068	402.340	11.905	74321.685	34731.400
129050	37.788	0.386	386.440	7.270	74708.125	34738.670
129060	26.129	0.050	319.585	2.180	75027.710	34740.850
129070	16.811	7.844	214.700	39.470	75242.410	34780.320

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
129080	27.464	10.824	221.375	93.340	75463.785	34873.660
129090	51.611	0.117	395.375	54.705	75859.160	34928.365
129100	70.757	4.382	611.840	22.495	76471.000	34950.860
129110	72.905	14.391	718.310	93.865	77189.310	35044.725
129120	82.278	10.147	775.915	122.690	77965.225	35167.415
129130	76.112	9.425	791.950	97.860	78757.175	35265.275
129140	68.907	14.302	725.095	118.635	79482.270	35383.910
129150	56.704	19.899	628.055	171.005	80110.325	35554.915
129160	60.498	25.022	586.010	224.605	80696.335	35779.520
129170	74.262	13.815	673.800	194.185	81370.135	35973.705
129180	84.866	0.000	795.640	69.075	82165.775	36042.780
129190	85.984	0.000	854.250	0.000	83020.025	36042.780
129200	81.744	0.000	838.640	0.000	83858.665	36042.780
129210	81.348	0.000	815.460	0.000	84674.125	36042.780
129220	70.908	0.000	761.280	0.000	85435.405	36042.780
129230	56.078	0.000	634.930	0.000	86070.335	36042.780
129240	41.380	9.403	487.290	47.015	86557.625	36089.795
129250	31.741	10.396	365.605	98.995	86923.230	36188.790
129260	19.754	15.926	257.475	131.610	87180.705	36320.400
129270	12.347	24.264	160.505	200.950	87341.210	36521.350
129280	1.223	29.731	67.850	269.975	87409.060	36791.325
129290	0.306	33.960	7.645	318.455	87416.705	37109.780
129300	0.015	30.195	1.605	320.775	87418.310	37430.555
129310	0.145	22.228	0.800	262.115	87419.110	37692.670
129320	20.388	10.646	102.665	164.370	87521.775	37857.040
129330	33.087	0.529	267.375	55.875	87789.150	37912.915
129340	30.206	1.534	316.465	10.315	88105.615	37923.230
129350	21.592	9.094	258.990	53.140	88364.605	37976.370
129360	15.499	9.678	185.455	93.860	88550.060	38070.230
129370	13.243	10.853	143.710	102.655	88693.770	38172.885
129380	15.718	14.496	144.805	126.745	88838.575	38299.630
129390	21.250	17.038	184.840	157.670	89023.415	38457.300
129400	25.118	17.326	231.840	171.820	89255.255	38629.120
129410	25.841	17.987	254.795	176.565	89510.050	38805.685
129420	29.559	19.993	277.000	189.900	89787.050	38995.585
129430	32.286	20.508	309.225	202.505	90096.275	39198.090
129440	35.269	15.579	337.775	180.435	90434.050	39378.525
129450	31.324	15.618	332.965	155.985	90767.015	39534.510
129460	25.603	16.438	284.635	160.280	91051.650	39694.790
129470	27.231	7.074	264.170	117.560	91315.820	39812.350
129480	24.395	0.771	258.130	39.225	91573.950	39851.575
129490	25.633	0.577	250.140	6.740	91824.090	39858.315
129500	21.420	1.707	235.265	11.420	92059.355	39869.735
129510	22.425	1.071	219.225	13.890	92278.580	39883.625
129520	32.097	1.327	272.610	11.990	92551.190	39895.615
129530	22.379	0.590	272.380	9.585	92823.570	39905.200
129540	15.937	1.086	191.580	8.380	93015.150	39913.580
129550	7.066	1.856	115.015	14.710	93130.165	39928.290
129560	0.000	4.486	35.330	31.710	93165.495	39960.000
129570	7.657	2.431	38.285	34.585	93203.780	39994.585
129580	16.276	5.732	119.665	40.815	93323.445	40035.400
129590	12.243	9.576	142.595	76.540	93466.040	40111.940
129600	15.886	10.780	140.645	101.780	93606.685	40213.720
129610	23.154	9.606	195.200	101.930	93801.885	40315.650
129620	27.976	4.703	255.650	71.545	94057.535	40387.195
129630	36.054	1.129	320.150	29.160	94377.685	40416.355
129640	41.472	0.000	387.630	5.645	94765.315	40422.000
129650	40.763	0.000	411.175	0.000	95176.490	40422.000
129660	32.961	0.627	368.620	3.135	95545.110	40425.135
129670	30.782	0.645	318.715	6.360	95863.825	40431.495
129680	27.665	0.553	292.235	5.990	96156.060	40437.485
129690	31.141	0.012	294.030	2.825	96450.090	40440.310
129700	39.576	0.037	353.585	0.245	96803.675	40440.555
129710	47.376	0.016	434.760	0.265	97238.435	40440.820
129720	33.657	2.259	405.165	11.375	97643.600	40452.195
129730	20.746	11.216	272.015	67.375	97915.615	40519.570
129740	20.758	21.928	207.520	165.720	98123.135	40685.290
129750	19.438	28.568	200.980	252.480	98324.115	40937.770
129760	12.708	19.237	160.730	239.025	98484.845	41176.795
129770	5.676	20.564	91.920	199.005	98576.765	41375.800
129780	5.556	16.080	56.160	183.220	98632.925	41559.020
129790	13.169	9.720	93.625	129.000	98726.550	41688.020
129800	14.303	6.820	137.360	82.700	98863.910	41770.720
129810	7.397	1.866	108.500	43.430	98972.410	41814.150
129820	0.902	5.026	41.495	34.460	99013.905	41848.610
129830	0.000	8.725	4.510	68.755	99018.415	41917.365
129840	0.000	10.458	0.000	95.915	99018.415	42013.280

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
129850	0.000	9.599	0.000	100.285	99018.415	42113.565
129860	0.002	4.248	0.010	69.235	99018.425	42182.800
129870	16.979	1.732	84.905	29.900	99103.330	42212.700
129880	32.691	0.622	248.350	11.770	99351.680	42224.470
129890	39.044	0.156	358.675	3.890	99710.355	42228.360
129900	60.858	0.000	499.510	0.780	100209.865	42229.140
129910	84.254	0.000	725.560	0.000	100935.425	42229.140
129920	107.005	0.000	956.295	0.000	101891.720	42229.140
129930	122.235	0.000	1146.200	0.000	103037.920	42229.140
129940	120.693	0.000	1214.640	0.000	104252.560	42229.140
129950	113.402	0.000	1170.475	0.000	105423.035	42229.140
129960	106.058	0.000	1097.300	0.000	106520.335	42229.140
129970	102.060	0.000	1040.590	0.000	107560.925	42229.140
129980	104.717	0.000	1033.885	0.000	108594.810	42229.140
129990	91.192	0.000	979.545	0.000	109574.355	42229.140
130000	64.060	0.087	776.260	0.435	110350.615	42229.575
130010	43.385	0.765	537.225	4.260	110887.840	42233.835
130020	33.611	3.040	384.980	19.025	111272.820	42252.860
130030	20.485	1.445	270.480	22.425	111543.300	42275.285
130040	10.726	0.527	156.055	9.860	111699.355	42285.145
130050	4.446	0.000	75.860	2.635	111775.215	42287.780
130060	5.504	1.913	49.750	9.565	111824.965	42297.345
130070	9.669	0.000	75.865	9.565	111900.830	42306.910
130080	15.059	0.000	123.640	0.000	112024.470	42306.910
130090	27.099	0.006	210.790	0.030	112235.260	42306.940
130100	45.826	0.000	364.625	0.030	112599.885	42306.970
130110	61.619	0.000	537.225	0.000	113137.110	42306.970
130120	75.909	0.000	687.640	0.000	113824.750	42306.970
130130	80.754	0.000	783.315	0.000	114608.065	42306.970
130140	68.282	0.000	745.180	0.000	115353.245	42306.970
130150	59.710	0.096	639.960	0.480	115993.205	42307.450
130160	58.899	0.000	593.045	0.480	116586.250	42307.930
130170	44.248	0.721	515.735	3.605	117101.985	42311.535
130180	15.407	3.364	298.275	20.425	117400.260	42331.960
130190	0.000	18.880	77.035	111.220	117477.295	42443.180
130200	0.000	29.646	0.000	242.630	117477.295	42685.810
130210	0.000	29.557	0.000	296.015	117477.295	42981.825
130220	0.000	22.965	0.000	262.610	117477.295	43244.435
130230	0.000	17.543	0.000	202.540	117477.295	43446.975
130240	0.000	13.535	0.000	155.390	117477.295	43602.365
130250	0.000	10.288	0.000	119.115	117477.295	43721.480
130260	0.000	7.224	0.000	87.560	117477.295	43809.040
130270	0.000	4.850	0.000	60.370	117477.295	43869.410
130280	0.000	3.183	0.000	40.165	117477.295	43909.575
130290	0.006	1.515	0.030	23.490	117477.325	43933.065
130300	11.952	1.495	59.790	15.050	117537.115	43948.115
130310	24.235	3.906	180.935	27.005	117718.050	43975.120
130320	24.743	6.840	244.890	53.730	117962.940	44028.850
130330	21.942	9.562	233.425	82.010	118196.365	44110.860
130340	17.674	13.065	198.080	113.135	118394.445	44223.995
130350	19.571	15.595	186.225	143.300	118580.670	44367.295
130360	14.097	24.689	168.340	201.420	118749.010	44568.715
130370	15.765	27.826	149.310	262.575	118898.320	44831.290
130380	22.446	21.464	191.055	246.450	119089.375	45077.740
130390	22.437	20.644	224.415	210.540	119313.790	45288.280
130400	27.501	19.136	249.690	198.900	119563.480	45487.180
130410	22.934	18.470	252.175	188.030	119815.655	45675.210
130420	13.310	21.350	181.220	199.100	119996.875	45874.310
130430	0.000	27.334	66.550	243.420	120063.425	46117.730
130440	0.000	31.973	0.000	296.535	120063.425	46414.265
130450	0.000	35.683	0.000	338.280	120063.425	46752.545
130460	0.000	30.637	0.000	331.600	120063.425	47084.145
130470	0.009	17.904	0.045	242.705	120063.470	47326.850
130480	17.950	6.856	89.795	123.800	120153.265	47450.650
130490	43.545	0.000	307.475	34.280	120460.740	47484.930
130500	44.852	0.000	441.985	0.000	120902.725	47484.930
130510	44.259	0.125	445.555	0.625	121348.280	47485.555
130520	48.079	1.611	461.690	8.680	121809.970	47494.235
130530	51.889	1.718	499.840	16.645	122309.810	47510.880
130540	56.155	1.611	540.220	16.645	122850.030	47527.525
130550	59.144	1.471	576.495	15.410	123426.525	47542.935
130560	61.646	0.828	603.950	11.495	124030.475	47554.430
130570	58.046	0.495	598.460	6.615	124628.935	47561.045
130580	48.575	0.101	533.105	2.980	125162.040	47564.025
130590	43.405	0.036	459.900	0.685	125621.940	47564.710
130600	40.008	0.213	417.065	1.245	126039.005	47565.955
130610	35.855	0.514	379.315	3.635	126418.320	47569.590

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
130620	32.766	2.384	343.105	14.490	126761.425	47584.080
130630	31.363	1.949	320.645	21.665	127082.070	47605.745
130640	31.826	2.523	315.945	22.360	127398.015	47628.105
130650	24.467	4.384	281.465	34.535	127679.480	47662.640
130660	17.561	9.290	210.140	68.370	127889.620	47731.010
130670	21.008	9.172	192.845	92.310	128082.465	47823.320
130680	20.698	11.156	208.530	101.640	128290.995	47924.960
130690	23.365	14.181	220.315	126.685	128511.310	48051.645
130700	29.089	11.819	262.270	130.000	128773.580	48181.645
130710	33.988	6.037	315.385	89.280	129088.965	48270.925
130720	70.581	1.628	522.845	38.325	129611.810	48309.250
130730	97.610	0.000	840.955	8.140	130452.765	48317.390
130740	111.080	0.000	1043.450	0.000	131496.215	48317.390
130750	116.927	0.000	1140.035	0.000	132636.250	48317.390
130760	111.382	0.000	1141.545	0.000	133777.795	48317.390
130770	99.636	0.000	1055.090	0.000	134832.885	48317.390
130780	89.195	0.000	944.155	0.000	135777.040	48317.390
130790	82.865	0.000	860.300	0.000	136637.340	48317.390
130800	75.719	0.000	792.920	0.000	137430.260	48317.390
130810	51.242	0.810	634.805	4.050	138065.065	48321.440
130820	9.903	16.414	305.725	86.120	138370.790	48407.560
130830	0.000	43.905	49.515	301.595	138420.305	48709.155
130840	0.000	64.630	0.000	542.675	138420.305	49251.830
130850	0.000	63.723	0.000	641.765	138420.305	49893.595
130860	0.000	57.548	0.000	606.355	138420.305	50499.950
130870	0.000	45.762	0.000	516.550	138420.305	51016.500
130880	0.000	34.427	0.000	400.945	138420.305	51417.445
130890	3.898	27.894	19.490	311.605	138439.795	51729.050
130900	8.462	24.468	61.800	261.810	138501.595	51990.860
130910	10.203	20.702	93.325	225.850	138594.920	52216.710
130920	10.709	16.429	104.560	185.655	138699.480	52402.365
130930	11.479	12.002	110.940	142.155	138810.420	52544.520
130940	12.100	7.446	117.895	97.240	138928.315	52641.760
130950	12.387	4.302	122.435	58.740	139050.750	52700.500
130960	9.207	1.421	107.970	28.615	139158.720	52729.115
130970	6.068	1.504	76.375	14.625	139235.095	52743.740
130980	3.270	1.515	46.690	15.095	139281.785	52758.835
130990	0.846	1.705	20.580	16.100	139302.365	52774.935
131000	0.880	1.770	8.630	17.375	139310.995	52792.310
131010	2.496	1.892	16.880	18.310	139327.875	52810.620
131020	3.893	2.101	31.945	19.965	139359.820	52830.585
131030	4.745	2.229	43.190	21.650	139403.010	52852.235
131040	5.053	2.225	48.990	22.270	139452.000	52874.505
131050	4.803	2.077	49.280	21.510	139501.280	52896.015
131060	4.008	1.819	44.055	19.480	139545.335	52915.495
131070	2.523	1.577	32.655	16.980	139577.990	52932.475
131080	0.628	1.734	15.755	16.555	139593.745	52949.030
131090	0.000	3.534	3.140	26.340	139596.885	52975.370
131100	0.000	5.506	0.000	45.200	139596.885	53020.570
131110	0.077	33.437	0.385	194.715	139597.270	53215.285
131120	0.748	46.108	4.125	397.725	139601.395	53613.010
131130	0.377	51.165	5.625	486.365	139607.020	54099.375
131140	1.331	45.907	8.540	485.360	139615.560	54584.735
131150	2.896	35.806	21.135	408.565	139636.695	54993.300
131160	5.048	21.112	39.720	284.590	139676.415	55277.890
131170	6.125	5.734	55.865	134.230	139732.280	55412.120
131180	6.986	6.605	65.555	61.695	139797.835	55473.815
131190	7.746	5.328	73.660	59.665	139871.495	55533.480
131200	8.220	3.923	79.830	46.255	139951.325	55579.735
131210	7.934	2.841	80.770	33.820	140032.095	55613.555
131220	6.901	2.163	74.175	25.020	140106.270	55638.575
131230	5.067	2.156	59.840	21.595	140166.110	55660.170
131240	2.771	14.853	39.190	85.045	140205.300	55745.215
131250	0.560	45.616	16.655	302.345	140221.955	56047.560
131260	0.000	78.909	2.800	622.625	140224.755	56670.185
131270	0.000	101.900	0.000	904.045	140224.755	57574.230
131280	0.000	105.573	0.000	1037.365	140224.755	58611.595
131290	0.000	91.555	0.000	985.640	140224.755	59597.235
131300	0.000	51.336	0.000	714.455	140224.755	60311.690
131310	0.000	14.580	0.000	329.580	140224.755	60641.270
131320	3.307	2.776	16.535	86.780	140241.290	60728.050
131330	4.671	1.376	39.890	20.760	140281.180	60748.810
131340	3.817	0.864	42.440	11.200	140323.620	60760.010
131350	3.605	6.026	37.110	34.450	140360.730	60794.460
131360	5.021	20.253	43.130	131.395	140403.860	60925.855
131370	4.621	31.280	48.210	257.665	140452.070	61183.520
131380	3.296	37.523	39.585	344.015	140491.655	61527.535

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
131390	6.809	38.819	50.525	381.710	140542.180	61909.245
131400	14.874	31.244	108.415	350.315	140650.595	62259.560
131410	31.672	18.375	232.730	248.095	140883.325	62507.655
131420	32.026	2.413	318.490	103.940	141201.815	62611.595
131430	20.350	0.000	261.880	12.065	141463.695	62623.660
131440	27.462	0.000	239.060	0.000	141702.755	62623.660
131450	26.022	0.000	267.420	0.000	141970.175	62623.660
131460	13.999	0.000	200.105	0.000	142170.280	62623.660
131470	10.141	3.242	120.700	16.210	142290.980	62639.870
131480	0.000	4.781	50.705	40.115	142341.685	62679.985
131490	0.000	8.954	0.000	68.675	142341.685	62748.660
131500	3.522	10.315	17.610	96.345	142359.295	62845.005
131510	6.775	13.669	51.485	119.920	142410.780	62964.925
131520	7.665	3.813	72.200	87.410	142482.980	63052.335
131530	10.912	2.084	92.885	29.485	142575.865	63081.820
131540	17.336	1.615	141.240	18.495	142717.105	63100.315
131550	21.251	1.631	192.935	16.230	142910.040	63116.545
131560	14.230	3.773	177.405	27.020	143087.445	63143.565
131570	6.349	14.549	102.895	91.610	143190.340	63235.175
131580	1.815	23.729	40.820	191.390	143231.160	63426.565
131590	0.673	29.617	12.440	266.730	143243.600	63693.295
131600	2.317	27.653	14.950	286.350	143258.550	63979.645
131610	3.339	23.884	28.280	257.685	143286.830	64237.330
131620	3.417	28.996	33.780	264.400	143320.610	64501.730
131630	3.625	30.391	35.210	296.935	143355.820	64798.665
131640	4.977	34.201	43.010	322.960	143398.830	65121.625
131650	16.560	31.248	107.685	327.245	143506.515	65448.870
131660	18.737	20.720	176.485	259.840	143683.000	65708.710
131670	11.513	19.791	151.250	202.555	143834.250	65911.265
131680	4.548	23.904	80.305	218.475	143914.555	66129.740
131690	1.120	28.831	28.340	263.675	143942.895	66393.415
131700	0.036	41.093	5.780	349.620	143948.675	66743.035
131710	0.000	40.561	0.180	408.270	143948.855	67151.305
131720	0.000	31.934	0.000	362.475	143948.855	67513.780
131730	1.096	22.139	5.480	270.365	143954.335	67784.145
131740	0.731	21.018	9.135	215.785	143963.470	67999.930
131750	0.036	21.193	3.835	211.055	143967.305	68210.985
131760	0.000	21.895	0.180	215.440	143967.485	68426.425
131770	2.877	20.564	14.385	212.295	143981.870	68638.720
131780	4.009	13.802	34.430	171.830	144016.300	68810.550
131790	5.733	7.667	48.710	107.345	144065.010	68917.895
131800	14.283	7.069	100.080	73.680	144165.090	68991.575
131810	15.495	10.122	148.890	85.955	144313.980	69077.530
131820	9.481	8.321	124.880	92.215	144438.860	69169.745
131830	11.107	4.941	102.940	66.310	144541.800	69236.055
131840	17.106	0.003	141.065	24.720	144682.865	69260.775
131850	18.180	0.000	176.430	0.015	144859.295	69260.790
131860	24.386	0.000	212.830	0.000	145072.125	69260.790
131870	27.514	0.000	259.500	0.000	145331.625	69260.790
131880	21.901	0.000	247.075	0.000	145578.700	69260.790
131890	13.821	2.525	178.610	12.625	145757.310	69273.415
131900	8.642	5.738	112.315	41.315	145869.625	69314.730
131910	5.333	12.875	69.875	93.065	145939.500	69407.795
131920	0.000	15.555	26.665	142.150	145966.165	69549.945
131930	0.000	16.526	0.000	160.405	145966.165	69710.350
131940	0.369	6.933	1.845	117.295	145968.010	69827.645
131950	6.706	0.000	35.375	34.665	146003.385	69862.310
131960	10.414	0.000	85.600	0.000	146088.985	69862.310
131970	13.378	0.000	118.960	0.000	146207.945	69862.310
131980	15.392	0.000	143.850	0.000	146351.795	69862.310
131990	16.269	0.000	158.305	0.000	146510.100	69862.310
132000	16.090	0.000	161.795	0.000	146671.895	69862.310
132010	12.584	1.109	143.370	5.545	146815.265	69867.855
132020	8.933	4.713	107.585	29.110	146922.850	69896.965
132030	4.866	15.089	68.995	99.010	146991.845	69995.975
132040	3.334	13.930	41.000	145.095	147032.845	70141.070
132050	4.552	3.653	39.430	87.915	147072.275	70228.985
132060	6.021	2.923	52.865	32.880	147125.140	70261.865
132070	8.044	8.059	70.325	54.910	147195.465	70316.775
132080	10.052	2.164	90.480	51.115	147285.945	70367.890
132090	9.226	3.390	96.390	27.770	147382.335	70395.660
132100	8.218	4.217	87.220	38.035	147469.555	70433.695
132110	7.211	16.798	77.145	105.075	147546.700	70538.770
132120	5.834	24.738	65.225	207.680	147611.925	70746.450
132130	4.124	31.269	49.790	280.035	147661.715	71026.485
132140	4.964	32.409	45.440	318.390	147707.155	71344.875
132150	5.915	31.189	54.395	317.990	147761.550	71662.865

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
132160	6.500	19.748	62.075	254.685	147823.625	71917.550
132170	10.041	6.454	82.705	131.010	147906.330	72048.560
132180	17.789	7.878	139.150	71.660	148045.480	72120.220
132190	26.910	9.642	223.495	87.600	148268.975	72207.820
132200	32.431	12.722	296.705	111.820	148565.680	72319.640
132210	20.220	11.501	263.255	121.115	148828.935	72440.755
132220	20.097	1.359	201.585	64.300	149030.520	72505.055
132230	19.164	0.865	196.305	11.120	149226.825	72516.175
132240	16.667	0.811	179.155	8.380	149405.980	72524.555
132250	13.687	1.295	151.770	10.530	149557.750	72535.085
132260	0.726	12.709	72.065	70.020	149629.815	72605.105
132270	0.724	15.535	7.250	141.220	149637.065	72746.325
132280	5.617	17.708	31.705	166.215	149668.770	72912.540
132290	8.235	20.157	69.260	189.325	149738.030	73101.865
132300	10.706	16.024	94.705	180.905	149832.735	73282.770
132310	13.999	1.907	123.525	89.655	149956.260	73372.425
132320	13.127	0.827	135.630	13.670	150091.890	73386.095
132330	11.280	0.181	122.035	5.040	150213.925	73391.135
132340	13.267	0.000	122.735	0.905	150336.660	73392.040
132350	15.703	0.000	144.850	0.000	150481.510	73392.040
132360	16.935	0.000	163.190	0.000	150644.700	73392.040
132370	16.511	0.168	167.230	0.840	150811.930	73392.880
132380	12.976	2.854	147.435	15.110	150959.365	73407.990
132390	11.218	14.701	120.970	87.775	151080.335	73495.765
132400	10.306	19.076	107.620	168.885	151187.955	73664.650
132410	14.140	7.530	122.230	133.030	151310.185	73797.680
132420	19.601	0.604	168.705	40.670	151478.890	73838.350
132430	27.801	0.000	237.010	3.020	151715.900	73841.370
132440	29.352	0.000	285.765	0.000	152001.665	73841.370
132450	26.946	0.237	281.490	1.185	152283.155	73842.555
132460	28.103	1.888	275.245	10.625	152558.400	73853.180
132470	30.681	0.457	293.920	11.725	152852.320	73864.905
132480	31.186	0.878	309.335	6.675	153161.655	73871.580
132490	32.206	4.937	316.960	29.075	153478.615	73900.655
132500	27.546	7.920	298.760	64.285	153777.375	73964.940
132510	20.099	1.980	238.225	49.500	154015.600	74014.440
132520	13.764	2.229	169.315	21.045	154184.915	74035.485
132530	8.453	2.372	111.085	23.005	154296.000	74058.490
132540	2.739	14.839	55.960	86.055	154351.960	74144.545
132550	0.638	10.971	16.885	129.050	154368.845	74273.595
132560	2.980	2.884	18.090	69.275	154386.935	74342.870
132570	6.123	0.013	45.515	14.485	154432.450	74357.355
132580	8.150	0.000	71.365	0.065	154503.815	74357.420
132590	11.047	0.000	95.985	0.000	154599.800	74357.420
132600	14.865	0.000	129.560	0.000	154729.360	74357.420
132610	19.382	0.000	171.235	0.000	154900.595	74357.420
132620	24.411	0.000	218.965	0.000	155119.560	74357.420
132630	29.805	0.000	271.080	0.000	155390.640	74357.420
132640	35.558	0.000	326.815	0.000	155717.455	74357.420
132650	41.657	0.000	386.075	0.000	156103.530	74357.420
132660	48.068	0.000	448.625	0.000	156552.155	74357.420
132670	54.736	0.000	514.020	0.000	157066.175	74357.420
132680	61.653	0.000	581.945	0.000	157648.120	74357.420
132690	68.840	0.000	652.465	0.000	158300.585	74357.420
132700	76.432	0.000	726.360	0.000	159026.945	74357.420
132710	84.520	0.000	804.760	0.000	159831.705	74357.420
132720	93.215	0.000	888.675	0.000	160720.380	74357.420
132730	96.397	0.000	948.060	0.000	161668.440	74357.420
132740	27.809	2.630	621.030	13.150	162289.470	74370.570
132750	3.129	17.340	154.690	99.850	162444.160	74470.420
132760	0.000	16.857	15.645	170.985	162459.805	74641.405
132770	31.084	0.000	155.420	84.285	162615.225	74725.690
132780	43.000	0.000	370.420	0.000	162985.645	74725.690
132790	51.799	0.000	473.995	0.000	163459.640	74725.690
132800	60.848	0.000	563.235	0.000	164022.875	74725.690
132810	68.869	0.000	648.585	0.000	164671.460	74725.690
132820	75.861	0.000	723.650	0.000	165395.110	74725.690
132830	81.825	0.000	788.430	0.000	166183.540	74725.690
132840	86.760	0.000	842.925	0.000	167026.465	74725.690
132850	90.663	0.000	887.115	0.000	167913.580	74725.690
132860	93.432	0.000	920.475	0.000	168834.055	74725.690
132870	94.888	0.000	941.600	0.000	169775.655	74725.690
132880	95.425	0.000	951.565	0.000	170727.220	74725.690
132890	95.192	0.000	953.085	0.000	171680.305	74725.690
132900	54.816	0.000	750.040	0.000	172430.345	74725.690
132910	0.713	5.041	277.645	25.205	172707.990	74750.895
132920	0.000	25.426	3.565	152.335	172711.555	74903.230

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
132930	20.281	0.000	101.405	127.130	172812.960	75030.360
132940	114.358	0.000	673.195	0.000	173486.155	75030.360
132950	116.042	0.000	1152.000	0.000	174638.155	75030.360
132960	101.210	0.000	1086.260	0.000	175724.415	75030.360
132970	86.296	0.000	937.530	0.000	176661.945	75030.360
132980	75.112	0.000	807.040	0.000	177468.985	75030.360
132990	61.543	0.000	683.275	0.000	178152.260	75030.360
133000	55.557	0.000	585.500	0.000	178737.760	75030.360
133010	49.070	0.398	523.135	1.990	179260.895	75032.350
133020	48.542	1.367	488.060	8.825	179748.955	75041.175
133030	47.320	1.519	479.310	14.430	180228.265	75055.605
133040	49.646	1.485	484.830	15.020	180713.095	75070.625
133050	51.922	0.762	507.840	11.235	181220.935	75081.860
133060	52.803	0.000	523.625	3.810	181744.560	75085.670
133070	45.084	2.388	489.435	11.940	182233.995	75097.610
133080	37.562	6.373	413.230	43.805	182647.225	75141.415
133090	31.882	6.489	347.220	64.310	182994.445	75205.725
133100	24.831	9.241	283.565	78.650	183278.010	75284.375
133110	25.849	7.885	253.400	85.630	183531.410	75370.005
133120	25.759	7.361	258.040	76.230	183789.450	75446.235
133130	29.750	6.769	277.545	70.650	184066.995	75516.885
133140	33.904	7.790	318.270	72.795	184385.265	75589.680
133150	29.431	8.290	316.675	80.400	184701.940	75670.080
133160	15.929	9.687	226.800	89.885	184928.740	75759.965
133170	2.582	16.443	92.555	130.650	185021.295	75890.615
133180	0.000	21.412	12.910	189.275	185034.205	76079.890
133190	0.000	21.446	0.000	214.290	185034.205	76294.180
133200	0.000	20.012	0.000	207.290	185034.205	76501.470
133210	0.987	14.499	4.935	172.555	185039.140	76674.025
133220	14.944	9.051	79.655	117.750	185118.795	76791.775
133230	18.359	9.287	166.515	91.690	185285.310	76883.465
133240	31.712	2.521	250.355	59.040	185535.665	76942.505
133250	50.518	0.575	411.150	15.480	185946.815	76957.985
133260	62.452	0.000	564.850	2.875	186511.665	76960.860
133270	75.329	0.000	688.905	0.000	187200.570	76960.860
133280	64.191	0.209	697.600	1.045	187898.170	76961.905
133290	46.738	2.154	554.645	11.815	188452.815	76973.720
133300	46.384	1.337	465.610	17.455	188918.425	76991.175
133310	46.575	0.776	464.795	10.565	189383.220	77001.740
133320	39.361	0.386	429.680	5.810	189812.900	77007.550
133330	28.222	0.424	337.915	4.050	190150.815	77011.600
133340	11.102	0.969	196.620	6.965	190347.435	77018.565
133350	1.724	15.061	64.130	80.150	190411.565	77098.715
133360	0.100	42.057	9.120	285.590	190420.685	77384.305
133370	0.000	50.585	0.500	463.210	190421.185	77847.515
133380	0.000	40.906	0.000	457.455	190421.185	78304.970
133390	0.000	32.071	0.000	364.885	190421.185	78669.855
133400	0.000	27.723	0.000	298.970	190421.185	78968.825
133410	0.314	25.597	1.570	266.600	190422.755	79235.425
133420	23.410	15.686	118.620	206.415	190541.375	79441.840
133430	46.427	11.514	349.185	136.000	190890.560	79577.840
133440	45.369	11.293	458.980	114.035	191349.540	79691.875
133450	38.429	11.395	418.990	113.440	191768.530	79805.315
133460	24.468	13.668	314.485	125.315	192083.015	79930.630
133470	8.582	15.561	165.250	146.145	192248.265	80076.775
133480	4.264	11.945	64.230	137.530	192312.495	80214.305
133490	12.172	9.453	82.180	106.990	192394.675	80321.295
133500	24.390	8.189	182.810	88.210	192577.485	80409.505
133510	27.695	8.043	260.425	81.160	192837.910	80490.665
133520	22.667	10.481	251.810	92.620	193089.720	80583.285
133530	0.000	18.345	113.335	144.130	193203.055	80727.415
133540	0.000	24.206	0.000	212.755	193203.055	80940.170
133550	0.000	26.436	0.000	253.210	193203.055	81193.380
133560	0.000	24.625	0.000	255.305	193203.055	81448.685
133570	0.000	23.874	0.000	242.495	193203.055	81691.180
133580	0.000	23.129	0.000	235.015	193203.055	81926.195
133590	0.000	13.199	0.000	181.640	193203.055	82107.835
133600	44.811	0.000	224.055	65.995	193427.110	82173.830
133610	43.094	0.000	439.525	0.000	193866.635	82173.830
133620	52.607	0.000	478.505	0.000	194345.140	82173.830
133630	69.374	0.000	609.905	0.000	194955.045	82173.830
133640	84.387	0.000	768.805	0.000	195723.850	82173.830
133650	96.624	0.000	905.055	0.000	196628.905	82173.830
133660	95.020	0.000	958.220	0.000	197587.125	82173.830
133670	84.797	1.334	899.085	6.670	198486.210	82180.500
133680	59.509	4.539	721.530	29.365	199207.740	82209.865
133690	55.642	3.708	575.755	41.235	199783.495	82251.100

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
133700	53.030	1.376	543.360	25.420	200326.855	82276.520
133710	55.525	0.278	542.775	8.270	200869.630	82284.790
133720	69.191	0.013	623.580	1.455	201493.210	82286.245
133730	81.904	0.000	755.475	0.065	202248.685	82286.310
133740	71.026	0.000	764.650	0.000	203013.335	82286.310
133750	42.227	0.000	566.265	0.000	203579.600	82286.310
133760	9.036	0.959	256.315	4.795	203835.915	82291.105
133770	3.792	1.585	64.140	12.720	203900.055	82303.825
133780	1.477	1.816	26.345	17.005	203926.400	82320.830
133790	1.617	6.147	15.470	39.815	203941.870	82360.645
133800	22.787	0.153	122.020	31.500	204063.890	82392.145
133810	23.976	0.147	233.815	1.500	204297.705	82393.645
133820	26.397	0.057	251.865	1.020	204549.570	82394.665
133830	23.582	0.491	249.895	2.740	204799.465	82397.405
133840	19.284	1.212	214.330	8.515	205013.795	82405.920
133850	15.563	4.639	174.235	29.255	205188.030	82435.175
133860	13.458	6.408	145.105	55.235	205333.135	82490.410
133870	14.006	2.026	137.320	42.170	205470.455	82532.580
133880	17.508	0.000	157.570	10.130	205628.025	82542.710
133890	19.236	0.685	183.720	3.425	205811.745	82546.135
133900	20.950	0.000	200.930	3.425	206012.675	82549.560
133910	20.474	0.160	207.120	0.800	206219.795	82550.360
133920	23.764	0.000	221.190	0.800	206440.985	82551.160
133930	22.772	1.476	232.680	7.380	206673.665	82558.540
133940	28.117	0.019	254.445	7.475	206928.110	82566.015
133950	34.745	0.492	314.310	2.555	207242.420	82568.570
133960	35.906	0.000	353.255	2.460	207595.675	82571.030
133970	32.011	0.000	339.585	0.000	207935.260	82571.030
133980	20.997	0.000	265.040	0.000	208200.300	82571.030
133990	1.093	5.161	110.450	25.805	208310.750	82596.835
134000	0.000	24.872	5.465	150.165	208316.215	82747.000
134010	0.000	35.390	0.000	301.310	208316.215	83048.310
134020	0.000	39.155	0.000	372.725	208316.215	83421.035
134030	10.460	15.165	52.300	271.600	208368.515	83692.635
134040	35.990	1.566	232.250	83.655	208600.765	83776.290
134050	48.683	0.000	423.365	7.830	209024.130	83784.120
134060	40.700	0.000	446.915	0.000	209471.045	83784.120
134070	28.606	0.000	346.530	0.000	209817.575	83784.120
134080	16.805	0.000	227.055	0.000	210044.630	83784.120
134090	5.733	4.110	112.690	20.550	210157.320	83804.670
134100	0.203	17.081	29.680	105.955	210187.000	83910.625
134110	0.516	31.759	3.595	244.200	210190.595	84154.825
134120	0.565	31.251	5.405	315.050	210196.000	84469.875
134130	0.247	30.868	4.060	310.595	210200.060	84780.470
134140	0.000	31.947	1.235	314.075	210201.295	85094.545
134150	0.000	27.013	0.000	294.800	210201.295	85389.345
134160	0.203	18.547	1.015	227.800	210202.310	85617.145
134170	14.397	8.215	73.000	133.810	210275.310	85750.955
134180	32.758	0.000	235.775	41.075	210511.085	85792.030
134190	52.681	0.000	427.195	0.000	210938.280	85792.030
134200	66.628	0.000	596.545	0.000	211534.825	85792.030
134210	73.979	0.000	703.035	0.000	212237.860	85792.030
134220	80.035	0.000	770.070	0.000	213007.930	85792.030
134230	82.508	0.000	812.715	0.000	213820.645	85792.030
134240	72.939	0.000	777.235	0.000	214597.880	85792.030
134250	60.141	0.000	665.400	0.000	215263.280	85792.030
134260	35.357	0.000	477.490	0.000	215740.770	85792.030
134270	12.589	16.665	239.730	83.325	215980.500	85875.355
134280	15.331	10.342	139.600	135.035	216120.100	86010.390
134290	24.603	0.000	199.670	51.710	216319.770	86062.100
134300	36.301	0.000	304.520	0.000	216624.290	86062.100
134310	45.552	0.000	409.265	0.000	217033.555	86062.100
134320	46.262	0.000	459.070	0.000	217492.625	86062.100
134330	42.232	0.000	442.470	0.000	217935.095	86062.100
134340	39.803	0.000	410.175	0.000	218345.270	86062.100
134350	30.676	0.000	352.395	0.000	218697.665	86062.100
134360	19.473	0.000	250.745	0.000	218948.410	86062.100
134370	10.471	0.097	149.720	0.485	219098.130	86062.585
134380	4.410	5.316	74.405	27.065	219172.535	86089.650
134390	0.183	16.904	22.965	111.100	219195.500	86200.750
134400	7.397	24.038	37.900	204.710	219233.400	86405.460
134410	8.604	17.179	80.005	206.085	219313.405	86611.545
134420	10.055	11.759	93.295	144.690	219406.700	86756.235
134430	20.635	3.885	153.450	78.220	219560.150	86834.455
134440	25.486	1.800	230.605	28.425	219790.755	86862.880
134450	28.433	0.219	269.595	10.095	220060.350	86872.975
134460	28.281	0.020	283.570	1.195	220343.920	86874.170

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
134470	21.638	0.129	249.595	0.745	220593.515	86874.915
134480	15.322	0.220	184.800	1.745	220778.315	86876.660
134490	10.933	1.146	131.275	6.830	220909.590	86883.490
134500	7.432	2.173	91.825	16.595	221001.415	86900.085
134510	13.891	0.351	106.615	12.620	221108.030	86912.705
134520	15.070	0.349	144.805	3.500	221252.835	86916.205
134530	16.503	0.545	157.865	4.470	221410.700	86920.675
134540	15.215	1.858	158.590	12.015	221569.290	86932.690
134550	11.996	6.123	136.055	39.905	221705.345	86972.595
134560	5.858	11.226	89.270	86.745	221794.615	87059.340
134570	0.453	9.197	31.555	102.115	221826.170	87161.455
134580	0.735	6.581	5.940	78.890	221832.110	87240.345
134590	1.381	3.608	10.580	50.945	221842.690	87291.290
134600	2.061	0.112	17.210	18.600	221859.900	87309.890
134610	5.998	0.000	40.295	0.560	221900.195	87310.450
134620	11.505	0.000	87.515	0.000	221987.710	87310.450
134630	16.164	0.000	138.345	0.000	222126.055	87310.450
134640	20.489	0.000	183.265	0.000	222309.320	87310.450
134650	24.851	0.000	226.700	0.000	222536.020	87310.450
134660	29.448	0.000	271.495	0.000	222807.515	87310.450
134670	23.375	1.464	264.115	7.320	223071.630	87317.770
134680	14.034	3.669	187.045	25.665	223258.675	87343.435
134690	6.954	10.969	104.940	73.190	223363.615	87416.625
134700	0.000	16.280	34.770	136.245	223398.385	87552.870
134710	0.000	18.684	0.000	174.820	223398.385	87727.690
134720	0.000	27.027	0.000	228.555	223398.385	87956.245
134730	0.000	33.341	0.000	301.840	223398.385	88258.085
134740	0.000	34.854	0.000	340.975	223398.385	88599.060
134750	0.000	34.450	0.000	346.520	223398.385	88945.580
134760	0.000	33.119	0.000	337.845	223398.385	89283.425
134770	0.000	30.010	0.000	315.645	223398.385	89599.070
134780	0.000	26.520	0.000	282.650	223398.385	89881.720
134790	0.000	23.418	0.000	249.690	223398.385	90131.410
134800	0.000	20.989	0.000	222.035	223398.385	90353.445
134810	0.000	19.102	0.000	200.455	223398.385	90553.900
134820	0.000	17.324	0.000	182.130	223398.385	90736.030
134830	0.000	14.856	0.000	160.900	223398.385	90896.930
134840	2.879	8.584	14.395	117.200	223412.780	91014.130
134850	35.070	3.312	189.745	59.480	223602.525	91073.610
134860	75.282	5.146	551.760	42.290	224154.285	91115.900
134870	68.497	3.818	718.895	44.820	224873.180	91160.720
134880	59.398	2.272	639.475	30.450	225512.655	91191.170
134890	49.940	2.122	546.690	21.970	226059.345	91213.140
134900	59.097	0.674	545.185	13.980	226604.530	91227.120
134910	74.294	0.000	666.955	3.370	227271.485	91230.490
134920	91.654	2.175	829.740	10.875	228101.225	91241.365
134930	99.924	4.693	957.890	34.340	229059.115	91275.705
134940	102.778	6.673	1013.510	56.830	230072.625	91332.535
134950	95.406	10.175	990.920	84.240	231063.545	91416.775
134960	88.036	0.000	917.210	50.875	231980.755	91467.650
134970	86.289	8.284	871.625	41.420	232852.380	91509.070
134980	82.675	0.000	844.820	41.420	233697.200	91550.490
134990	71.851	0.053	772.630	0.265	234469.830	91550.755
135000	65.632	2.215	687.415	11.340	235157.245	91562.095
135010	67.618	0.441	666.250	13.280	235823.495	91575.375
135020	61.119	15.714	643.685	80.775	236467.180	91656.150
135030	59.741	19.332	604.300	175.230	237071.480	91831.380
135040	51.640	18.979	556.905	191.555	237628.385	92022.935
135050	40.438	16.450	460.390	177.145	238088.775	92200.080
135060	28.408	13.818	344.230	151.340	238433.005	92351.420
135070	14.753	10.692	215.805	122.550	238648.810	92473.970
135080	16.400	10.104	155.765	103.980	238804.575	92577.950
135090	17.622	9.570	170.110	98.370	238974.685	92676.320
135100	18.239	8.810	179.305	91.900	239153.990	92768.220
135110	16.254	10.563	172.465	96.865	239326.455	92865.085
135120	19.524	9.678	178.890	101.205	239505.345	92966.290
135130	20.832	8.126	201.780	89.020	239707.125	93055.310
135140	17.944	13.997	193.880	110.615	239901.005	93165.925
135150	10.976	22.600	144.600	182.985	240045.605	93348.910
135160	0.000	29.373	54.880	259.865	240100.485	93608.775
135170	0.000	35.848	0.000	326.105	240100.485	93934.880
135180	0.000	34.068	0.000	349.580	240100.485	94284.460
135190	0.000	32.165	0.000	331.165	240100.485	94615.625
135200	0.000	29.563	0.000	308.640	240100.485	94924.265
135210	0.000	22.483	0.000	260.230	240100.485	95184.495
135220	19.903	5.996	99.515	142.395	240200.000	95326.890
135230	48.887	1.075	343.950	35.355	240543.950	95362.245

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
135240	81.378	0.000	651.325	5.375	241195.275	95367.620
135250	99.694	0.000	905.360	0.000	242100.635	95367.620
135260	112.595	0.000	1061.445	0.000	243162.080	95367.620
135270	125.275	0.000	1189.350	0.000	244351.430	95367.620
135280	130.076	0.000	1276.755	0.000	245628.185	95367.620
135290	98.509	0.240	1142.925	1.200	246771.110	95368.820
135300	67.700	3.653	831.045	19.465	247602.155	95388.285
135310	68.834	1.243	682.670	24.480	248284.825	95412.765
135320	109.349	0.025	890.915	6.340	249175.740	95419.105
135330	134.742	0.000	1220.455	0.125	250396.195	95419.230
135340	142.017	0.000	1383.795	0.000	251779.990	95419.230
135350	152.103	0.000	1470.600	0.000	253250.590	95419.230
135360	150.997	0.000	1515.500	0.000	254766.090	95419.230
135370	157.479	0.000	1542.380	0.000	256308.470	95419.230
135380	125.367	0.000	1414.230	0.000	257722.700	95419.230
135390	70.431	0.000	978.990	0.000	258701.690	95419.230
135400	49.734	0.000	600.825	0.000	259302.515	95419.230
135410	58.707	0.000	542.205	0.000	259844.720	95419.230
135420	70.771	0.000	647.390	0.000	260492.110	95419.230
135430	84.359	0.000	775.650	0.000	261267.760	95419.230
135440	78.151	0.000	812.550	0.000	262080.310	95419.230
135450	36.179	0.000	571.650	0.000	262651.960	95419.230
135460	8.093	3.684	221.360	18.420	262873.320	95437.650
135470	0.000	27.010	40.465	153.470	262913.785	95591.120
135480	7.309	3.193	36.545	151.015	262950.330	95742.135
135490	15.107	3.175	112.080	31.840	263062.410	95773.975
135500	14.105	7.511	146.060	53.430	263208.470	95827.405
135510	12.514	10.491	133.095	90.010	263341.565	95917.415
135520	10.568	13.985	115.410	122.380	263456.975	96039.795
135530	10.574	15.500	105.710	147.425	263562.685	96187.220
135540	10.613	18.153	105.935	168.265	263668.620	96355.485
135550	12.440	16.703	115.265	174.280	263783.885	96529.765
135560	9.834	13.148	111.370	149.255	263895.255	96679.020
135570	10.055	10.444	99.445	117.960	263994.700	96796.980
135580	0.000	13.824	50.275	121.340	264044.975	96918.320
135590	8.499	0.488	42.495	71.560	264087.470	96989.880
135600	32.896	0.000	206.975	2.440	264294.445	96992.320
135610	41.415	0.000	371.555	0.000	264666.000	96992.320
135620	50.126	0.000	457.705	0.000	265123.705	96992.320
135630	58.230	0.000	541.780	0.000	265665.485	96992.320
135640	57.258	0.000	577.440	0.000	266242.925	96992.320
135650	42.328	0.272	497.930	1.360	266740.855	96993.680
135660	30.634	0.249	364.810	2.605	267105.665	96996.285
135670	28.844	0.915	297.390	5.820	267403.055	97002.105
135680	24.588	2.991	267.160	19.530	267670.215	97021.635
135690	19.317	3.231	219.525	31.110	267889.740	97052.745
135700	20.157	1.733	197.370	24.820	268087.110	97077.565
135710	30.365	2.424	252.610	20.785	268339.720	97098.350
135720	36.980	2.494	336.725	24.590	268676.445	97122.940
135730	28.562	3.150	327.710	28.220	269004.155	97151.160
135740	20.923	5.482	247.425	43.160	269251.580	97194.320
135750	15.508	9.302	182.155	73.920	269433.735	97268.240
135760	15.472	10.370	154.900	98.360	269588.635	97366.600
135770	18.492	6.849	169.820	86.095	269758.455	97452.695
135780	13.793	4.762	161.425	58.055	269919.880	97510.750
135790	12.163	3.703	129.780	42.325	270049.660	97553.075
135800	8.503	2.766	103.330	32.345	270152.990	97585.420
135810	3.296	4.833	58.995	37.995	270211.985	97623.415
135820	1.196	8.421	22.460	66.270	270234.445	97689.685
135830	0.161	14.435	6.785	114.280	270241.230	97803.965
135840	0.000	16.084	0.805	152.595	270242.035	97956.560
135850	4.209	11.310	21.045	136.970	270263.080	98093.530
135860	10.723	9.091	74.660	102.005	270337.740	98195.535
135870	19.451	6.695	150.870	78.930	270488.610	98274.465
135880	30.458	3.650	249.545	51.725	270738.155	98326.190
135890	19.567	2.558	250.125	31.040	270988.280	98357.230
135900	17.377	4.396	184.720	34.770	271173.000	98392.000
135910	10.159	6.188	137.680	52.920	271310.680	98444.920
135920	11.716	8.352	109.375	72.700	271420.055	98517.620
135930	6.882	6.450	92.990	74.010	271513.045	98591.630
135940	3.701	4.198	52.915	53.240	271565.960	98644.870
135950	6.636	2.389	51.685	32.935	271617.645	98677.805
135960	10.214	4.406	84.250	33.975	271701.895	98711.780
135970	4.685	12.382	74.495	83.940	271776.390	98795.720
135980	0.000	26.407	23.425	193.945	271799.815	98989.665
135990	1.324	34.150	6.620	302.785	271806.435	99292.450
136000	1.578	37.626	14.510	358.880	271820.945	99651.330

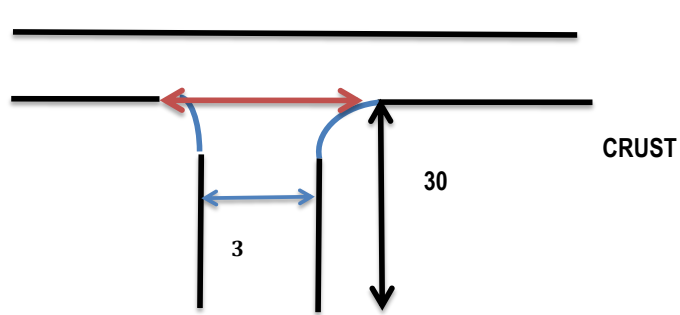
CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
136010	4.371	36.740	29.745	371.830	271850.690	100023.160
136020	9.322	26.176	68.465	314.580	271919.155	100337.740
136030	11.818	12.629	105.700	194.025	272024.855	100531.765
136040	12.923	6.230	123.705	94.295	272148.560	100626.060
136050	14.530	7.470	137.265	68.500	272285.825	100694.560
136060	18.097	6.843	163.135	71.565	272448.960	100766.125
136070	20.890	7.602	194.935	72.225	272643.895	100838.350
136080	20.428	7.894	206.590	77.480	272850.485	100915.830
136090	20.152	8.307	202.900	81.005	273053.385	100996.835
136100	25.337	3.646	227.445	59.765	273280.830	101056.600
136110	27.538	2.133	264.375	28.895	273545.205	101085.495
136120	29.387	2.367	284.625	22.500	273829.830	101107.995
136130	30.950	3.123	301.685	27.450	274131.515	101135.445
136140	29.771	3.774	303.605	34.485	274435.120	101169.930
136150	24.739	4.787	272.550	42.805	274707.670	101212.735
136160	14.585	7.418	196.620	61.025	274904.290	101273.760
136170	12.973	10.861	137.790	91.395	275042.080	101365.155
136180	17.011	8.834	149.920	98.475	275192.000	101463.630
136190	33.779	3.902	253.950	63.680	275445.950	101527.310
136200	44.334	0.314	390.565	21.080	275836.515	101548.390
136210	46.366	0.242	453.500	2.780	276290.015	101551.170
136220	48.426	0.181	473.960	2.115	276763.975	101553.285
136230	43.970	0.461	461.980	3.210	277225.955	101556.495
136240	37.338	1.680	406.540	10.705	277632.495	101567.200
136250	39.565	0.725	384.515	12.025	278017.010	101579.225
136260	40.650	0.906	401.075	8.155	278418.085	101587.380
136270	44.084	0.973	423.670	9.395	278841.755	101596.775
136280	40.773	1.057	424.285	10.150	279266.040	101606.925
136290	35.077	2.544	379.250	18.005	279645.290	101624.930
136300	31.406	1.025	332.415	17.845	279977.705	101642.775
136310	24.090	2.669	277.480	18.470	280255.185	101661.245
136320	17.655	2.190	208.725	24.295	280463.910	101685.540
136330	4.343	7.672	109.990	49.310	280573.900	101734.850
136340	0.000	11.516	21.715	95.940	280595.615	101830.790
136350	7.200	10.252	36.000	108.840	280631.615	101939.630
136360	23.854	5.332	155.270	77.920	280786.885	102017.550
136370	15.692	2.388	197.730	38.600	280984.615	102056.150
136380	32.504	2.529	240.980	24.585	281225.595	102080.735
136390	20.537	6.847	265.205	46.880	281490.800	102127.615
136400	28.160	6.170	243.485	65.085	281734.285	102192.700
136410	8.023	6.896	180.915	65.330	281915.200	102258.030
136420	15.127	7.687	115.750	72.915	282030.950	102330.945
136430	29.582	8.070	223.545	78.785	282254.495	102409.730
136440	57.369	6.919	434.755	74.945	282689.250	102484.675
136450	50.690	2.243	540.295	45.810	283229.545	102530.485
136460	92.418	0.000	715.540	11.215	283945.085	102541.700
136470	95.931	0.000	941.745	0.000	284886.830	102541.700
136480	86.629	0.000	912.800	0.000	285799.630	102541.700
136490	72.109	0.000	793.690	0.000	286593.320	102541.700
136500	54.457	0.292	632.830	1.460	287226.150	102543.160
136510	38.977	1.115	467.170	7.035	287693.320	102550.195
136520	22.968	2.457	309.725	17.860	288003.045	102568.055
136530	15.986	5.373	194.770	39.150	288197.815	102607.205
136540	20.454	4.293	182.200	48.330	288380.015	102655.535
136550	29.032	1.601	247.430	29.470	288627.445	102685.005
136560	34.771	0.000	319.015	8.005	288946.460	102693.010
136570	37.545	0.000	361.580	0.000	289308.040	102693.010
136580	40.487	0.000	390.160	0.000	289698.200	102693.010
136590	43.599	0.000	420.430	0.000	290118.630	102693.010
136600	46.777	0.000	451.880	0.000	290570.510	102693.010
136610	49.744	0.000	482.605	0.000	291053.115	102693.010
136620	49.703	0.000	497.235	0.000	291550.350	102693.010
136630	43.528	0.000	466.155	0.000	292016.505	102693.010
136640	37.046	0.000	402.870	0.000	292419.375	102693.010
136650	30.237	0.868	336.415	4.340	292755.790	102697.350
136660	24.383	0.911	273.100	8.895	293028.890	102706.245
136670	13.816	2.940	190.995	19.255	293219.885	102725.500
136680	4.501	4.078	91.585	35.090	293311.470	102760.590
136690	0.000	4.695	22.505	43.865	293333.975	102804.455
136700	0.000	4.888	0.000	47.915	293333.975	102852.370
136710	0.000	3.844	0.000	43.660	293333.975	102896.030
136720	0.000	2.805	0.000	33.245	293333.975	102929.275
136730	0.000	1.960	0.000	23.825	293333.975	102953.100
136740	0.000	1.375	0.000	16.675	293333.975	102969.775
136750	3.106	0.638	15.530	10.065	293349.505	102979.840
136760	12.214	0.211	76.600	4.245	293426.105	102984.085
136770	17.084	0.011	146.490	1.110	293572.595	102985.195

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
136780	21.202	0.000	191.430	0.055	293764.025	102985.250
136790	23.582	0.002	223.920	0.010	293987.945	102985.260
136800	26.570	0.024	250.760	0.130	294238.705	102985.390
136810	24.679	0.128	256.245	0.760	294494.950	102986.150
136820	21.722	0.024	232.005	0.760	294726.955	102986.910
136830	19.940	0.639	208.310	3.315	294935.265	102990.225
136840	23.060	0.705	215.000	6.720	295150.265	102996.945
136850	24.406	0.267	237.330	4.860	295387.595	103001.805
136860	22.818	0.979	236.120	6.230	295623.715	103008.035
136870	21.135	2.537	219.765	17.580	295843.480	103025.615
136880	18.668	4.632	199.015	35.845	296042.495	103061.460
136890	12.688	5.287	156.780	49.595	296199.275	103111.055
136900	3.059	4.619	78.735	49.530	296278.010	103160.585
136910	0.093	7.436	15.760	60.275	296293.770	103220.860
136920	0.000	11.631	0.465	95.335	296294.235	103316.195
136930	0.313	7.087	1.565	93.590	296295.800	103409.785
136940	5.803	4.713	30.580	59.000	296326.380	103468.785
136950	19.586	1.322	126.945	30.175	296453.325	103498.960
136960	39.134	0.000	293.600	6.610	296746.925	103505.570
136970	38.307	0.000	387.205	0.000	297134.130	103505.570
136980	33.338	0.000	358.225	0.000	297492.355	103505.570
136990	28.786	0.000	310.620	0.000	297802.975	103505.570
137000	24.911	0.000	268.485	0.000	298071.460	103505.570
137010	21.753	0.000	233.320	0.000	298304.780	103505.570
137020	17.245	0.590	194.990	2.950	298499.770	103508.520
137030	11.526	3.242	143.855	19.160	298643.625	103527.680
137040	9.125	5.068	103.255	41.550	298746.880	103569.230
137050	8.634	5.768	88.795	54.180	298835.675	103623.410
137060	6.774	6.799	77.040	62.835	298912.715	103686.245
137070	6.687	5.706	67.305	62.525	298980.020	103748.770
137080	5.360	5.369	60.235	55.375	299040.255	103804.145
137090	4.019	4.945	46.895	51.570	299087.150	103855.715
137100	1.748	4.898	28.835	49.215	299115.985	103904.930
137110	0.000	4.878	8.740	48.880	299124.725	103953.810
137120	2.850	3.359	14.250	41.185	299138.975	103994.995
137130	3.984	4.089	34.170	37.240	299173.145	104032.235
137140	2.382	8.985	31.830	65.370	299204.975	104097.605
137150	0.381	15.325	13.815	121.550	299218.790	104219.155
137160	0.035	17.107	2.080	162.160	299220.870	104381.315
137170	6.559	6.729	32.970	119.180	299253.840	104500.495
137180	17.674	0.629	121.165	36.790	299375.005	104537.285
137190	27.751	0.000	227.125	3.145	299602.130	104540.430
137200	29.090	0.000	284.205	0.000	299886.335	104540.430
137210	28.240	0.000	286.650	0.000	300172.985	104540.430
137220	26.899	0.000	275.695	0.000	300448.680	104540.430
137230	21.401	0.053	241.500	0.265	300690.180	104540.695
137240	9.154	0.036	152.775	0.445	300842.955	104541.140
137250	0.048	13.241	46.010	66.385	300888.965	104607.525
137260	0.034	20.387	0.410	168.140	300889.375	104775.665
137270	0.000	15.655	0.170	180.210	300889.545	104955.875
137280	0.000	10.892	0.000	132.735	300889.545	105088.610
137290	0.002	6.832	0.010	88.620	300889.555	105177.230
137300	0.063	3.971	0.325	54.015	300889.880	105231.245
137310	0.000	3.742	0.315	38.565	300890.195	105269.810
137320	0.000	5.591	0.000	46.665	300890.195	105316.475
137330	0.000	9.389	0.000	74.900	300890.195	105391.375
137340	1.598	8.666	7.990	90.275	300898.185	105481.650
137350	4.703	10.104	31.505	93.850	300929.690	105575.500
137360	8.924	12.946	68.135	115.250	300997.825	105690.750
137370	11.220	8.721	100.720	108.335	301098.545	105799.085
137380	6.380	4.427	88.000	65.740	301186.545	105864.825
137390	0.985	4.328	36.825	43.775	301223.370	105908.600
137400	2.262	4.147	16.235	42.375	301239.605	105950.975
137410	7.913	1.682	50.875	29.145	301290.480	105980.120
137420	6.044	1.082	69.785	13.820	301360.265	105993.940
137430	3.335	1.377	46.895	12.295	301407.160	106006.235
137440	2.169	2.815	27.520	20.960	301434.680	106027.195
137450	0.000	7.712	10.845	52.635	301445.525	106079.830
137460	0.000	10.376	0.000	90.440	301445.525	106170.270
137470	1.962	6.959	9.810	86.675	301455.335	106256.945
137480	5.282	3.770	36.220	53.645	301491.555	106310.590
137490	4.732	2.913	50.070	33.415	301541.625	106344.005
137500	6.215	1.821	54.735	23.670	301596.360	106367.675
137510	7.511	0.913	68.630	13.670	301664.990	106381.345
137520	8.774	0.515	81.425	7.140	301746.415	106388.485
137530	9.243	0.609	90.085	5.620	301836.500	106394.105
137540	8.029	1.624	86.360	11.165	301922.860	106405.270

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
137550	6.273	2.939	71.510	22.815	301994.370	106428.085
137560	4.938	4.280	56.055	36.095	302050.425	106464.180
137570	2.650	5.200	37.940	47.400	302088.365	106511.580
137580	1.000	5.444	18.250	53.220	302106.615	106564.800
137590	0.114	4.162	5.570	48.030	302112.185	106612.830
137600	0.000	3.937	0.570	40.495	302112.755	106653.325
137610	0.000	4.087	0.000	40.120	302112.755	106693.445
137620	0.016	3.954	0.080	40.205	302112.835	106733.650
137630	0.012	3.730	0.140	38.420	302112.975	106772.070
137640	0.017	3.710	0.145	37.200	302113.120	106809.270
137650	0.043	4.551	0.300	41.305	302113.420	106850.575
137660	0.086	5.303	0.645	49.270	302114.065	106899.845
137670	0.144	4.646	1.150	49.745	302115.215	106949.590
137680	0.326	3.246	2.350	39.460	302117.565	106989.050
137690	0.806	2.105	5.660	26.755	302123.225	107015.805
137700	2.223	1.803	15.145	19.540	302138.370	107035.345
137710	4.170	1.438	31.965	16.205	302170.335	107051.550
137720	4.790	1.540	44.800	14.890	302215.135	107066.440
137730	4.835	1.227	48.125	13.835	302263.260	107080.275
137740	4.575	1.392	47.050	13.095	302310.310	107093.370
137750	3.823	1.636	41.990	15.140	302352.300	107108.510
137760	0.985	1.948	24.040	17.920	302376.340	107126.430
137770	0.214	2.384	5.995	21.660	302382.335	107148.090
137780	0.090	3.492	1.520	29.380	302383.855	107177.470
137790	0.395	4.352	2.425	39.220	302386.280	107216.690
137800	1.564	5.605	9.795	49.785	302396.075	107266.475
137810	2.979	7.331	22.715	64.680	302418.790	107331.155
137820	4.618	8.380	37.985	78.555	302456.775	107409.710
137830	7.138	4.251	58.780	63.155	302515.555	107472.865
137840	7.057	5.204	70.975	47.275	302586.530	107520.140
137850	7.159	8.187	71.080	66.955	302657.610	107587.095
137860	5.513	11.485	63.360	98.360	302720.970	107685.455
137870	3.257	12.368	43.850	119.265	302764.820	107804.720
137880	1.846	11.652	25.515	120.100	302790.335	107924.820
137890	1.575	9.900	17.105	107.760	302807.440	108032.580
137900	1.415	8.861	14.950	93.805	302822.390	108126.385
137910	1.287	6.929	13.510	78.950	302835.900	108205.335
137920	1.225	5.761	12.560	63.450	302848.460	108268.785
137930	1.432	4.039	13.285	49.000	302861.745	108317.785
137940	2.854	2.305	21.430	31.720	302883.175	108349.505
137950	5.189	0.971	40.215	16.380	302923.390	108365.885
137960	7.473	0.337	63.310	6.540	302986.700	108372.425
137970	12.028	0.043	97.505	1.900	303084.205	108374.325
137980	6.977	0.043	95.025	0.430	303179.230	108374.755
137990	6.895	1.408	69.360	7.255	303248.590	108382.010
138000	6.945	3.739	69.200	25.735	303317.790	108407.745
138010	6.014	6.037	64.795	48.880	303382.585	108456.625
138020	5.751	3.928	58.825	49.825	303441.410	108506.450
138030	7.573	0.980	66.620	24.540	303508.030	108530.990
138040	8.004	0.210	77.885	5.950	303585.915	108536.940
138050	8.053	0.126	80.285	1.680	303666.200	108538.620
138060	3.851	0.958	59.520	5.420	303725.720	108544.040
138070	0.116	6.647	19.835	38.025	303745.555	108582.065
138080	0.000	11.129	0.580	88.880	303746.135	108670.945
138090	0.000	16.732	0.000	139.305	303746.135	108810.250
138100	0.000	24.943	0.000	208.375	303746.135	109018.625
138110	0.000	30.240	0.000	275.915	303746.135	109294.540
138120	0.000	30.470	0.000	303.550	303746.135	109598.090
138130	0.000	29.245	0.000	298.575	303746.135	109896.665
138140	2.454	26.676	12.270	279.605	303758.405	110176.270
138150	5.789	25.725	41.215	262.005	303799.620	110438.275
138160	5.853	32.882	58.210	293.035	303857.830	110731.310
138170	3.788	57.837	48.205	453.595	303906.035	111184.905
138180	8.490	24.136	61.390	409.865	303967.425	111594.770
138190	13.126	37.055	108.080	305.955	304075.505	111900.725
138200	12.432	46.365	127.790	417.100	304203.295	112317.825
138210	8.296	27.452	103.640	369.085	304306.935	112686.910
138220	3.792	57.851	60.440	426.515	304367.375	113113.425
138230	1.055	38.627	24.235	482.390	304391.610	113595.815
138240	0.000	69.899	5.275	542.630	304396.885	114138.445
138250	0.000	53.512	0.000	617.055	304396.885	114755.500
138260	0.091	44.716	0.455	491.140	304397.340	115246.640
138270	0.547	33.995	3.190	393.555	304400.530	115640.195
138280	0.750	35.114	6.485	345.545	304407.015	115985.740
138290	1.374	25.061	10.620	300.875	304417.635	116286.615
138300	1.939	18.795	16.565	219.280	304434.200	116505.895
138310	1.731	11.972	18.350	153.835	304452.550	116659.730

CHAINAGE	End Area Cut (m2)	End Area Fill (m2)	Volume Cut (m3)	Volume Fill (m3)	Cum. Volume Cut (m3)	Cum. Volume Fill (m3)
138320	2.224	7.659	19.775	98.155	304472.325	116757.885
138330	1.653	8.605	19.385	81.320	304491.710	116839.205
138340	0.575	5.310	11.140	69.575	304502.850	116908.780
138350	0.000	5.168	2.875	52.390	304505.725	116961.170
138360	0.000	6.458	0.000	58.130	304505.725	117019.300
138370	0.751	3.046	3.755	47.520	304509.480	117066.820
138380	0.000	5.810	3.755	44.280	304513.235	117111.100
138390	0.000	4.398	0.000	51.040	304513.235	117162.140

T JUNCTION/Y JUNCTION



Chainage

100/830 (Y-Right)
109/730 (Y-Right)
110/480 (Y-Left)
113/470 (Y-Right)
138/386 (Y-Left)

DATA

On existing

GSB grade VI	150	mm					
GSB grade IV	150	mm					
WMM	250	mm	100	for	10	m	
DBM	100	mm	80	mm	10	m	
BC	40	mm	40	mm	30	m	
	690						
Area of widening portion in T/Y junction	22	sqm					
Length of improvement on existing road	30	m					
Width of existing B.T road	3	m					
Left Side , Right Side	5	30	=		150		
Total junction	5				150		

SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
1	Excavation of earthwork in all kinds of soil with all leads & lift								
		5	22.000		0.69	75.90			
			Total Qnty			75.90	cum	213.50	16204.65
2	Loosening and Recompaction								
		5	22		0.15	16.50			
						16.50	cum	42.42	699.93
3	Scarifying existing Bituminous surface								
		5	10.00	3.00		150.00			
						150.00	sqm	57.65	8647.50
4	Providing Granular sub-base grade-VI								
		5	22		0.150	16.50			
						16.50	cum	2949.31	48663.62
5	Providing Granular sub-base grade-IV								
		5	22		0.150	16.50			
						16.50	cum	2998.09	49468.55

[illegible]

DETAIL ESTIMATE FOR BUS SHELTER

BUS STOP

No of bus stops

6

Chainage

Length of bay	45	m
Shelter	5	m
Length on both sides	15	m
Width of footpath	1.5	m
Width of halting of bus	15	m
Lane width	3.5	m
Kerb stone		
Height above Road level	0.25	m
Width at top	0.115	m
Width of filling	1.27	m
Depth of sand filling	0.15	m
PCC layer depth	0.075	m
Chequered tile	0.025	m

97/236	1	R
106/136	1	L
110/636	1	L
121/836	1	R
124/430	1	L
133/536	1	R
Total	6	Nos

Crust

GSB VI	150	mm	0.150	m
GSB IV	150	mm	0.150	m
WMM	250	mm	0.25	m
DBM	100	mm	0.1	m
BC	40	mm	0.04	m

[illegible]

5	Providing sand filling inside shelter								
		6	4.5	3.5	0.6	56.7	cum	2554.1	144815.77
6	Providing PCC M15								
		6	4.5	3.5	0.15	14.18	cum	8977.61	127302.51
7	Providing plane tiles								
		6	5	4		120	sqm	906.91	108829.20
8	Providing cement plaster 1:3								
		6	5	1.8		54			
		6	4	1.8		43.2			
						97.2	sqm	81.21	7893.61
9	Providing cement wash								
	Column	12	2.5	1.1		33			
	Roof slab	6	5	4		120			
						153	sqm	116.94	17891.82
10	HYSD bar								
	1 qtl /cum					18.540	qtl		
						1.850	MT	128774.1	238232.05
	Dismantling existing Bus shelters								
1	RCC					1320	cum	1756.4	2318448.00
2	PCC					1760	cum	435.98	767324.80
									4046073.18
	Total estimate for 4 Bus Stops						6		4046073.18

Seeding and Mulching

[illegible]

DETAILED ESTIMATE OF CURVE									
SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
DETAIL ESTIMATE FOR SHARP CURVE									
	Total length of Curve on radius 61 to 100 m	7037.73	m						
	Total Transition length of Curve on radius 61 to 100 m	7158.33	m						
	Crust Provided								
			Widening						
	GSB-VI		0.150						
	GSB-IV		0.150						
	WMM		0.250						
	DBM	=	0.100						
	BC	=	0.040						
			0.690						
	Proposed Embankment height for TY-I	=	2.00	m					
	Proposed Embankment height for TY-II	=	2.00	m					
1	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.								
	Length of Curve radius 61 to 100 m	2	7037.73	0.90		12667.91			
	Length of Transition of Curve radius 61 to 100 m	4	7158.33	0.900		12885.00			
		Total Qty				25552.91	Sqm	7.82	199823.76
2	Loosening, leveling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Table 300-2 for embankment construction.								
	Length of Curve radius 61 to 100 m	2	7037.73	0.90	0.15	1900.19			
	Length of Transition of Curve radius 61 to 100 m	4	7158.33	0.90	0.15	1932.75			
		Total Qty				3832.94	cum	42.42	162593.31
3	Construction of granular sub-base by providing close graded Material-grade IV, spreading in uniform layers with motor grader on prepared surface, mixing by place in method rotavator at OMC, and compacting with vibratory power roller to achieve the desired density, complete as per clause 501								
	Length of Curve radius 61 to 100 m	2	7037.73	0.90	0.150	1900.19			
	Length of Transition of Curve radius 61 to 100 m	4	7158.33	0.90	0.150	1932.75			
		Total Qty				3832.94	cum	2998.09	11491514.80
4	Construction of granular sub-base by providing close graded Material-grade VI, spreading in uniform layers with motor grader on prepared surface, mixing by place in method rotavator at OMC, and compacting with vibratory power roller to achieve the desired density, complete as per clause 501								
	Length of Curve radius 61 to 100 m	2	7037.72667	0.90	0.150	1900.19			
	Length of Transition of Curve radius 61 to 100 m	4	7158.33333	0.90	0.150	1932.75			
		Total Qty				3832.94	cum	2949.31	11304528.27
5	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.								
	Length of Curve radius 61 to 100 m	2	7037.73	0.90	0.250	3166.98			
	Length of Transition of Curve radius 61 to 100 m	4	7158.33	0.90	0.250	3221.25			
		Total Qty				6388.23	cum	3023.54	19315068.93

6	Providing and applying prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.								
	Length of Curve radious 61 to 100 m	2	7037.73	0.90		12667.91			
	Length of Transition of Curve radious 61 to 100 m	4	7158.33	0.900		12885.00			
		Total Qnty				25552.91	sqm	58.60	1497400.53
7	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25-0.3 kg per sqm on the prepared Bituminous surface cleaned with mechanical broom.								
	Length of Curve radious 61 to 100 m	2	7037.73	0.90		12667.91			
	Length of Transition of Curve radious 61 to 100 m	4	7158.33	0.900		12885.00			
		Total Qnty				25552.91	sqm	16.27	415745.85
8	Providing and laying grading-I dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH (5th Revision) specification clause No. 507 complete in all respects.								
	Length of Curve radious 61 to 100 m	2	7037.73	0.90	0.100	1266.79			
	Length of Transition of Curve radious 61 to 100 m	4	7158.33	0.90	0.100	1288.50			
		Total Qnty				2555.29	cum	10864.05	27760798.32
9	Providing and laying bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH (5th Revision) specification clause No. 507 complete in all respects.								
	Length of Curve radious 61 to 100 m	2	7158.33	0.90	0.040	515.40			
	Length of Transition of Curve radious 61 to 100 m	4	7158.33	0.90	0.040	515.40			
		Total Qnty				1030.80	cum	12092.03	12464464.52
								TOTAL =	84611938.29

Sl No	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
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		Length of Gabion wall required							
						170			
	AT CHAINAGE 111/800 KM					94			
	AT CHAINAGE 115/200 KM					71			
	AT CHAINAGE 121/300 KM					93			
	AT CHAINAGE 126/000 KM					64			
	AT CHAINAGE 131/800 KM					63			
	AT CHAINAGE 135/800 KM					382			
		T =				937.00			
1	Excavation of earth work in all kinds of soil within 50Mtr initial lead and 1.5Mtr initial lift including rough dressing and breaking clods to maximum 5cm to 7cm and laying in layers not exceeding3.0M in depth and as per direction of the Engineer-in-charge.	1	937.00	4.50	2.000	8433.00			
						8433.00 cum	213.50	1800445.50	
2	Granular bed in foundation as per approved drawing and technical specifications as per Clause 407 of MORT&H Specifications for Road & Bridge works (5th Revision) complete in all respect & as per direction of the Engineer-in-Charge.	1	937.00	4.50	0.20	843.30 cum			
						843.30 cum	1099.65	927334.85	
3	Providing and constructing Gabion structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 mm x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be securely tied with 4 mm galvanised steel wire.								
	Step 1	1	937.00	3.90	2.00	7308.60			
	Step 2	1	937.00	2.90	2.00	5434.60			
	Step 3	1	937.00	1.90	2.00	3560.60			
	Step 4	1	937.00	0.90	2.00	1686.60			
	Step 3	1	937.00	0.90	1.00	843.30			
	Step 1	1	937.00	3.00	1.00	2811.00			
	Step 2	1	937.00	2.00	1.00	1874.00			
	Step 3	1	937.00	1.00	1.00	937.00			
						24455.70 cum	2698.6	65996152.02	
4	Back filling behind abutment, wing wall and return wall complete as per drawing and Technical Specification (Sand)	1	937.00	1.10	1.000	1030.70 cum			
						1030.70 cum	2011.6	2073356.12	
						Total Amount =	70797288.49		

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DETAILED ESTIMATE OF LINED DRAIN

Typical Section I 18507.00 m

Typical Section 2A(Both sides) 10952 m

Typical Section 2B(Both sides) 4344

Typical Section 3 0.00 m

Typical Section 5 3116.00 m

Total 36919.00 m

SL No	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
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1	Earth work in excavation of foundation of structure in all kind of soil	1	36919.00	0.80	0.80	23628.16	cum	307.61	7268258.30
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2	P.C.C 1:3:6 Base	1	36919.00	0.60	0.10	2215.14	cum	7000.76	15507663.51
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3	PCC M15	1	36919.00	0.80	0.10	2953.52	cum		
					Total=	2953.52	cum	8977.61	26515550.69

4	PCC M20 Wall	2	36919.00	0.10	0.50	3691.90	cum		
					Total=	3691.90	cum	9973.01	36819355.62

Total Amount								86110828.11
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DETAILED ESTIMATE OF BREAST WALL of RR masonry for 1m height

Typical Section 3a	386.00
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DETAILED ESTIMATE OF BREAST WALL of RR masonry for 2m height

**Typical Section 4
Total**

786.00	m
786	m

SL No	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
1	Earth work in excavation of foundation of structure in all kind of soil	1	786.00	1.70	1.25	1670.25	cum	₹ 307.61	₹ 5,13,785.60
2	P.C.C M15	1	786.00	1.50	0.30	353.70	cum	₹ 8,977.61	₹ 31,75,380.66
3	RR Stone masonry Total Volume	1	786.00	1.15	3.12	2820.17	cum		
				Total=		2820.17	cum	₹ 7,344.24	₹ 2,07,11,990.63
						Total Amount			₹ 2,44,01,156.89

DETAILED ESTIMATE OF BREAST WALL of RR masonry for 2.5m height

5669.00 m

5669.00 m

SL No	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
1	Earth work in excavation of foundation of structure in all kind of soil	1	5669.00	2.10	1.25	14881.12	cum	₹ 307.61	₹ 45,77,582.86
2	P.C.C M15	1	5669.00	1.90	0.30	3231.33	cum	₹ 8,977.61	₹ 2,90,09,620.52
3	RR Stone masonry	1	5669.00	1.45	3.90	32058.19	cum		
	Total Volume								
					Total=	32058.19	cum	₹ 7,344.24	₹ 23,54,43,078.05
						Total Amount			₹ 26,90,30,281.43

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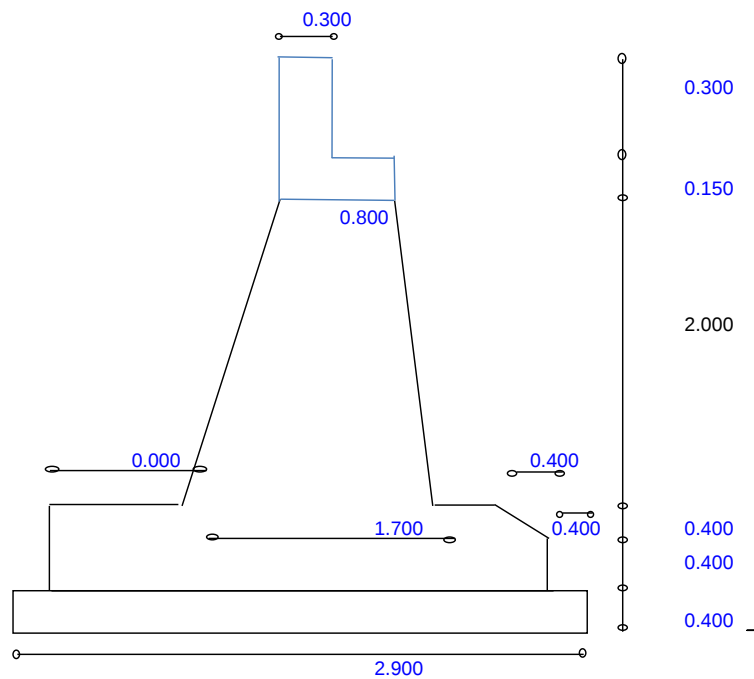
DETAILED ESTIMATE OF RETAINING WALL									
SL No.	Description	No	Length	Width	Depth	Volume	Unit	Rate	Amount
	Typical 7(Both Sides)	1386.00							
	Typical 6	5669.00							
		7055.00							
	Deducting Culverts	0							
		7055							
1	Earthwork in excavation of foundation in all kinds of soil with all leads & lift								
		1	7055	3.8	1.85	49596.65	cum		
						49596.65	cum	307.61	15256425.51
2	Providing PCC M 15 in foundation								
		1	7055	3.8	0.1	2680.90	cum		
						2680.90	cum	8977.61	24068074.65
3	Providing RCC M25 in foundation								
	Rectangular portion	1	7055	3.6	0.5	12699.00	cum		
	Trapezium Portion	1	7055	2.15	0.5	7584.12	cum		
						20283.12	cum	10731.36	217665516.30
4	Providing RCC M25 for retaining wall in substructure								
		1	7055	0.5	3.75	13228.12			
						13228.12	cum	10436.44	138054532.87
5	Supplying, bending, binding,tying and placing HYSD bar reinforcement in complete including cost of binding wire as per drawing and Technical Specifications & as per clause no 1600.of Specification for road & bridge work of MORT&H (5th Revision) & Direction of Engineer in charge.								
	for retaining wall.@ 1.0qntl/cum.					33511.25	qntl		
						33511.25	qntl		
						3351.13	MT	128774.08	431538038.84
6	Providing weep holes including cost carriage of all materials labour & t&P etc complete								
		3	7053	0.5		10579.50	rmt		
						10579.50	rmt	506.90	5362748.55
7	Back filling with excavated material well rammed and wel compacted								
		1	7055	1.4	1.25	12346.25			
						12346.25	cum	1017.94	12567741.72
8	Providing Filter media								
		1	7055	4.5	0.6	19048.50	cum	1508.06	28726280.91
								TOTAL =	873239359.4

DETAILED ESTIMATE FOR ROAD SIGNAGE AND KM STONE									
1	Providing and fixing mandatory signs								
	60 cm circular	588				588	Nos	4485.21	2637303.48
	90 cm octagon	49				49	Nos	8246.90	404098.10
2	Providing and fixing cautionary signs								
	90 cm equilateral triangle	630				630	Nos	4980.66	3137815.80
3	Providing and fixing informatory signs								
	80 cm x 60 cm rectangular	777				777	Nos	5763.29	4478076.33
	Hazard Marker	486				486	Nos	550.96	267766.56
4									
i)	Providing and fixing 5th km stone								
		9				9	Nos	4602.41	39291.69
ii)	Providing and fixing ordinary km stone								
		33				33	Nos	2703.00	88406.48
ii)	Providing and fixing hectometer stones								
		165				165	Nos	954.88	157532.28
5	Providing Delinators	1057				1057	Nos	550.96	582364.72
6	Fluorescent Strips (3 mtr per roll) for marking the structures	15	Rolls			15	Rolls	450.00	6750.00
7	Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface								
	Bothside Edge	2	41244.00	0.15		12373.20	sqm		
	Centre line	1	41244.00	0.10	0.33	1361.05	sqm		
						13734.25	sqm	1012.16	13901260.50
								Total Cost	25700665.95

ABSTRACT OF QUANTITY																			
Sl. No.	Description	Unit	Quantity of 3.0 m span	2 nos 3.0 m span widening	Quantity of 3.0 m span	3 nos 3.0 m span New construction	Quantity of 2.0 m span	3 nos 2.0 m span	Quantity of 1.5 m span	11 nos 1.5 m span widening	Quantity of 1.5 m span	86 nos 1.5 m span reconstruction	Quantity of 1.5 m span	59 nos 1.5 m span New construction	Quantity of 1.0 m span	31 nos 1.0 m span widening	Total Quantity = 195 nos	Analysis Rate	Amount
				2		3		3		11		86		59		31			
	Foundation																		
1	Earth work in excavation of foundation of structures in all kinds of soil as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material. as per clause 304 of MORTH specification for Road and Bridge works (5th revision) and as directed by the Engineer in charge																		
	For abutment & pier	Cum	30.33	60.66	36.28	108.85	56.14	168.42	26.69	293.54	24.78	2131.08	24.78	1462.02	17.01	527.29	4751.856	427.33	2030610.62
2	Supplying, Providing & laying Plain cement concrete M-15 grade (cast-in-situ) in nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days as levelling course as per drawing and technical specification section 1000, 1500 & 2100 of MORTH specification for Road & Bridge works (5th revision) as directed by Engineer in charge																		
		Cum	5.033	10.07	10.985	32.96	4.596	13.79	4.707	51.78	10.659	916.67	10.659	628.88	4.598	142.55	1796.688	8977.61	16129964.16
3	Supplying, Providing & laying Plain cement concrete M-20 grade (cast-in-situ) in nominal mix as per drawing and technical specification section 1000, 1500 & 2100 of MORTH specification for Road & Bridge works (5th revision) as directed by Engineer in charge																		
		Cum	55.902	111.80	123.230	369.69	50.815	152.45	53.607	589.68	120.935	10400.41	120.935	7135.17	52.992	1642.75	20401.943	9973.01	203468781.56
4	Reinforced cement concrete in M25 (Cast - in - Situ) for sub-structure complete as per drawing and Technical Specifications in Abutment/Pier Cap , Dirt wall , as per approved drawings and sections 1000, 1500, 1600, 1700 and 2200 of MORTH specifications for road and bridge works(5th revision) excluding the cost of reinforcement complete as directed by Engineer -in - charge.																		
		Cum	1.35	2.70	3.27	9.81	1.11	3.32	1.22	13.37	2.94	253.10	2.94	173.64	1.22	37.67	493.596	10436.44	5151385.04
	Superstructure																		
5	Providing supplying and laying Reinforced Cement Concrete of grade M25 (Cast - in - Situ) using graded crushed stone aggregate and coarse sand, cement of approved quality (IRC 383) in RCC Deck slab as per approved drawings and sections 1000, 1500, 1600, 1700 and 2300 of MORTH specifications for road and bridge works(5th revision) excluding the cost of reinforcement complete as directed by Engineer -in - charge.																		
		Cum	6.21	12.42	15.04	45.13	3.69	11.07	3.49	38.36	8.45	726.49	8.45	498.40	2.93	90.68	1422.541	12256.76	17435743.63
6	Supplying, decoiling, straightening, cutting, bending, placing in position and tying the grills of HYSD steel reinforcement Fe 500 conforming to IS-1786, 2008 in position binding with galvanized binding works of 18 gauge complete for all RCC works in foundation, deck slab, Abutment/Pier shaft, cap, return wall, fly wing & dirt wall as per working drawing and technical specification section 1000,1500,1600, 2300 of MORTH specification for Road & Bridge works (5th revision) as directed by Engineer in charge.																		
		MT	0.454	0.91	1.099	3.30	0.288	0.86	0.282	3.10	0.683	58.77	0.683	40.32	0.248	7.70	114.968	128774.08	14804926.76
7	Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate of 200mm x 6mm of weldable structural steel conforming to IS: 2062, asphaltic plug to consist of polymer modified bitumen binder, carefully selected single size aggregate of 12.5 mm nominal size and a heat resistant foam caulking/backer rod, all as per approved drawings and specifications section Clause 2608 of MORTH specification for Road & Bridge works, (5th revision).																		
		rm	9.00	18.00	21.80	65.40	8.20	24.60	9.00	99.00	21.80	1874.80	21.80	1286.20	9.00	279.00	3647.000	1261.06	4599085.82

8	Supplying, Providing & laying reinforced cement concrete M-30 grade (cast-in-situ) as per mix design prepared under relevant IS/IRC concrete codes using graded crushed stone aggregates cement and coarse sand of approved quality and quantities in Wearing coat using weigh batching, mechanically mixing, vibrating, centering & shuttering, decentering using necessary plant equipments & machinery including full compensation to all inclusive costs all operations contingencies incidentals involved for the finished defect free item of work complete to specification including cost of reinforcement complete																		
		cum	3.90	7.80	6.40	19.19	3.15	9.45	2.78	30.53	2.78	238.65	2.78	163.73	2.40	74.40	543.738	19369.14	10531737.45
9	Provision of an Reinforced cement concrete crash barrier at the edges of the bridge and approaches to bridge structures, constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer-in-Charge.																		
		rm	10.40	20.80	10.40	31.20	8.40	25.20	7.40	81.40	7.40	636.40	7.40	436.60	6.40	198.40	1430.000	5330.31	7622343.30
10	Supplying, fabricating welded water tight drainage spout as per technical specification clause 2705 of specification road and bridge work MORT&H (5th revision) assembly to dimensions shown on drawing of dia not less than 100mm with galvanized steel conforming to IS 226 & fixing in position with suitable fixtures at specified locations on bridge decks including painting two coats with bituminous paint sealed with sealant as per IS 1834 around the spout to the deck slab including full compensation to all operations, all inclusive costs, contigencies, incidental involved for the finished defect free item of work complete to specificaton & as directed by engineer in charge.																		
		nos	2.00	4.00	2.00	6.00	2.00	6.00	2.00	22.00	2.00	172.00	2.00	118.00	2.00	62.00	390.000	2180.58	850426.20
11	Supplying, Providing, fixing weep holes in plain / reinforced concrete abutments / return walls as per drawings and technical specifications section 2200, 2700 (Clause 2706) of MORTH specification for Road & Bridge works (5th revision) with 100mm dia PVC pipe extending through the full width of the structure with slope of one vertical x 20 horizontal towards drainage face complete including full compensation to all inclusive costs all operations, contingencies incidetals involved for the finished defect free item of work complete to specification and instruction of Engineer in charge.																		
		mtr	10.000	20.00	10.000	30.00	10.000	30.00	10.000	110.00	10.000	860.00	10.000	590.00	10.000	310.00	1950.000	506.90	988455.00
12	Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2200, 2504.2.2. of MoRTH specifications for Road & Bridge works (5th revision) & 710.1.4.of IRC:78 to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification and instruction of Engineer in charge..																		
		Cum	7.344	14.69	20.400	61.20	6.528	19.58	7.344	80.78	20.400	1754.40	20.400	1203.60	7.344	227.66	3361.920	1508.06	5069977.08
13	Back filling behind abutment, wing wall and return wall complete as per drawing and Technical Specification section 2200, IRC-78 and instruction of Engineer in charge.																		
		Cum	27.69	55.38	76.92	230.75	23.94	71.83	26.94	296.31	74.82	6434.92	74.82	4414.65	26.94	835.04	12338.879	1017.94	12560238.29
14	Providing fixing and laying tar paper on pier and abutment cap	Sqm	4.50	9.00	10.90	32.70	4.10	12.30	4.50	49.50	10.90	937.40	10.90	643.10	4.50	139.50	1823.500	17.00	30999.50
15	Providing Stone apron for cascading		15.12	30.24	15.12	45.36	45.36	136.08	15.71	172.85	45.36	3900.96	45.36	2676.24	14.90	462.02	7423.758	3812.91	28306121.12
																		Total =	32,95,80,796.0

QUANTITY OF SLAB CULVERT (FO 3.0 M SPAN) - TYPICAL (WIDENING)



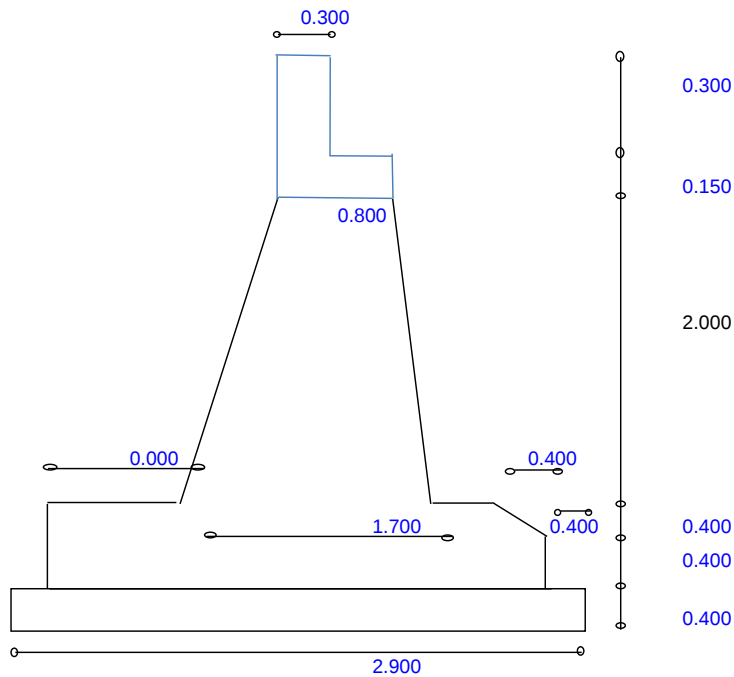
DIMENSION OF ABUTMENT

Width of New Slab :	4.5 m	Road Top Level	m	h
Width of Old Slab :	6.4 m	Average GL at Wall Face	m	1.575
Clear Span :	3.000 m	Founding Level	m	2.000
Lenght of New Slab :	4.600	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Earth Work in Excavation		2	4.5	3.100	0.150	0.47	4.19
2	Leveling Course below Abutment	PCC M15	2	4.5	3.100	0.150	0.465	4.185
3	Vertical Portion of Abutment	PCC M 20	2	4.5	1.250	2.000	2.500	22.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	4.5	1.900	0.400	0.760	6.84
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	4.5	2.100	0.400	0.840	7.56
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	4.5	2.900	0.400	1.160	10.44
	Total							47.34
5	Vertical Portion of Dirt Wall	Concrete	2	4.5	0.300	0.300	0.09	0.81
	Abutment cap	Concrete	2	4.5	0.800	0.150	0.06	0.54
		Reinforcement	60 kg/cum					0.081

6	Super Structure (slab)	Concrete	1	4.5	4.600	0.300	1.38	6.21
		Reinforcement	60 kg/cum					0.373
7	Backfill Behind Abutment		2	3.6	2.107	3.650	3.85	27.69
8	Crash barrier		2	5.2	10.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	5.2	10.00	0.075	52.00	3.90
11	Filter Material Behind Abutment	-	2	3.6	0.600	1.700	1.02	7.34
12	Weep holes	-	8.00	1.3	-			10.00
13	Tar paper Bearing	-	2	4.5	0.50	-		4.50
14	Expansion Joint	-	2	4.5	-	-	-	9.00

QUANTITY OF SLAB CULVERT (FO 3.0 M SPAN) - TYPICAL (WIDENING)



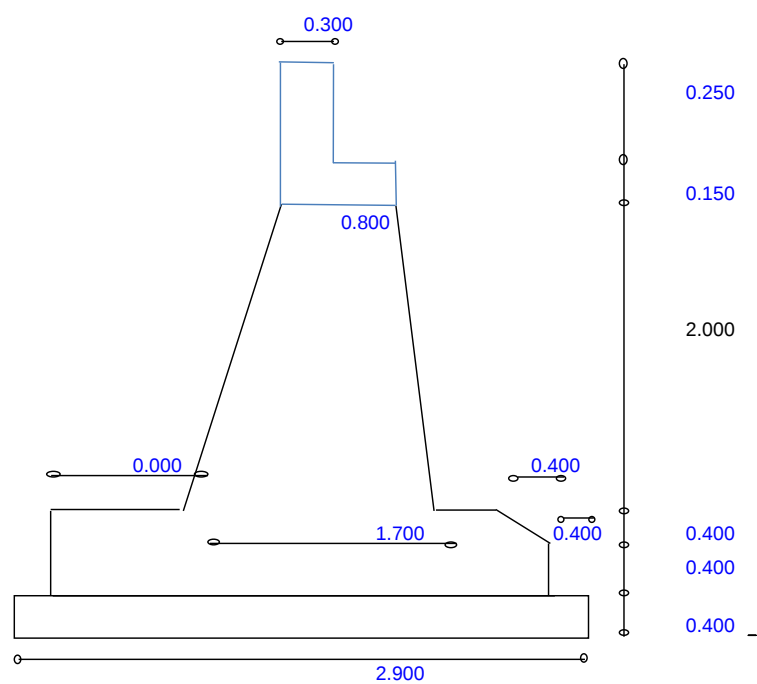
DIMENSION OF ABUTMENT

Width of New Slab :	10.9 m	Road Top Level	m	h
Width of Old Slab :	6.4 m	Average GL at Wall Face	m	1.575
Clear Span :	3.000 m	Founding Level	m	2.000
Lenght of New Slab :	4.600	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m²	
1	Earth Work in Excavation		2	10.9	3.100	0.150	0.47	10.14
2	Leveling Course below Abutment	PCC M15	2	10.9	3.100	0.150	0.465	10.137
3	Vertical Portion of Abutment	PCC M 20	2	10.9	1.250	2.000	2.500	54.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	10.9	1.900	0.400	0.760	16.57
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	10.9	2.100	0.400	0.840	18.31
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	10.9	2.900	0.400	1.160	25.29
	Total							114.67
5	Vertical Portion of Dirt Wall	Concrete	2	10.9	0.300	0.300	0.09	1.962
	Abutment cap	Concrete	2	10.9	0.800	0.150	0.06	1.31
		Reinforcement	60 kg/cum					0.196

6	Super Structure (slab)	Concrete	1	10.9	4.600	0.300	1.38	15.042
		Reinforcement	60 kg/cum					0.903
7	Backfill Behind Abutment		2	10.0	2.107	3.650	3.85	76.92
8	Crash barrier		2	5.2	10.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	5.2	16.40	0.075	85.28	6.40
11	Filter Material Behind Abutment	-	2	10.0	0.600	1.700	1.02	20.40
12	Weep holes	-	18.00	1.3	-			22.50
13	Tar paper Bearing	-	2	10.9	0.50	-		10.90
14	Expansion Joint	-	2	10.9	-	-	-	21.80

QUANTITY OF SLAB CULVERT (FO 2.0 M SPAN) - TYPICAL



DIMENSION OF ABUTMENT

Width of New Slab :	4.1 m	Road Top Level	m	h
Width of Old Slab :	6.8 m	Average GL at Wall Face	m	1.525
Clear Span :	2.000 m	Founding Level	m	2.000
Lenght of New Slab :	3.600	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

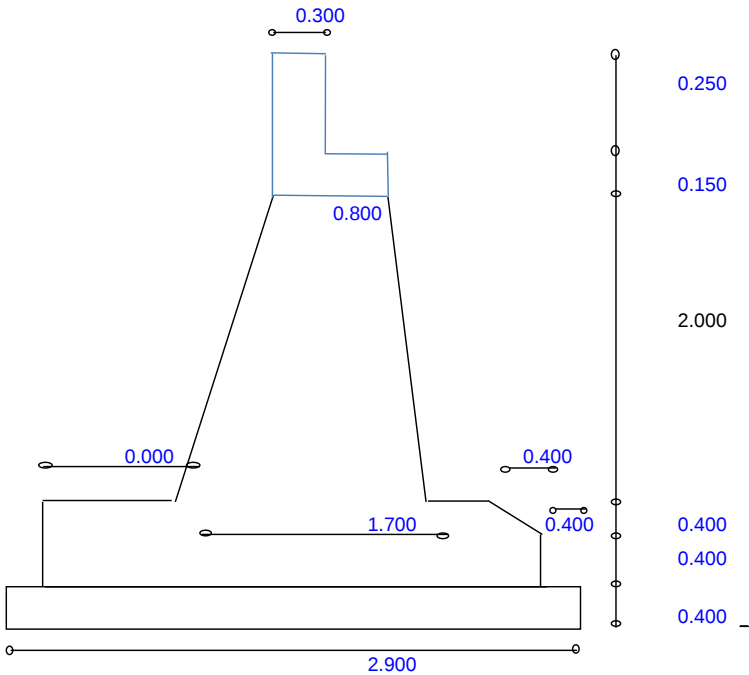
Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m²	
1	Earth Work in Excavation		2	4.1	3.100	0.150	0.47	3.81
2	Leveling Course below Abutment	PCC M15	2	4.1	3.100	0.150	0.465	3.813
3	Vertical Portion of Abutment	PCC M 20	2	4.1	1.250	2.000	2.500	20.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	4.1	1.900	0.400	0.760	6.23
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	4.1	2.100	0.400	0.840	6.89
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	4.1	2.900	0.400	1.160	9.51
	Total							43.13
5	Vertical Portion of Dirt Wall	Concrete	2	4.1	0.300	0.250	0.075	0.615
	Abutment cap	Concrete	2	4.1	0.800	0.150	0.06	0.49
		Reinforcement	60 kg/cum					0.066

6	Super Structure (slab)	Concrete	1	4.1	3.600	0.250	0.9	3.69
		Reinforcement	60 kg/cum					0.221
7	Backfill Behind Abutment		2	3.2	2.078	3.600	3.74	23.94
8	Crash barrier		2	4.2	8.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	4.2	10.00	0.075	42.00	3.15
11	Filter Material Behind Abutment	-	2	3.2	0.600	1.700	1.02	6.53
12	Weep holes	-	7.00	1.3	-			8.75
13	Tar paper Bearing	-	2	4.1	0.50	-		4.10
14	Expansion Joint	-	2	4.1	-	-	-	8.20

QUANTITY OF catchpit & cascading FOR Culvert (FO 3.0 M SPAN) - TYPICAL

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Cascading D/S	Earth Work	2	3.000	5.600	0.450	2.520	15.120
	Catch Pit U/S	Earth Work	1	3.900	1.450	1.950	2.828	11.027
Total								26.147
2	Leveling Course below Catch pit U/S	PCC M 15	1	3.900	1.450	0.150	0.218	0.848
Total								0.848
3	Catch Pit U/S	PCC M 20	1	3.600	1.300	0.300	0.390	1.404
			1	3.600	1.800	0.300	0.540	1.944
			2	1.300	1.800	0.300	0.540	1.404
Total								4.752
4	Toe Wall	PCC M 20	2	6.350	0.300	1.000	0.300	3.810
5	Cascading D/S	FLOORING	2	3.000	5.600	0.450	2.520	15.120

QUANTITY OF SLAB CULVERT (FO 2.0 M SPAN) - TYPICAL - RECONSTRUCTION



DIMENSION OF ABUTMENT

Width of New Slab :	10.9 m	Road Top Level	m	h
Width of Old Slab :	6.8 m	Average GL at Wall Face	m	1.525
Clear Span :	2.000 m	Founding Level	m	2.000
Lenght of New Slab :	3.600	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

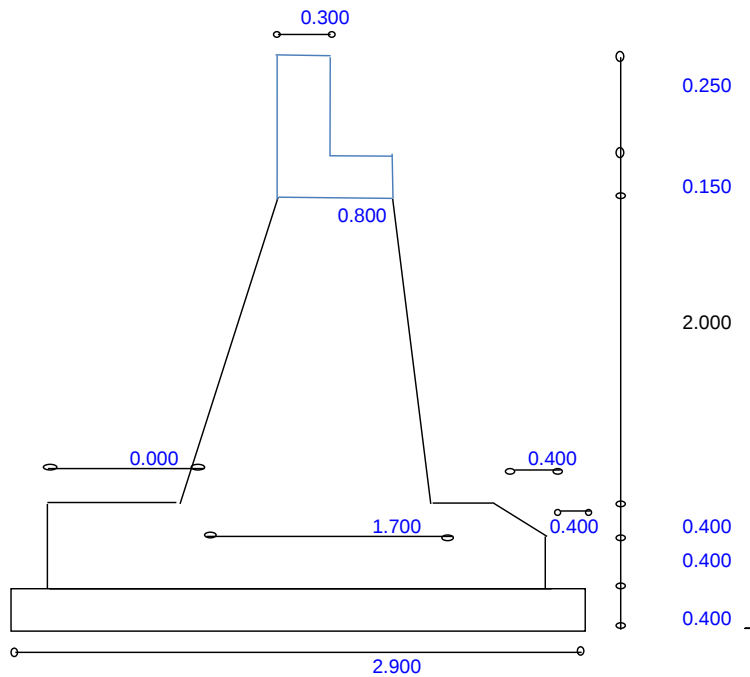
Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m²	
1	Earth Work in Excavation		2	10.9	3.100	0.150	0.47	10.14
2	Leveling Course below Abutment	PCC M15	2	10.9	3.100	0.150	0.465	10.137
3	Vertical Portion of Abutment	PCC M 20	2	10.9	1.250	2.000	2.500	54.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	10.9	1.900	0.400	0.760	16.57
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	10.9	2.100	0.400	0.840	18.31
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	10.9	2.900	0.400	1.160	25.29
	Total							114.67
5	Vertical Portion of Dirt Wall	Concrete	2	10.9	0.300	0.250	0.075	1.635
	Abutment cap	Concrete	2	10.9	0.800	0.150	0.06	1.31
		Reinforcement	60 kg/cum					0.177

6	Super Structure (slab)	Concrete	1	10.9	3.600	0.250	0.9	9.81
		Reinforcement	60 kg/cum					0.589
7	Backfill Behind Abutment		2	10.0	2.078	3.600	3.74	74.82
8	Crash barrier		2	4.2	8.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	4.2	16.80	0.075	70.56	5.29
11	Filter Material Behind Abutment	-	2	10.0	0.600	1.700	1.02	20.40
12	Weep holes	-	18.00	1.3	-			22.50
13	Tar paper Bearing	-	2	10.9	0.50	-		10.90
14	Expansion Joint	-	2	10.9	-	-	-	21.80

QUANTITY OF catchpit & cascading FOR Culvert (FO 2.0 M SPAN) - TYPICAL

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Cascading D/S	Earth Work	2	3.600	5.100	0.450	2.295	16.524
	Catch Pit U/S	Earth Work	1	3.600	5.100	1.950	9.945	35.802
Total								52.326
2	Leveling Course below Catch pit U/S	PCC M 15	1	3.600	1.450	0.150	0.218	0.783
Total								0.783
3	Catch Pit U/S	PCC M 20	1	3.300	1.300	0.300	0.390	1.287
			1	3.300	1.800	0.300	0.540	1.782
			2	1.300	1.800	0.300	0.540	1.404
Total								4.473
4	Toe Wall	PCC M 20	2	5.350	0.300	1.000	0.300	3.210
5	Cascading D/S	FLOORING	2	3.600	5.100	0.450	2.295	16.524

QUANTITY OF SLAB CULVERT (FO 1.5 M SPAN) - TYPICAL (WIDENING)



DIMENSION OF ABUTMENT

Width of New Slab :	4.5 m	Road Top Level	m	h
Width of Old Slab :	6.4 m	Average GL at Wall Face	m	1.525
Clear Span :	1.500 m	Founding Level	m	2.000
Lenght of New Slab :	3.100	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

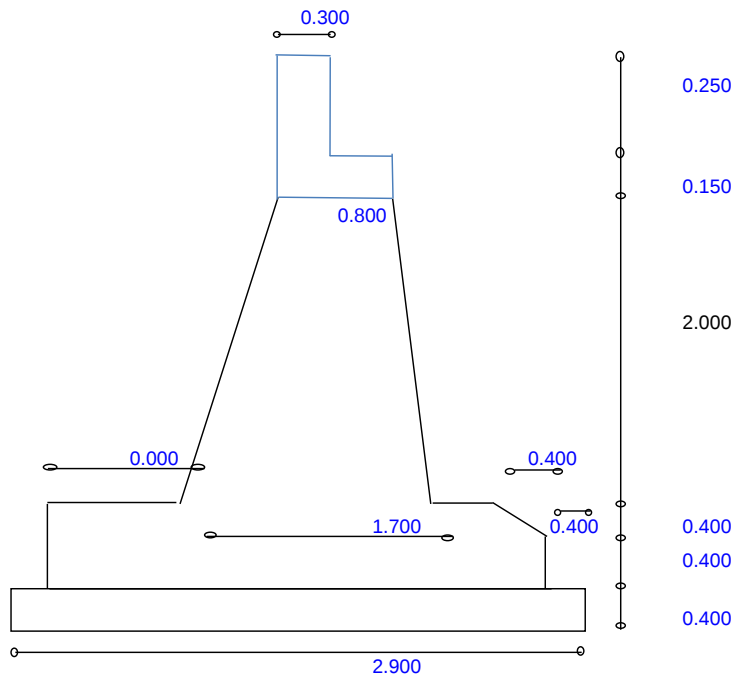
Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Earth Work in Excavation		2	4.5	3.100	0.150	0.47	4.19
2	Leveling Course below Abutment	PCC M15	2	4.5	3.100	0.150	0.465	4.185
3	Vertical Portion of Abutment	PCC M 20	2	4.5	1.250	2.000	2.500	22.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	4.5	1.900	0.400	0.760	6.84
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	4.5	2.100	0.400	0.840	7.56
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	4.5	2.900	0.400	1.160	10.44
	Total							47.34
5	Vertical Portion of Dirt Wall	Concrete	2	4.5	0.300	0.250	0.075	0.675
	Abutment cap	Concrete	2	4.5	0.800	0.150	0.06	0.54
		Reinforcement	60 kg/cum					0.073

6	Super Structure (slab)	Concrete	1	4.5	3.100	0.250	0.775	3.4875
		Reinforcement	60 kg/cum					0.209
7	Backfill Behind Abutment		2	3.6	2.078	3.600	3.74	26.94
8	Crash barrier		2	3.7	7.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	3.7	10.00	0.075	37.00	2.78
11	Filter Material Behind Abutment	-	2	3.6	0.600	1.700	1.02	7.34
12	Weep holes	-	8.00	1.3	-			10.00
13	Tar paper Bearing	-	2	4.5	0.50	-		4.50
14	Expansion Joint	-	2	4.5	-	-	-	9.00

QUANTITY OF catchpit & cascading FOR Culvert (FO 1.5 M SPAN) - TYPICAL

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Cascading D/S	Earth Work	2	3.600	4.850	0.450	2.183	15.714
	Catch Pit U/S	Earth Work	1	2.400	1.450	1.950	2.828	6.786
Total								22.500
2	Leveling Course below Catch pit U/S	PCC M 15	1	2.400	1.450	0.150	0.218	0.522
Total								0.522
3	Catch Pit U/S	PCC M 20	1	2.100	1.300	0.300	0.390	0.819
			1	2.100	1.800	0.300	0.540	1.134
			2	1.300	1.800	0.300	0.540	1.404
Total								3.357
4	Toe Wall	PCC M 20	2	4.850	0.300	1.000	0.300	2.910
5	Cascading D/S	FLOORING	2	3.600	4.850	0.450	2.183	15.714

QUANTITY OF SLAB CULVERT (FO 1.5 M SPAN) - TYPICAL - Reconstruction



DIMENSION OF ABUTMENT

Width of New Slab :	10.9 m	Road Top Level	m	h
Width of Old Slab :	0.0 m	Average GL at Wall Face	m	1.525
Clear Span :	1.500 m	Founding Level	m	2.000
Lenght of New Slab :	3.100	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Earth Work in Excavation		2	10.9	3.100	0.150	0.47	10.14
2	Leveling Course below Abutment	PCC M15	2	10.9	3.100	0.150	0.465	10.137
3	Vertical Portion of Abutment	PCC M 20	2	10.9	1.250	2.000	2.500	54.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	10.9	1.900	0.400	0.760	16.57
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	10.9	2.100	0.400	0.840	18.31
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	10.9	2.900	0.400	1.160	25.29
	Total							114.67
5	Vertical Portion of Dirt Wall	Concrete	2	10.9	0.300	0.250	0.075	1.635
	Abutment cap	Concrete	2	10.9	0.800	0.150	0.06	1.31
		Reinforcement	60 kg/cum					0.177

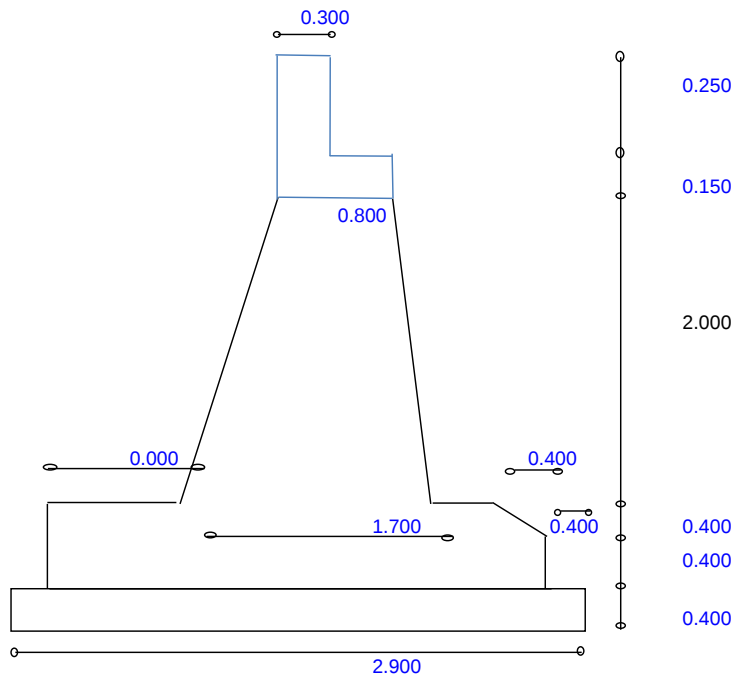
6	Super Structure (slab)	Concrete	1	10.9	3.100	0.250	0.775	8.4475
		Reinforcement	60 kg/cum					0.507
7	Backfill Behind Abutment		2	10.0	2.078	3.600	3.74	74.82
8	Crash barrier		2	3.7	7.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	3.7	10.00	0.075	37.00	2.78
11	Filter Material Behind Abutment	-	2	10.0	0.600	1.700	1.02	20.40
12	Weep holes	-	18.00	1.3	-			22.50
13	Tar paper Bearing	-	2	10.9	0.50	-		10.90
14	Expansion Joint	-	2	10.9	-	-	-	21.80

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QUANTITY OF catchpit & cascading FOR Culvert (FO 1.5 M SPAN) - TYPICAL - reconstruction

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m²	
1	Cascading D/S	Earth Work	1	3.600	4.850	0.450	2.183	7.857
	Catch Pit U/S	Earth Work	1	2.400	1.450	1.950	2.828	6.786
Total								14.643
2	Leveling Course below Catch pit U/S	PCC M 15	1	2.400	1.450	0.150	0.218	0.522
Total								0.522
3	Catch Pit U/S	PCC M 20	1	2.100	1.300	0.300	0.390	0.819
			1	2.100	1.800	0.300	0.540	1.134
			2	1.300	1.800	0.300	0.540	1.404
Total								3.357
4	Toe Wall	PCC M 20	2	4.850	0.300	1.000	0.300	2.910
5	Cascading D/S	FLOORING	2	3.600	4.850	0.450	2.183	15.714

QUANTITY OF SLAB CULVERT (FO 1.5 M SPAN) - TYPICAL - Reconstruction



DIMENSION OF ABUTMENT

Width of New Slab :	10.9 m	Road Top Level	m	h
Width of Old Slab :	0.0 m	Average GL at Wall Face	m	1.525
Clear Span :	1.500 m	Founding Level	m	2.000
Lenght of New Slab :	3.100	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Earth Work in Excavation		2	10.9	3.100	0.150	0.47	10.14
2	Leveling Course below Abutment	PCC M15	2	10.9	3.100	0.150	0.465	10.137
3	Vertical Portion of Abutment	PCC M 20	2	10.9	1.250	2.000	2.500	54.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	10.9	1.900	0.400	0.760	16.57
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	10.9	2.100	0.400	0.840	18.31
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	10.9	2.900	0.400	1.160	25.29
	Total							114.67
5	Vertical Portion of Dirt Wall	Concrete	2	10.9	0.300	0.250	0.075	1.635
	Abutment cap	Concrete	2	10.9	0.800	0.150	0.06	1.31
		Reinforcement	60 kg/cum					0.177

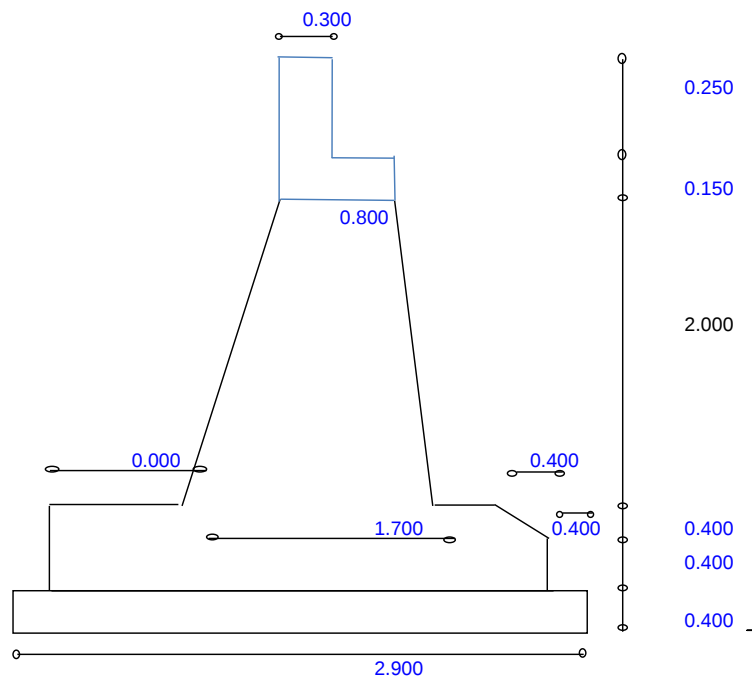
6	Super Structure (slab)	Concrete	1	10.9	3.100	0.250	0.775	8.4475
		Reinforcement	60 kg/cum					0.507
7	Backfill Behind Abutment		2	10.0	2.078	3.600	3.74	74.82
8	Crash barrier		2	3.7	7.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	3.7	10.00	0.075	37.00	2.78
11	Filter Material Behind Abutment	-	2	10.0	0.600	1.700	1.02	20.40
12	Weep holes	-	18.00	1.3	-			22.50
13	Tar paper Bearing	-	2	10.9	0.50	-		10.90
14	Expansion Joint	-	2	10.9	-	-	-	21.80

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**QUANTITY OF catchpit & cascading FOR Culvert (FO 1.5 M SPAN) - TYPICAL
(FOR 4.0 M HEIGHT)**

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Cascading D/S	Earth Work	2	3.600	4.850	0.450	2.183	15.714
	Cascading U/S	Earth Work	4	3.900	1.450	1.950	2.828	44.109
Total								59.823
2	Leveling Course below Cascading	PCC M 15	6	3.900	1.450	0.150	0.218	5.090
Total								5.090
3	Toe Wall	PCC M 20	6	6.350	0.300	1.000	0.300	11.430
4	Cascading U/S	FLOORING	4	3.000	5.600	0.450	2.520	30.240
	Cascading D/S	FLOORING	2	3.000	5.600	0.450	2.520	15.120

QUANTITY OF SLAB CULVERT (FO 1.0 M SPAN) - TYPICAL (WIDENING)



DIMENSION OF ABUTMENT

Width of New Slab :	4.5 m	Road Top Level	m	h
Width of Old Slab :	6.4 m	Average GL at Wall Face	m	1.575
Clear Span :	1.000 m	Founding Level	m	2.000
Lenght of New Slab :	2.600	Thickness of Crash Barrier	0.450 m	
		Width of Median	0.00 m	
		Side Slope	2.0	

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m²	
1	Earth Work in Excavation		2	4.5	3.100	0.150	0.47	4.19
2	Leveling Course below Abutment	PCC M15	2	4.5	3.100	0.150	0.465	4.185
3	Vertical Portion of Abutment	PCC M 20	2	4.5	1.250	2.000	2.500	22.50
4	Trapezodial Portion of Abutment Foundation	PCC M 20	2	4.5	1.900	0.400	0.760	6.84
	Rectangular Portion of Abutment Foundation 1	PCC M 20	2	4.5	2.100	0.400	0.840	7.56
	Rectangular Portion of Abutment Foundation 2	PCC M 20	2	4.5	2.900	0.400	1.160	10.44
	Total							47.34
5	Vertical Portion of Dirt Wall	Concrete	2	4.5	0.300	0.250	0.075	0.675
	Abutment cap	Concrete	2	4.5	0.800	0.150	0.06	0.54
		Reinforcement	60 kg/cum					0.073

6	Super Structure (slab)	Concrete	1	4.5	2.600	0.250	0.65	2.925
		Reinforcement	60 kg/cum					0.176
7	Backfill Behind Abutment		2	3.6	2.078	3.600	3.74	26.94
8	Crash barrier		2	3.2	6.400			
9	Drainage Spouts	-	1	2.0	-	-	-	2.00
10	Wearing Coat	-	-	3.2	10.00	0.075	32.00	2.40
11	Filter Material Behind Abutment	-	2	3.6	0.600	1.700	1.02	7.34
12	Weep holes	-	8.00	1.3	-			10.00
13	Tar paper Bearing	-	2	4.5	0.50	-		4.50
14	Expansion Joint	-	2	4.5	-	-	-	9.00

QUANTITY OF catchpit & cascading FOR Culvert (FO 1.0 M SPAN) - TYPICAL

Sl. No.	Component	Material	No.	Length	Width	Height	Area	Quantity
				m	m	m	m ²	
1	Cascading D/S	Earth Work	1	3.600	4.600	0.450	2.070	7.452
	Catch Pit U/S	Earth Work	1	1.900	1.450	1.950	2.828	5.372
Total								12.824
2	Leveling Course below Catch pit U/S	PCC M 15	1	1.900	1.450	0.150	0.218	0.413
Total								0.413
3	Catch Pit U/S	PCC M 20	1	1.600	1.300	0.300	0.390	0.624
			1	1.600	1.800	0.300	0.540	0.864
			2	1.300	1.800	0.300	0.540	1.404
Total								2.892
4	Toe Wall	PCC M 20	2	4.600	0.300	1.000	0.300	2.760
5	Cascading D/S	FLOORING	2	3.600	4.600	0.450	2.070	14.904

LEAD STATEMENT 95.700 to 138.386 km

Statement of material, Lead and Royalty from Quarry to site									
Sl No	Name of material	Name of quarry	Units	Lead in KM	Basic Cost	Lead cost	Royalty	Lead+ Basic Cost	Total cost
1	2	3	4	5	6	7	8	9	10
1	45mm size CB metal (Passing through 53 mm sieve & retained on 22.4mm sieve)	Kanglatongbi	Cum	145	0.00	2184.84	0.00	2184.84	2184.84
2	40mm size CB metal	Kanglatongbi	Cum	145	0.00	2184.84	0.00	2184.84	2184.84
3	26.5mm size CB metal(Passing through 45 mm sieve & retained on 22.4mm sieve)	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
4	25mm size CB metal	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
5	22.4mm size CB metal (Passing through 25 mm sieve & retained on 10 mm sieve)	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
6	20mm size CB chips	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
7	13.2mm size CB chips	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
8	12mm size CB chips(Rate of 12.5mm)	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
9	11.2mm size CB chips(Passing through 13.2 mm sieve & retained on 5.6 mm sieve)	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
10	10mm size CB chips	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
11	6.7mm size CB chips	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
12	4.7mm size CB chips	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
13	Granite stone screening	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
14	Stone dust	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
15	Sand for filling (Fine Sand)	Sekmai	Cum	147	0.00	0.00	0.00	0.00	0.00
16	Sand for mortar (Coarse Sand)	Sekmai	Cum	147	0.00	0.00	0.00	0.00	0.00
17	Cement 43 Grade	Imphal	MT	166	0.00	1683.85		1683.85	1683.85
18	HYSD bar AUGUST 2018	Imphal	MT	166	0.00	2104.81		2104.81	2104.81
19	Gravel/Moorum	Local	Cum	10	0.00	319.38	0.00	319.38	319.38
20	Stone Other than Granite (300mm for pitching at site)	Kanglatongbi	Cum	145	0.00	2119.51	0.00	2119.51	2119.51
21	Bitumen 80/100 Bulk	Imphal	tonne	166	0.00	1683.85		1683.85	1683.85
22	Emulsion(R.S) Bulk	Imphal	tonne	166	0.00	1683.85		1683.85	1683.85
23	Emulsion(S.S) Bulk	Imphal	tonne	166	0.00	1683.85		1683.85	1683.85
25	Binding wire	Local	Kg		0.00				0.00
26	AC pipe 100 mm dia		RM						160.00
27	Water base paint		Lit						136.00
28	S.E. paint		Lit						235.94
29	Elastomeric bearing		No.						14400.00
30	Strip seal element		RM						8500.00
31	Hot Thermoplastic Paint		Lit						316.07
32	Reflectorising glass bead		Kg						128.57
33	Chequered Tile	Imphal	Sqm	166	0	29.85		29.85	29.85
34	Brick 1st Class	Imphal	1no	166	0	1.432		1.43	1.43

LABOUR

Sl. No.	Description of Labour	Unit	Rate
L-01	Blacksmith (IInd class)	day	500.00
L-02	Blacksmith (Ist class)/ Welder/ Plumber/ Electrician	day	550.00
L-03	Blaster (Stone cutter)	day	400.00
L-04	Carpenter I Class	day	550.00
L-05	Chiseller (Head Mazdoor)	day	450.00
L-06	Driller (Jumper)	day	400.00
L-07	Driver	day	500.00
L-08	Fitter	day	500.00
L-09	Mali	day	400.00
L-10	Mason (IInd class)	day	500.00
L-11	Mason (Ist class)	day	550.00
L-12	Mate / Supervisor	day	550.00
L-13	Mazdoor	day	400.00
L-14	Mazdoor/Dresser (Semi Skilled)	day	400.00
L-15	Mazdoor/Dresser/Sinker (Skilled)	day	450.00
L-17	Operator(grouting)	day	550.00
L-18	Painter I class	day	550.00
L-19	Para medical personnel	day	550.00

HIRING CHARGES OF PLANTS AND MACHINERY						
Sl.No.	Description of		Unit	Output	Usage Rates in Rs.	
	Machine	Activity			Unit	Rates as per SOR 2017
1	Dozer D-50-A-15	Spreading	capacity in cfm	200cum /hour	per hour	2814.54
		cutting		100cum/hour	per hour	
		clearing		150cum/hour	per hour	
2	Dozer D-80-A-12	Spreading	cum/hour	300cum/hour	per hour	3914.88
		cutting		150cum/hour	per hour	
		clearing		250cum/hour	per hour	
3	Motor grade 3.35meter blade	clearing	cum/hour	200cum/hour	per hour	3786.88
		Spreading		200cum/hour	per hour	
		GSB		50cum/hour	per hour	
		WMM		50cum/hour	per hour	
4	Hydraulic Excavator of 1 cum bucket	Soil ordinary	cum/hour	60cum/hour	per hour	1129.75
		Soil Marshy		60cum/hour	per hour	
		Soil unsuitable		60cum/hour	per hour	
5	Front End loader 1 cum bucket capacity	Soil loading	capacity in litre	60cum/hour	per hour	850.00
		Aggregate loading		25cum/hour	per hour	
6	Tipper-5cum	Transportation of soil, GSB, WMM, Hotmix etc.	cum / hour	5.5cum	per km	25.00
					per tonne.km	3.00
					per hour	849.00
7	Vibratory Roller 8-10 tonne	Earth/Soil	cum / hour	100cum/hour	per hour	1085.00
		GSB	cum / hour	60cum/hour	per hour	
		WMM	capacity in cum	60cum/hour	per hour	
8	Smooth wheeled roller 8-10 tonne	soil compaction		70cum/hour	per hour	587.50
		BM compaction		25cum/hour	per hour	
9	Tractor	pulling		50HP	per hour	382.00
10	Rotavator	mixing		25cum/hour	per hour	18.00
11	Ripper	Scarifying		60cum/hour	per hour	30.00
12	Air compressor	general purpose		170/250cfm	per hour	1359.78
13	Wet mix plant 60 TPH	Wet mix		25cum/hour	per hour	1727.00
14	Mechanical broom hydraulic	Surface cleaning		1250sqm/hour	per hour	505.00
15	Bitumen pressure distributor	Applying bitumen tack coat		1750sqm/hour	per hour	1150.50
16	Emulsion Pressure Distributor	Applying emulsion tack coat		1750sqm/hour	per hour	843.00
17	Hotmix plant-120 TPH	DBM/BM/SDC/premix		40cum/hour	per hour	24671.00
18	Hotmix plant-100 TPH	DBM/BM/SDC/premix		30cum/hour	per hour	18245.00
19	Hotmix plant-60 to 90 TPH	DBM/BM/SDC/premix		25cum/hour	per hour	14590.00
20	Hotmix plant-40 to 60 TPH	DBM/BM/SDC/premix		17cum/hour	per hour	18598.31
21	Paver finisher hydrostatic with sensor control 100 TPH	Paving of DBM/BM/SDC/premix		40cum/hour	per hour	2569.85

Sl.No.	Description of		Unit	Output	Usage Rates in Rs.	
	Machine	Activity			Unit	Rates as per SOR 2017
22	paver finisher Mechanical 100 TPH	Paving of WMM/PMC		40cum/hour	per hour	1716.41
		Paving of DLC		30cum/hour	per hour	
23	Hydraulic chips spreader	Surface Dressing		1500sqm/hour	per hour	2091.00
24	Tandem road roller	Rolling of asphalt surface		30cum/hour	per hour	894.00
25	Pneumatic road roller	Rolling of asphalt surface		25cum/hour	per hour	1231.00
26	Pot hole repair machine	Repair of pot holes		4cum/hour	per hour	956.00
27	Bitumen boiler oil fired	Bitumen spraying		1500litre	per hour	1321.43
28	GSB plant 50 cum	Producing GSB		40cum/hour	per hour	1095.00
29	Mastic cooker	Mastic Wearing Coat		1tonne	per hour	450.00
30	Batching and Mixing plant 15-20cum	Concrete Mixing		13cum/hour	per hour	1961.00
31	Batching and Mixing plant 30cum	Concrete Mixing		20cum/hour	per hour	2353.00
32	Transit Mixer	Transportation of concrete mix to site		4.5cum/hour	per hour	980.00
				3cum/hour	per hour	899.00
33	Concrete pump of 45 & 30 cum	Pumping concrete		33cum/hour 22cum/hour	per hour	750.00
34	Cranes 80 tonnes	Lifting Purpose			per hour	1348.00
35	Cranes 35 tonnes	Lifting Purpose			per hour	899.00
36	Cranes 3 tonnes	Lifting Purpose			per hour	375.00
37	Concrete bucket	For pouring concrete		1 Cum	per hour	17.00
38	Kerb casting machine	Kerb making		80 RM/hour	per hour	327.00
39	Concrete Mixer	Concrete Mixing		2.5cum/hour	per hour	187.50 202.00
	a)04/.28 cum			7.5cum/hour	per hour	
	b)01cum					
40	Piling Rig with Bantonite Pump	0.75m dia to 1.2m dia Boring Attachment		2 to 3RM/hour	per hour	5759.00
41	Concrete Paver Finisher with 40HP motor	Paving of concrete surface		20cum/hour	per hour	3023.00
42	Integrated stone crusher	Crushing of Spalls		100TPH	per hour	9133.00
		Crushing of Spalls		200TPH	per hour	19214.00
43	Prestressing Jack with Pump & Access	Stressing of steel wires/stand			per hour	136.00
44	Generator 100KVA	Generation of Electric Energy		100KVA	per hour	735.00
45	Generator 33KVA	Generation of Electric Energy		50KVA	per hour	392.00
46	Pneumatic Sinking Plant	Pneumatic Sinking of Wells		1.5 to 2.0cum/hour	per hour	4395.00
47	Truck 5.5cum per 10 tonnes	Material Transport		4.5cum	Per Km.	24.00
					per tonne.Km.	3.00
48	Road Marking Machine	Road Marking		100sqm/hour	per hour	213.00
49	Mobile Slurry Seal Equipment	Mixing & laying slurry seal		2700sqm/hour	per hour	1062.00
50	Water Tanker				per hour	744.25
51	Generator 125 KVA			KVA	per hour	900.00

ANALYSIS OF RATE					
Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
A	SITE CLEARANCE				
1	Clearing and Grubbing Road Land .				
	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.				
	<i>Pg 23 of MORTH Data Book</i>				
	Unit = Hectare				
	Taking output = 1 Hectare				
	By Manual Means:-				
	In area of light jungle				
	a) Labour				
	Mate	day	6.00	550.00	3300.00
	Mazdoor	day	150.00	400.00	60000.00
	b) Machinery				
	Tractor-trolley	hour	1.00	382.00	382.00
	c) Overhead charges @ 10% on (a+b)				6368.20
	d) Contractor's profit @ 10 % on (a+b+c)				7005.02
	Rate per Hectare = a+b+c+d (As per rate taken from SOR 2018 directly)				77440.00
				say	77440.00
				cess (1%)	774.40
	Rate per sqm=(a+b+c+d)/10,000			say	7.82
2	Dismantling of Structures				
	<i>Ref: Data Book/ Pg. 25</i>				
	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 metres				
	Unit = cum				
	Taking output = 1.25 cum				
(i)	Cement Concrete grade M-15 and above				
	a) Labour				
	Mate	day	0.02	550.00	11.00
	Mazdoor for loading and unloading.	day	0.25	400.00	100.00
	Mazdoor with pneumatic breaker	day	0.25	450.00	112.50
	b) Machinery				
	Air compressor 250 cfm with 2 leads of Pneumatic breaker @ 1.5 cum per hour	hour	0.67	1359.78	911.05
	Tractor-trolley	hour	0.27	382.00	103.14
	c) Overhead charges @ 10% on (a+b)				123.77
	d) Contractor's profit @ 10 % on (a+b+c)				136.15
	Cost for 1.25 cum = a+b+c+d				1497.61
	Rate per cum = (a+b+c+d) / 1.25				1198.09
	(As per rate taken from SOR 2018 directly)			say	693.57
				cess (1%)	6.94
				say	700.51
(ii)	Dismantling of Hume Pipe				
	<i>Ref: Data Book/ Pg. 35</i>				
	Removing all type of hume pipes and stacking within a lead of 1000mtr including earthwork and dismantling of masonry works including T&P, sorting the dismantled material, disposal of unservicable material and stacking the servicable material with all lifts & leads of 1000mtrs				
	Unit = Metre				
	Taking output = 1 Metre				
	Up to 600 mm dia				
	a) Labour				
	Mate	day	0.021	550.00	11.55
	Mazdoor for dismantling, loading and unloading.	day	0.52	400.00	208.00

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	b) Overhead charges @ 10% on (a)				21.96
	c) Contractor's profit @ 10 % on (a+b)				24.15
	Cost for 1 metre= a+b+c				265.66
	(As per rate taken from SOR 2018 directly)			say	264.99
				cess (1%)	2.65
				say	267.64
3	Scarifying Existing Bituminous Surface to a depth of 50 mm by Mechanical Means				
	Ref: Data Book/ Pg. 67				
	Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material with in all lifts and lead upto 1000 metres.				
	Unit = sqm				
	Taking output = 100 sqm				
	a) Labour				
	Mate	day	0.010	550.00	5.50
	Mazdoor	day	0.250	400.00	100.00
	b) Machinery				
	Tractor with ripper attachment @ 60 cum per hour	hour	0.080	412.00	32.96
	Front end loader 1 cum bucket capacity @ 25 cum per hour	hour	0.200	850.00	170.00
	Tipper 5.5 cum capacity, 4 trips per hour.	hour	0.230	849.00	195.27
	c) Overhead charges @ 10 % on (a+b)				50.37
	d) Contractor's profit @ 10 % on (a+b+c)				55.41
	Cost for 100 sqm = a+b+c+d				609.51
	Rate per sqm = (a+b+c+d)/100				6.10
	As per rate taken from SOR 2018 directly (pg 17 item 4-VIII-f-ii) after adding lead cost of material			say	57.08
				cess (1%)	0.57
				say	57.65
4	Compacting original ground supporting embankment				
	Ref: Data Book/ Pg. 73				
	Loosening, leveling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Table 300-2 for embankment construction.				
	Unit = cum				
	Taking output = 600 cum				
	a) Labour				
	Mate	day	0.08	550.00	44.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Tractor with ripper attachment	hour	6.00	412.00	2472.00
	Vibratory road roller 8-10 tonne capacity	hour	7.50	1085.00	8137.50
	Water tanker 6 KL capacity	hour	4.00	744.25	2977.00
	c) Material				
	Cost of water	KL	24.00	75.00	1800.00
	d) Overhead charges @ 10% on (a+b+c)				1623.05
	e) Contractor's profit @ 10 % on (a+b+c+d)				1785.36
	Cost for 600 cum = (a+b+c+d+e)				19638.91
	Rate per sqm = (a+b+c+d+e)/600				32.73
	As per rate taken from SOR 2018 directly (pg 24 item 16) after adding lead cost of material			say	42.00
				cess (1%)	0.42
				say	42.42

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
B	EARTHWORK				
5 (i)	Excavation in soil using Hydraulic Excavator CK-90 & Tipper with Disposal upto 1000 metres-Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000 metres.				
	<i>Ref: Data Book/ Pg. 52</i>				
	Unit = Cum				
	Taking output = 360cum				
	a) Labour				
	Mate	day	0.08	550.00	44.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Hydraulic Excavator 0.9 cum bucket capacity @ 60 cum per hour	hour	6.00	1129.75	6778.50
	Tipper 5.5 cum Capacity, 4 trips per hour	hour	16.00	849.00	13584.00
	c) Overhead charges @ 10% on (a+b)				2120.65
	d) Contractor's profit @ 10 % on (a+b+c)				2332.72
	Rate per 360 cum = (a+b+c+d)				25659.87
	As per rate taken from SOR 2018 directly (pg 27 item 31) after adding lead cost of material			Say	211.39
				cess 1 %	2.11
				say	213.50
5 (ii)	Earthwork in excavation of foundation of structure as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious materials, dressing of sides and bottom, backfilling the excavation earth to the extent required and utilising the remaining earth locally for road work.				
	<i>Ref: Data Book/ Pg.62 (ordinary rock)</i>				
	Unit=Cum				
	Taking output = 216 cum				
	a) Labour				
	Mate	day	0.24	550.00	132.00
	Mazdoor	day	6.00	400.00	2400.00
	b) Machinery				
	Hydraulic excavator 1.0 cum bucket capacity	hour	6.00	1129.75	6778.50
	b) Overhead charges @ 10% on (a)				931.05
	c) Contractor's profit @ 10 % on (a+b)				1024.16
	Rate per 216 cum = (a+b+c)				11265.71
	As per rate taken from SOR 2018 directly (pg 27 item 32) after adding lead cost of material				304.56
				cess 1 %	3.05
				say	307.61
	For foundation add 20%				365.47
				cess 1 %	3.65
				say	369.13
6	Construction of Embankment with Material Deposited from Roadway Cutting				
	<i>Ref: Data Book/ Pg.70</i>				
	Construction of embankment with materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.				
	Unit = cum				
	Taking output = 100 cum				
	a) Labour				
	Mate	day	0.02	550.00	11.00
	Mazdoor	day	0.50	400.00	200.00
	b) Machinery				

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Dozer 80 HP for spreading @ 200 cum per hour	hour	0.50	2814.54	1407.27
	Motor grader for grading @ 100 cum per hour	hour	1.00	1893.44	1893.44
	Water tanker 6 KL capacity	hour	4.00	744.25	2977.00
	Vibratory roller 8-10 tonnes @ 100 cum per hour	hour	1.00	1085.00	1085.00
	c) Material				
	Cost of water	KL	24.00	75.00	1800.00
	d) Overhead charges @ 10% on (a+b+c)				937.37
	e) Contractor's profit @ 10 % on (a+b+c+d)				1031.11
	Rate for 100 cum = a+b+c+d				11342.19
	Rate per cum = (a+b+c+d+e)/100				<u>113.42</u>
	As per rate taken from SOR 2018 directly (pg 24 item 13) after adding lead cost of material			say	<u>160.20</u>
				cess (1%)	<u>1.60</u>
				say	<u>161.80</u>
7	Construction of Embankment with Material obtained from Borrowpits				
	Ref: Data Book/ Pg.68				
	Construction of embankment with earth approved material obtained locally with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2.				
	Unit = cum				
	Taking output = 100 cum				
	a) Labour				
	Mate	day	0.04	550.00	22.00
	Mazdoor	day	1.00	400.00	400.00
	b) Machinery				
	Hydraulic Excavator 1 cum bucket capacity @ 60 cum per hour	hour	1.67	1129.75	1886.68
	Tipper 10 tonne capacity (L = 5Km)	tonne.k	160 x L	3.50	2800.00
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				280.00
	Dozer 80 HP for spreading @ 200 cum per hour	hour	0.50	2814.54	1407.27
	Motor grader for grading @ 100 cum per hour	hour	1.00	1893.44	1893.44
	Water tanker 6 KL capacity	hour	4.00	744.25	2977.00
	Vibratory roller 8 -10 tonnes @ 100 cum per hour	hour	1.00	1085.00	1085.00
	c) Material				
	Cost of water	KL	24.00	63.56	1525.44
	d) Overhead charges @ 10% on (a+b+c)				1427.68
	e) Contractor's profit @ 10 % on (a+b+c+d)				1570.45
	f) Add for lead and royalty				
	Compensation for earth taken from private land	cum	100.00	55.00	5500.00
	Cost for 100 cum = a+b+c+d+e+f				22774.97
	Rate per cum = (a+b+c+d+e+f)/100				227.75
	As per rate taken from SOR 2018 directly (pg 24 item 12) after adding lead cost of material			say	<u>226.26</u>
				cess (1%)	<u>2.26</u>
				say	<u>228.52</u>
8	Construction of Subgrade and Earthen Shoulders				
	Construction of subgrade and earthen shoulders with approved material obtained from borrowpits having CBR not less than 5% with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300-2				
	Ref: Data Book/ Pg.71				
	Unit = sqm				
	Taking output = 100 sqm				
	a) Labour				
	Mate	day	0.040	550.00	22.00
	Mazdoor	day	1.000	400.00	400.00
	b) Machinery				

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Hydraulic Excavator 1 cum bucket capacity @ 60 cum per hour	hour	1.67	1129.75	1886.68
	Tipper 10 tonne capacity (L = 5Km)	tonne.km	175 x L	3.50	3062.50
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				306.25
	Dozer 80 HP for spreading @ 200 cum per hour	hour	0.50	2814.54	1407.27
	Motor grader for grading @ 50 cum per hour	hour	1.00	3786.88	3786.88
	Water tanker 6 KL capacity	hour	4.00	744.25	2977.00
	Vibratory roller 8 -10 tonnes @ 80 cum per hour	hour	1.25	1085.00	1356.25
	c) Material				
	Cost of water	KL	24.00	63.56	1525.44
	d) Overhead charges @ 10% on (a+b+c)				1673.03
	e) Contractor's profit @ 10 % on (a+b+c+d)				1840.33
	f) Add for lead and royalty				
	Compensation for earth taken from private land	cum	100.00	55.00	5500.00
	Cost for 100 cum = a+b+c+d+e+f				25743.63
	Rate per cum = (a+b+c+d+e+f)/100				257.44
	As per rate taken from SOR 2018 directly (pg 24 item 14) after adding lead cost of material			say	312.34
				cess (1%)	3.12
				say	315.46
9	Granular Sub-Base with Grading IV Material (Table:- 402)				
	Ref: Data Book/ Pg.95				
	Construction of granular sub-base by providing Grading IV Material, spreading in uniform layers with motor grader on prepared surface, mixing by place in method rotavator at OMC, and compacting with vibratory power roller to achieve the desired density, complete as per clause 401				
	Unit = cum				
	Taking output = 300cum				
	a) Labour				
	Mate	day	4.00	550.00	2200.00
	Mazdoor skilled	day	2.00	450.00	900.00
	Mazdoor	day	8.00	400.00	3200.00
	b) Machinery				
	Motor Grader 110 HP@50 cum per hour	hour	6.00	3786.88	22721.28
	Vibratory roller 8-10 tonne	hour	6.00	1085.00	6510.00
	Water tanker	hour	3.00	744.25	2232.75
	c) Material with lead cost				
	Close graded Granular sub-base Material as per table 400-1				
	For Grading-IV Material				
	26.5 mm to 4.75 mm @ 45 per cent	cum	288.00	2621.04	754859.23
	2.36 mm below @ 20 per cent	cum	96.00	2940.58	282296.06
	Cost of water	KL	18.00	63.56	1144.08
	Rate per cum for Grading-IV Material				
	d) Overhead charges @ 10% on (a+b+c)				107606.34
	e) Contractor's profit @ 10 % on (a+b+c+d)				118366.97
	f) Add for royalty				
	26.5 mm to 4.75 mm @ 45 per cent	cum	288.00	0.00	0.00
	2.36 mm below @ 20 per cent	cum	96.00	0.00	0.00
	Cost for 300 cum = a+b+c+d+e+f				890522.62
	As per rate taken from SOR 2018 directly (pg 30 item 3-i) after adding lead cost of material				
	Rate per cum = (a+b+c+d+e+f)/300				2968.41
	As per rate taken from SOR 2018 directly (pg 30 item 3) after adding lead cost of material			say	2968.41
				cess (1%)	29.68
				say	2998.09

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
10	Granular Sub-Base with Grading VI Material (Table:- 402)				
	<i>Ref: Data Book/ Pg.94</i>				
	Construction of granular sub-base by providing Grading VI Material, spreading in uniform layers with motor grader on prepared surface, mixing by place in method rotavator at OMC, and compacting with vibratory power roller to achieve the desired density, complete as per clause 401				
	Unit = cum				
	Taking output = 300cum				
	a) Labour				
	Mate	day	0.48	550.00	264.00
	Mazdoor skilled	day	2.00	450.00	900.00
	Mazdoor	day	10.00	400.00	4000.00
	b) Machinery				
	Motor Grader 110 HP@50 cum per hour	hour	6.00	3786.88	22721.28
	Vibratory roller 8-10 tonne	hour	6.00	1085.00	6510.00
	Tractor rotavator	hour	12.00	400.00	4800.00
	Water tanker	hour	3.00	744.25	2232.75
	c) Material with lead cost				
	Close graded Granular sub-base Material as per table 400-1				
	For Grading-VI Material				
	26.5 mm to 9.5 mm @ 35 per cent	cum	134.40	2587.31	347735.00
	9.5 mm to 2.36 mm @ 25 per cent	cum	96.00	2604.41	250023.74
	2.36 mm below @ 40 per cent	cum	153.60	2940.58	451673.70
	Cost of water	KL	18.00	63.56	1144.08
	Rate per cum for Grading-VI Material				
	d) Overhead charges @ 10% on (a+b+c)				109200.46
	e) Contractor's profit @ 10 % on (a+b+c+d)				120120.50
	f) Add for royalty				
	26.5 mm to 4.75 mm @ 45 per cent	cum	134.40	0.00	0.00
	9.5 mm to 2.36 mm @ 25 per cent	cum	96.00	0.00	0.00
	2.36 mm below @ 20 per cent	cum	153.60	0.00	0.00
	Cost for 300 cum = a+b+c+d+e+f				876032.31
	Rate per cum = (a+b+c+d+e+f)/300				2920.11
	As per rate taken from SOR 2018 directly (pg 30 item 3) after adding lead cost of material			say	2920.11
				cess (1%)	29.20
				say	2949.31
11	Wet Mix Macadam				
	<i>Ref: Data Book/ Pg.110</i>				
	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.				
	Unit = cum				
	Taking output = 225 cum (495 tonnes)				
	a) Labour				
	Mate	day	0.48	550.00	264.00
	Mazdoor skilled	day	2.00	450.00	900.00
	Mazdoor	day	10.00	400.00	4000.00
	b) Machinery				
	Wet mix plant of 75 tonne hourly capacity (Rate of 60 TPH taken)	hour	6.60	1727.00	11398.20
	Electric generator 125 KVA	hour	6.00	900.00	5400.00
	Front end loader 1 cum capacity	hour	6.00	850.00	5100.00
	Paver finisher	hour	6.00	1716.41	10298.46
	Vibratory roller 8 - 10 tonne	hour	6x0.65	1085.00	4231.50
	Water tanker 6 KL capacity	hour	3.00	744.25	2232.75
	Tipper (L/4 = 10/4 = 3 km)	tonne.km	495 X L	3.00	4455.00
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				445.50
	c) Material with Lead cost (Table 400-11)				
	45 mm to 22.4 mm@ 30 per cent	cum	89.10	2119.51	188848.52
	22.4 mm to 2.36 mm @ 40 per cent	cum	118.80	2119.51	251798.03
	2.36 mm to 75 micron@ 30 per cent	cum	89.10	2119.51	188848.52
	Cost of water	KL	18.00	63.56	1144.08
	d) Overhead charges @ 10%on (a+b+c)				67936.46
	e) Contractor's profit @ 10 % on (a+b+c+d)				74730.10

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	f) Add for royalty				
	45 mm to 22.4 mm@ 30 per cent	cum	89.10	0.00	0.00
	22.4 mm to 2.36 mm @ 40 per cent	cum	118.80	0.00	0.00
	2.36 mm to 75 micron@ 30 per cent	cum	89.10	0.00	0.00
	Cost for 225 cum = a+b+c+d+e+f As per rate taken from SOR 2018 directly (pg 32 item 02) after adding lead cost of material				673560.04
	Rate per cum = (a+b+c+d+e+f)/225				2993.60
	As per rate taken from SOR 2018 directly (pg 32 item 2) after adding lead cost of material			say	2993.60
				cess (1%)	29.94
				say	3023.54
12	Prime Coat				
	Ref: Data Book/ Pg.123				
	Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means.				
	Unit = sqm				
	Taking output = 3500 sqm				
	a) Labour				
	Mate	day	0.08	550.00	44.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Mechanical broom @ 1250 sqm per hour	hour	2.80	505.00	1414.00
	Air compressor 250 cfm	hour	2.80	1359.78	3807.38
	Emulsion pressure distributor @ 1750 sqm per hour	hour	2.00	843.00	1686.00
	Water tanker 6 KL capacity @ 1 trip per hour	hour	1.00	744.25	744.25
	c) Material with lead cost				
	Slow Setting Bitumen emulsion @ 0.6 kg per sqm	tonne	2.10	1683.85	3536.08
	Cost of water	KL	6.00	63.56	381.36
	d) Overhead charges @ 10% on (a+b+c)				1241.31
	e) Contractor's profit @ 10 % on (a+b+C+d)				1365.44
	f) Add for royalty				
	Bitumen emulsion @ 0.6 kg per sqm	tonne	2.10	0.00	0.00
	Cost for 3500 sqm = a+b+c+d+e+f As per rate taken from SOR 2018 directly (pg 33 item 1-A) after adding lead cost of material				203073.85
	Rate per sqm = (a+b+c+d+e+f)/3500				58.02
	As per rate taken from SOR 2018 directly (pg 33 item 1 A) after adding lead cost of material			say	58.02
				cess (1%)	0.580
				say	58.60
13	Tack Coat				
	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.				
	Unit = sqm				
	Taking output = 3500 sqm				
	a) Labour				
	Mate	day	0.08	550.00	44.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Mechanical broom @ 1250 sqm per hour	hour	2.80	505.00	1414.00
	Air compressor 250 cfm	hour	2.80	1359.78	3807.38
	Emulsion pressure distributor @ 1750 sqm per hour	hour	2.00	843.00	1686.00
	c) Material with lead cost				
	Bitumen emulsion @ 0.20 kg per sqm (R.S)	tonne	0.700	1683.85	1178.69
	d) Overhead charges @ 10% on (a+b+c)				893.01
	e) Contractor's profit @ 10 % on (a+b+c+d)				982.31
	f) Add for royalty				
	Bitumen emulsion @ 0.25 kg per sqm	tonne	0.700	0.00	0.00
	Cost for 3500 sqm = a+b+c+d+e+f As per rate taken from SOR 2018 directly (pg 33 item 2-I) after adding lead cost of material				56388.85
	Rate per sqm = (a+b+c+d+e+f)/3500				16.11
	As per rate taken from SOR 2018 directly (pg 33 item 2 A) after adding lead cost of material			say	16.11
				cess (1%)	0.161
				say	16.27

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
14	Dense Graded Bituminous Macadam				
	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.				
	Unit = cum				
	Taking output = 195 cum (450 tonnes)				
	a) Labour				
	Mate	day	0.84	550.00	462.00
	Mazdoor working with HMP,paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day	14.00	400.00	5600.00
	Skilled mazdoor for checking line & levels	day	5.00	450.00	2250.00
	b) Machinery				
	Batch mix HMP @ 75 tonne per hour	hour	6.00	18245.00	109470.00
	Paver finisher hydrostatic with sensor control @ 75 cum per hour	hour	6.00	2569.85	15419.10
	Generator 250 KVA (Rate for 125KVA taken)	hour	6.00	900.00	5400.00
	Front end loader 1 cum bucket capacity	hour	6.00	850.00	5100.00
	Tipper 10 tonne capacity ,(L/4 = 10/4 = 3 km)	tonne.km	450 x L	3.00	4050.00
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				405.00
	smooth wheeled roller 8-10 tonnes for initial break down rolling.	hour	6.00x0.65*	587.50	2291.25
	Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	1085.00	4231.50
	Finish rolling with 6-8 tonnes smooth wheeled tandem roller.	hour	6.00x0.65*	894.00	3486.60
	c) Materials with lead cost				
	Bitumen @ 4.25 per cent of weight of mix	tonne	19.13	1683.85	32212.01
	Aggregate				
	Total weight of mix = 450 tonnes				
	Weight of bitumen = 19.13 tonnes				
	Weight of aggregate = 450 -19.13 = 430.87 tonnes				
	Taking density of aggregate = 1.5 ton/cum				
	Volume of aggregate = 287.25 cum				
	Grading - II 19 mm (Nominal Size)				
	25-10mm 30 per cent	cum	86.16	2119.51	182617.15
	10 -5mm 28 per cent	cum	80.43	2119.51	170472.35
	5mm below 40 percent	cum	114.90	2119.51	243531.93
	Filler @ 2 per cent of weight of aggregates.	cum	5.73	2119.51	12144.80
	d) Overhead charges @ 10 % on (a+b+c)				79914.37
	e) Contractor Profit charges @ 10 % on (a+b+c+d)				87905.81
	f) Add for royalty				
	Bitumen	tonne	19.13	0.00	0.00
	25 - 10 mm 30 per cent	cum	86.16	0.00	0.00
	10 - 5 mm 28 per cent	cum	80.43	0.00	0.00
	5 mm and below 40 per cent	cum	114.90	0.00	0.00
	Filler @ 2 per cent of weight of aggregates.	cum	5.73	0.00	0.00
	Cost for 195cum = a+b+c+d+e+f As per rate taken from SOR 2018 directly (pg 34 item 2-I) after adding lead cost of material				2097515.38
	Rate per cum = (a+b+c+d+e+f)/195 (For Grading II)				10756.49
	As per rate taken from SOR 2018 directly (pg 34 item 6-II-A) after adding lead cost of material			say	10756.49
				cess (1%)	107.56
				say	10864.05

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
15	Bituminous Concrete				
	<i>Ref: Data Book/ Pg.138</i>				
	Providing and laying bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects				
	Unit = cum				
	Taking output = 191 cum (450 tonnes)				
	a) Labour				
	Mate	day	0.84	550.00	462.00
	Mazdoor working with HMP, paver, roller, asphalt cutter and assistance for setting out lines, levels and layout of construction	day	14.00	400.00	5600.00
	Skilled mazdoor for checking line & levels	day	5.00	450.00	2250.00
	b) Machinery				
	Batch mix HMP @ 75 tonne per hour	hour	6.00	18245.00	109470.00
	Paver finisher hydrostatic with sensor control @ 75 cum per hour	hour	6.00	2569.85	15419.10
	Generator 250 KVA	hour	6.00	900.00	5400.00
	Front end loader 1 cum bucket capacity	hour	6.00	850.00	5100.00
	Tipper 10 tonne capacity (L/4 = 10/4 = 3 km)	tonne.km	450 x L	3.00	4050.00
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				405.00
	Smooth wheeled roller 8-10 tonnes for initial break down rolling.	hour	6.00x0.65*	587.50	2291.25
	Vibratory roller 8 tonnes for intermediate rolling.	hour	6.00x0.65*	1085.00	4231.50
	Finish rolling with 6-8 tonnes smooth wheeled tandem roller	hour	6.00x0.65*	894.00	3486.60
	c) Material with lead cost				
	i) Bitumen@ 5 per cent of weight of mix	tonne	22.50	1683.85	37886.58
	ii) Aggregate				
	Total weight of mix = 450 tonnes				
	Weight of bitumen = 22.5 tonnes				
	Weight of aggregate = 450 - 22.50 = 427.50 tonnes				
	Taking density of aggregate = 1.5 ton/cum				
	Volume of aggregate = 285 cum				
	10 - 5 mm@ 28 per cent (Price for 10 mm +4.7 mm)/2	cum	162.45	2119.51	344314.72
	5 mm and below@ 40 per cent	cum	116.85	2119.51	247664.98
	Filler @ 32 per cent of weight of aggregates.	tonne	8.62	2119.51	18270.19
	d) Overhead charges @ 10 % on (a+b+c)				80630.19
	e) Contractor's profit @ 10 % on (a+b+c+d)				88693.21
	f) Add for Royalty				
	Bitumen	tonne	22.50	0.00	0.00
	9.5 - 4.75 mm@ 57 per cent	cum	162.45	0.00	0.00
	4.75 mm and below@ 41 per cent	cum	116.85	0.00	0.00
	Filler @ 2 per cent of weight of aggregates.	tonne	8.62	0.00	0.00
	Cost for 191 cum = a+b+c+d+e+f As per rate taken from SOR 2018 directly (pg 35 item 8-II A) after adding lead cost of material				2286711.33
	Rate per cum = (a+b+c+d+e)/191 (For Grading II)				11972.31
	As per rate taken from SOR 2018 directly (pg 35 item 8-II A) after adding lead cost of material				11972.31
				cess 1%	119.72
				Say	12092.03

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
16	Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface				
	Ref: Data Book/ Pg.225				
	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes.				
	Unit = sqm				
	Taking output = 640 sqm				
	a) Labour				
	Mate	day	0.50	550.00	275.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Road marking machine @ 60 sqm per hour	hour	8.00	213.00	1704.00
	Tractor-trolley	hour	8.00	382.00	3056.00
	c) Material				
	Hot applied thermoplastic compound	Litre	2000.00	316.07	632140.00
	Reflectorising glass beads	kg	200.00	128.57	25714.00
	d) Overhead charges @ 10% on (a+b+c)				66368.90
	e) Contractor's profit @ 10 % on (a+b+c+d)				73005.79
	Cost for 640 sqm = a+b+c+d+e				803063.69
	Rate per sqm = a+b+c+d+e)/640				1002.14
	As per rate taken from SOR 2018 directly (pg 43 item 14) after adding lead cost of material				
				Say	1002.14
				cess (1%)	10.02
				say	1012.16
17	GUARD POST As per SOR				
	Supplying and fixing 15cm dia 1.0m long guard post of RCC 1:2:4 using 7.5 kg of steel for each guard post with 12mm size aggregate, including cost of all reinforcement and materials centring and shuttering and watering, carrying complete.				
	Cost of RCC 1:2:4	Cum	0.018	10276.11	184.97
	Reinforcement	MT	0.0035	127499.08	446.25
				Say	631.22
				cess(1%)	6.31
				say	637.53
18	Cement concrete 1:2:4 with 12mm size aggregate				
	a) Material				
	12mm size agg.	Cum	0.90	2821.96	2539.77
	Sand	Cum	0.45	1612.00	725.40
	Cement	MT	0.323	9434.94	3047.48
	b) Labour				
	Masson 2nd class	day	0.18	500.00	90.00
	Man mulia	day	1.80	400.00	720.00
	Woman mulia	day	1.40	400.00	560.00
	(c)Extra labour				
	Man mulia for mixing	day	1.40	400.00	560.00
	Masson 2nd class	day	0.50	500.00	250.00
	(d) Over head charge @ 10% (a+b+c)				849.27
	(e) Contractor's profit @ 10 % (a+b+c+d)				934.19
	Add for royalty				
	12mm size agg.	Cum	0.900	0.00	0.00
	Sand	Cum	0.450	0.00	0.00
	Cement	MT	0.323	0.00	0.00
	Rate per cum (a+b+c+d+e)=			Say	10276.11
				cess(1%)	102.76
				say	10378.87

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Ref: Data Book/ Pg.226				
	Reinforced cement concrete M15grade kilometre stone of standard design as per IRC:8-1980, fixing in position including painting and printing etc				
(I)	Ordinary kilometer stone (precast)				
	Unit = Nos.				
	Taking output = 14 Nos.				
	a) M-15 grade of concrete	cum	3.77	8888.72	33510.49
	b) Steel reinforcement @ 5 kg per sqm	kg	26.32	127.50	3355.78
	c) Excavation in soil for foundation	cum	2.77	365.47	1012.36
	d) Painting two coats on concrete surface	sqm	11.41	93.41	1065.81
	e) Lettering on km post (average 12 letters of 10 cm height each)	per cm per letter	1680.00	1.34	2251.20
	Transportation and fixing				
	f) Labour				
	Mate	day	0.32	550.00	176.00
	Mason	day	1.00	450.00	450.00
	Mazdoor	day	7.00	400.00	2800.00
	g) Machinery				
	Tractor-trolley	hour	6.00	382.00	2292.00
	h) Overhead charges @ 10 % on (f+g)				571.80
	i) Contractor's profit @ 10 % on (f+g+h)				628.98
	Cost for 14 Nos. ordinary km stone = (a+b+ c +d+e+f+g+h+i)				48114.41
	Rate for each ordinary km stone = (a+b+ c +d+e+f+g+h+i)/14				3436.74
	As per rate taken from SOR 2018 directly (pg 41 item 2a) after adding lead cost of material			say	2676.24
				cess (1%)	26.76
				say	2703.00
(II)	Hectometer stone (precast)				
	Unit = Nos.				
	Taking output = 33 Nos.				
	a) M-15 grade of concrete	cum	1.58	8888.72	14044.18
	b) Steel reinforcement @ 5 kg per sqm	kg	66.00	127.50	8414.94
	c) Excavation in soil for foundation	cum	1.39	365.47	508.01
	d) Painting two coats on concrete surface	sqm	6.27	93.41	585.68
	e) Lettering on km post (average 1 letter of 10 cm height each)	per cm per letter	330.00	1.34	442.20
	Transportation and fixing				
	f) Labour				
	Mate	day	0.34	550.00	187.00
	Mason	day	1.50	450.00	675.00
	Mazdoor	day	7.00	400.00	2800.00
	g) Machinery				
	Tractor-trolley	hour	6.00	382.00	2292.00
	h) Overhead charges @ 10 % on (f+g)				595.40
	i) Contractor's profit @ 10 % on (f+g+h)				654.94
	Cost for 33 Nos. Hectometer stone = (a+b +c +d+e+f+ g+h+i)				31199.35
	Rate for each Hectometer stone = (a+b +c +d+e+f+ g+h+i)/33				945.43
				say	945.43
				cess (1%)	9.45
				say	954.88

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
iii)	5th kilometre stone (precast)				
	Unit = Nos.				
	Taking output = 6 Nos.				
a)	M-15 grade of concrete	cum	2.350	8888.72	20888.50
b)	Steel reinforcement @ 5 kg per sqm	kg	22.080	127.50	2815.18
c)	Excavation in soil for foundation	cum	1.680	365.47	613.99
d)	Painting two coats on concrete surface	sqm	9.850	93.41	920.09
e)	Lettering on km post (average 30 letters of 10 cm height each)	per cm per letter	1800.000	1.34	2412.00
	Transportation and fixing				
f)	Labour				
	Mate	day	0.260	550.00	143.00
	Mason	day	0.600	450.00	270.00
	Mazdoor including loading/unloading	day	6.000	400.00	2400.00
g)	Machinery				
	Tractor-trolley	hour	6.000	382.00	2292.00
h)	Overhead charges @ 10%on (a+b+c+d+e+f+g)				510.50
i)	Contractor's Profit @ 10% on (a+b+c+d+e+f+g)				561.55
	Cost for 6 Nos. 5th km stone = a+b+c+d+e+f+g+h				33826.81
	Rate for each 5th km stone = (a+b+c+d+e+f+g+h)/6 As per rate taken from SOR 2018 directly (pg 41 item 2b) after adding lead cost of material				4556.84
			Labour Cess 1%		45.57
				say	<u>4602.41</u>
18	Painting on Steel Surface				
	Ref: Data Book/ Pg.221				
	Painting on steel surface				
	Stone/Boulder				
	Unit = Sqm				
	Taking output = 10 Sqm				
a)	Material				
	Paint	Lt	1.25	223.00	278.75
b)	Labour				
	Mate	day	0.03	550.00	16.50
	Painter	day	0.45	550.00	247.50
	Mazdoor	day	0.25	400.00	100.00
c)	Overhead charges @ 10% on (a+b)				64.28
d)	Contractor's profit @ 10 % on (a+b+c)				70.70
	Rate per Sqm = (a+b+c+d)/10				85.06
	As per rate taken from SOR 2018 directly (pg 41 item 6)			Say	<u>85.06</u>
19	Stone pitching				
	Ref: Data Book/ Pg.522				
	Providing and laying Pitching on slopes laid over prepared filter material including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications(15cm to 30 cm size).				
	Stone/Boulder				
	Unit = cum				
	Taking output = 1 cum				
a)	Material with lead cost				
	Rough stone granites including spalls for filling and wedging	cum	1.00	2119.51	2119.51
b)	Labour				
	stone packer	day	0.35	400.00	140.00
	Mason special	day	0.17	550.00	93.50
	Man & woman mulia	day	1.04	400.00	416.00
c)	Overhead charges @ 10% on (a+b)				276.90
d)	Contractor's profit @ 10 % on (a+b+c)				304.59
e)	Add for royalty				
	Rough stone granites including spalls for filling and wedging	cum	1.00	0.00	0.00

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Rate per cum = (a+b+c+d+e)				3350.50
	As per rate taken from SOR 2018 directly (pg 72 item 3a) after adding lead cost of material				<u>3775.16</u>
				cess (1%)	<u>37.75</u>
				say	<u>3812.91</u>
20	Gravel Backing to revetments (filter material underneath pitching)				
	Ref: Data Book/ Pg.523				
	Unit = cum				
	Taking output = 1.0 cum				
	a) Material with lead cost				
	Gravel	cum	1.00	319.38	319.38
	b) Labour				
	Man Mulia	day	0.71	400.00	284.00
	Woman Mulia	day	0.35	400.00	140.00
	c) Overhead charges @ 10% on (a+b)				74.34
	d) Contractor's profit @ 10 % on (a+b+c)				81.77
	e) Add for royalty				
	Gravel	cum	1.00	0.00	0.00
	Cost for 1 cum(a+b+c+d+e)			Total	899.50
	Rate for 1.0cum(a+b+c+d+e) As per rate taken from SOR 2018 directly (pg 72 item 2) after adding lead cost of material				2746.33
				cess (1%)	<u>27.46</u>
				say	<u>2773.80</u>
21	Providing R.R Stone Masonary walls including cost of all & complete with cement motar (1:3)				
	Ref: Data Book/ Pg.334				
	Taking output = 5 cum				
	a) Material with lead cost				
	Stone	cum	5.50	3084.84	16966.62
	Through and Bond Stone	Nos	0.79	57.14	45.14
	Cement Mortar 1:3	Cum	1.55	1378.76	2137.08
	Mate	day	0.62	550.00	341.00
	Mason	day	6	500.00	3000.00
	Mazdoor	day	9	400.00	3600.00
	c) Over head 10% on (a+b)				2608.98
	d) Contractor's profit @ 10% on (a+b)				2869.88
	Add for royalty	Cum	6.29	0.00	0.00
	Cement	tonne	0.51	0.00	0.00
	Sand	Cum	1.05	0.00	0.00
	As per rate taken from SOR 2018 directly (pg 58 item 2b) after adding lead cost of material				7271.53
				cess (1%)	<u>72.72</u>
				say	<u>7344.24</u>
22	PCC Grade M-15 Foundation				
	Unit : cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	Cement	MT	4.13	1683.85	6954.29
	Coarse sand	cum	6.75	0.00	0.00
	40 mm Aggregate	cum	8.10	2184.84	17697.20
	20 mm Aggregate	cum	4.05	2119.51	8584.02
	10 mm Aggregate	cum	1.35	2119.51	2861.34
	b) Labour				
	mate	day	0.86	550.00	473.00
	Mason 2nd class	day	1.50	500.00	750.00
	Mulia for mixing	day	20.00	400.00	8000.00

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	c) Machinery				
	Concrete mixer (0.40/0.28 cum)	Hour	6.00	187.50	1125.00
	Generetor	Hour	6.00	392.00	2352.00
	Formwork @ 4%				1951.87
	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)		48796.87		
	d) Overhead charges @ 10% on (a+b+c)				5074.87
	e) Contractor's profit @ 10 % on (a+b+c+d)				5582.36
	f) Add for royalty				
	Cement	mt	4.13	0.00	0.00
	Coarse sand	cum	6.75	0.00	0.00
	40 mm Aggregate	cum	8.10	0.00	0.00
	20 mm Aggregate	cum	4.05	0.00	0.00
	10 mm Aggregate	cum	1.35	0.00	0.00
	Cost for 15 cum = a+b+c+d+e+f				133330.86
	Rate per cum = (a+b+c+d+e+f)/15				8888.72
	As per rate taken from SOR 2018 directly (pg 58 item 3a) after adding lead cost of material				8888.72
				say	
				cess (1%)	88.89
				say	8977.61
23	PCC Grade M20 for foundation				
	<i>Ref: Data Book/ Pg.336</i>				
	Unit : cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	Cement	mt	5.16	1683.85	8688.66
	Coarse sand	cum	6.75	0.00	0.00
	40 mm Aggregate	cum	5.40	2184.84	11798.14
	20 mm Aggregate	cum	5.40	2119.51	11445.36
	10 mm Aggregate	cum	2.70	2119.51	5722.68
	b) Labour				
	Mate	day	0.86	400.00	344.00
	Mason 2 nd class	day	1.50	450.00	675.00
	Mulia	day	20.00	400.00	8000.00
	c) Machinery				
	Concrete mixer (0.40/0.28 cum)	Hour	6.00	187.50	1125.00
	Generetor	Hour	6.00	392.00	2352.00
	Per Cum Basic Cost of Labour, Material & Machinery (a+b+c)				50150.84
	Forwork @ 4%				2006.03
	d) Overhead charges @ 10% on (a+b+c)				5215.69
	e) Contractor's profit @ 10 % on (a+b+c+d)				5737.26
	f) Add for royalty				
	Cement	MT	5.16	0.00	0.00
	Coarse sand	cum	6.75	0.00	0.00
	40 mm Aggregate	cum	5.40	0.00	0.00
	20 mm Aggregate	cum	5.40	0.00	0.00
	12 mm Aggregate	cum	2.70	0.00	0.00
	Total = (a+b+c+d+e)				148113.96
	Rate per cum = (a+b+c+d+e)/15			Say	9874.26
	As per rate taken from SOR 2018 directly (pg 58 item 3b) after adding lead cost of material			cess (1%)	98.74
				say	9973.01

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
24	Supplying, fitting and placing HYSD bar reinforcement in foundation sub-structure & super-structure complete as per drawing and technical specifications				
	Ref: Data Book/ Pg.459				
	Unit = 1 MT				
	Taking output = 1 MT				
	a) Material				
	HYSD bars including 5 per cent for laps and wastage	tonne	1.05	50071.43	52575.01
	Binding wire	Kg	6.00	0.00	0.00
	b) Labour for Cutting, bending, tying and placing in position				
	Mate	day	2.00	550.00	1100.00
	Blacksmith	day	6.50	550.00	3575.00
	Mazdoor	day	8.00	400.00	3200.00
	Basic Cost of Labour & Material (a+b)				60450.01
	c) Overhead charges @ 10% on (a+b)				6045.00
	d) Contractor's profit @ 10 % on (a+b+c)				6649.50
	e) Add for royalty				
	HYSD bars including 5 per cent for laps and wastage	tonne	1.05	0.00	0.00
	Rate per MT = a+b+c+d+e			say	127499.08
				cess (1%)	1274.99
				say	128774.08
25	Sand Filling in foundation & plinth with water & ramming with roller complete as per the direction of Engineer in charge.				
	Ref: Data Book/ Pg.331				
	Taking output = 1cum				
	a) Labour				
	Mate	day	0.01	550.00	5.50
	Mazdoor	day	0.30	400.00	120.00
	b) Material with lead cost				
	Sand	cum	1.20	0.00	0.00
	c) Overhead charges @ 10% on (a+b)				12.55
	d) Contractor's profit @ 10 % on (a+b+c)				13.81
	e) Add for royalty				
	Sand	cum	1.20	0.00	0.00
	Rate per cum				151.86
	As per rate taken from SOR 2018 directly (pg 57 item 2-i) after adding lead cost of material			say	2528.78
				cess (1%)	25.29
				say	2554.07
26	Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and Technical Specification.				
	Ref: Data Book/ Pg.463				
	Unit = cum				
	Taking output = 10 cum.				
	a) Labour				
	Mate	day	0.32	550.00	176.00
	Mazdoor for filling, watering, ramming etc.	day	7.00	400.00	2800.00
	Mazdoor (Skilled)	day	1.00	450.00	450.00
	b) Material with lead cost				
	Filter media of stone aggregate conforming to clause 2504.2.2. of MoRTH specifications.	cum	12.00	2184.84	26218.08
	c) Machinery				
	Water Tanker of 6 KL capacity	hour	0.06	744.25	44.66
	d) Overhead charges @ 10% on (a+b+c)				2968.87
	e) Contractor's profit @ 10 % on (a+b+c+d)				3265.76
	f) Add for royalty				
	stone aggregate	cum	12.00	0.00	0.00
	cost for 10 cum of Fiter Media = a+b+c+d+e+f				14931.34

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Rate per cum = (a+b+c+d+e+f)/10				1493.13
	As per rate taken from SOR 2018 directly (pg 57 item 4) after adding lead cost of material			say	1493.13
				cess(1%)	14.93
				say	1508.06
27	WEEP HOLE				
	Ref: Data Book/ Pg.461				
	Providing weep holes in Brick masonry/Plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia PVC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications				
	Unit = Nos.				
	Taking output = 30 Nos				
	a) Material				
	PVC pipe 100 mm dia. (including wastage @ 5 per cent)	metre	31.50	132.00	4158.00
	Average length of weep hole is taken as one metre for the purpose of estimating.				
	MS clamp	each.	30.00	55.00	1650.00
	collar for PVC pipe (average) taking 10% of above pipe rate	each.	10.00	206.64	2066.40
	Cement mortar 1:3 (Rate as in Item 42 (i))	cum	0.05	1378.76	68.94
	b) Labour				
	Mate	day	0.03	550.00	16.50
	Mason second class	day	0.50	500.00	250.00
	Mulia unskilled	day	0.25	400.00	100.00
	c) Overhead charges @ 10% on (a+b)				830.98
	d) Contractor's profit @ 10 % on (a+b+c)				914.08
	e) Add for royalty				
	Cement	tonne	0.025	0.00	0.00
	Sand	cum	0.05	0.00	0.00
	Lead cost for 0.05 cum				0.00
	Cost for 30 m = a+b+c+d+e				15056.35
	Rate per Each (a+b+c+d+e)/30				501.88
	As per rate taken from SOR 2018 directly (pg 66 item 12) after adding lead cost of material			say	501.88
				cess(1%)	5.02
				say	506.90
28	Cement Mortar 1:3 (1 cement :3 sand)				
	Ref: Data Book/ Pg.333				
	Unit = 1 cum				
	Taking output = 1 cum				
	a) Materials				
	Cement	tonne	0.51	1683.85	858.76
	Sand	cum	1.05	0.00	0.00
	b) Labour				
	Mate	day	0.40	400.00	160.00
	Mazdoor	day	0.90	400.00	360.00
	Total Material and Labour = (a+b)			say	1378.76
29	Painting two coats over a coat of priming after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces				
	Ref: Data Book/ Pg.220				
	Taking output = 40 Sqm				
	a) Labour				
	Mate	day	0.120	550.00	66.00
	Painter	day	2.000	550.00	1100.00
	Mazdoor	day	1.000	400.00	400.00
	b) Material				
	Paint	lit	6.000	223.00	1338.00
	Add for scaffolding @ 1 per cent of labour cost where required				15.66
	c) Overhead charges @ 10% on (a+b)				291.97
	d) Contractor Profit@ 10% on (a+b+c)				321.16

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Cost for 40 sqm				3532.79
	Rate per sqm = (a+b+c+d)/40.0				88.32
					93.41
				Say	93.41
				cess (1%)	0.93
				say	94.34
29 (a)	Printing with New letter and figures of any synthetic enamel paint black or any other approved colour to give an even shade.				
	English and roman				
	hyphens and the like not to be measured and paid for				
	Detail for 100 letters of 16 cm height i.e 1600cm				
	unit =per cm height per letter				
	data book page no- 212				
	a) Labour				
	mate	day	0.07	550.00	38.50
	painter 1st class	day	1.25	550.00	687.50
	mazdoor	day	0.5	400.00	200.00
	b) material				
	paint	litre	0.5	223.00	111.50
	c) Overhead charges @ 10% on (a+b)				103.75
	d)Contractors Profit @ 10% on (a+b+c)				114.13
	cost for 1600cm=a+b+c+d				1255.38
	Rate per cm height per letter = (a+b+c+d)/1600			Say	1.34
	Add labour cess 1%			cess (1%)	0.001
				say	1.34
30	Retro-Reflectorised Traffic Signs				
	Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing				
	Ref: Data Book/ Pg.213				
	Unit = Each				
	Taking output = one traffic sign				
	i) Excavation for foundation	cum	0.216	365.47	78.94
	ii) Cement concrete M15 grade	cum	0.120	8888.72	1066.65
	iii) Painting angle iron post two coats	sqm	0.430	93.41	40.17
	a) Labour (For fixing at site)				
	Mate	day	0.010	550.00	5.50
	Mazdoor	day	0.250	400.00	100.00
	b) Material				
	Mild steel angle iron 75 x 75 x 6 mm	kg	19.000	2.10	39.99
	c) Machinery				
	Tractor-trolley	hour	0.010	382.00	3.82
					149.31
	Aluminium sheeting fixed with encapsulated lens type reflective sheeting of size including lettering and signs as applicable				
	Add 2 per cent of cost of angle iron towards cost of drilling holes, nuts, bolts etc.				
	90 cm equilateral triangle				152.30
		sqm	0.350	7000.00	2450.00
					2602.30
	d) Overhead charges @ 10% on (a+b+c)				260.23
	e) Contractor's profit @ 10% on (a+b+c+d)				286.25
	As per rate taken from SOR 2018 directly (pg 42 item 11-i) after adding lead cost of material				4931.35
				Labour cess @1%	49.31
				say	4980.66
	60 cm equilateral triangle				152.30
		sqm	0.156	7000.00	1092.00
					1244.30

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	d) Overhead charges @ 10% on (a+b+c)				124.43
	e) Contractor's profit @ 10% on (a+b+c+d)				136.87
	As per rate taken from SOR 2018 directly (pg 42 item 11-ii) after adding lead cost of material				3621.96
				Labour cess @1%	36.22
				say	<u>3658.18</u>
	60 cm circular				152.30
		sqm	0.283	7000.00	1981.00
					2133.30
	d) Overhead charges @ 10% on (a+b+c)				213.33
	e) Contractor's profit @ 10% on (a+b+c+d)				234.66
	As per rate taken from SOR 2018 directly (pg 42 item 11-iii) after adding lead cost of material				4440.80
				Labour cess @1%	44.41
				say	<u>4485.2</u>
	80 cm x 60 cm rectangular				152.30
		sqm	0.480	7000.00	3360.00
					3512.30
	d) Overhead charges @ 10% on (a+b+c)				351.23
	e) Contractor's profit @ 10% on (a+b+c+d)				386.35
	As per rate taken from SOR 2018 directly (pg 42 item 11-iv) after adding lead cost of material				5706.23
				Labour cess @1%	57.06
				say	<u>5763.29</u>
	60 cm x 45 cm rectangular				152.30
		sqm	0.270	7000.00	1890.00
					2042.30
	d) Overhead charges @ 10% on (a+b+c)				204.23
	e) Contractor's profit @ 10% on (a+b+c+d)				224.65
	As per rate taken from SOR 2018 directly (pg 42 item 11-v) after adding lead cost of material				4249.15
				Labour cess @1%	42.49
				say	<u>4291.64</u>
	60 cm x 60 cm square				152.30
		sqm	0.360	7000.00	2520.00
					2672.30
	d) Overhead charges @ 10% on (a+b+c)				267.23
	e) Contractor's profit @ 10% on (a+b+c+d)				293.95
	As per rate taken from SOR 2018 directly (pg 42 item 11-vi) after adding lead cost of material				5200.94
				Labour cess @1%	52.01
				say	<u>5252.95</u>
	90 cm high octagon				152.30
		sqm	0.672	7000.00	4704.00
					4856.30
	d) Overhead charges @ 10% on (a+b+c)				485.63
	e) Contractor's profit @ 10% on (a+b+c+d)				534.19
	As per rate taken from SOR 2018 directly (pg 42 item 11-vii) after adding lead cost of material				8165.25
				Labour cess @1%	81.65
				say	<u>8246.90</u>
31	BACK FILLING				
	MORTH- 462				
	Back filling behind abutment, wing wall and return wall complete as per drawing and Technical Specification (Sand)				
	Pg 462 of MORTH Specification				
	Unit = cum				
	Taking output = 10 cum				
	Granular material				
	a) Labour				
	Mate	day	0.28	550.00	154.00
	Mazdoor	day	7.00	400.00	2800.00
	b) Material with lead cost				
	Granular material(SAND)	cum	12.00	0.00	0.00
	c) Machinery				

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Plate compactor/power rammer	hour	2.50	100.00	250.00
	Water Tanker	hour	0.06	744.25	44.66
	d) Overhead charges @ 10% on (a+b+c)				324.87
	e) Contractor's profit @ 10% on (a+b+c+d)				357.35
	f) Add for royalty				
	Granular material(SAND)	cum	12.00	0.00	0.00
	Cost for 10 cum of granular backfill = a+b+c+d+e+f				10078.60
	Rate per cum = (a+b+c+d+e+f)/10				1007.86
	As per rate taken from SOR 2018 directly (pg 57 item 3-a) after adding lead cost of material				
				Labour Cess 1%	10.08
				say	<u>1017.94</u>
32	Painting on concrete surface				
	<i>Ref: Data Book/ Pg.505</i>				
	Providing and applying 2 coats of water based cement paint over a coat of cement wash to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 sqm.				
	Unit = sqm				
	Taking output = 10 sqm				
	a) Labour				
	Painter(spl)	day	0.22	550.00	121.00
	Man mulia and woman mulia for preparation of surface	day	0.32	400.00	128.00
	b) Overhead charges @ 10% on (a)				24.90
	c) Contractor Profit@ 10% on (a+b)				27.39
					301.29
	Rate per sqm (a+b+c)/10				30.13
	Cost of paint=(2.5x35.00)/10				8.75
	As per rate taken from SOR 2018 directly (pg 41 item 4)				93.41
				cess (1%)	<u>0.93</u>
				say	<u>94.34</u>
33	Cement wash in one coat				
	Unit = sqm				
	Taking output = 93.00sqm				
	a) Material				
	Cement	Tonne	0.1001	9434.94	944.44
	b) Labour				
	Painter 2nd class	day	0.75	500.00	375.00
	Man mulia	day	0.50	400.00	200.00
	Man mulia for surface preparation	day	0.50	400.00	200.00
	c) Overhead charges @ 10% on (a+b)				171.94
	d) Contractor Profit@ 10% on (a+b+c)				189.14
	e) Add for royalty				
	Cement	Tonne	0.1001	0.00	0.00
	Rate per 93 sqm				2080.52
	Rate per 1 sqm				22.37
	Rate of cement wash and cement paint				115.78
				say	<u>115.78</u>
				cess (1%)	<u>1.16</u>
				say	<u>116.94</u>
34	Drainage Spouts complete as per drawing and Technical specification				
	<i>Ref: Data Book/ Pg.449</i>				
	Unit = 1 No.				
	Taking output = 1 No.				
	a) Material				
	Corrosion resistant Structural steel including 5 per cent wastage	Kg	4.00	2.10	8.42
	GI pipe 100mm dia	metre	0.60	400.00	240.00
	GI bolt 10 mm Dia	each	6.00	38.00	228.00
	Galvanised MS flat clamp	each	2.00	20.00	40.00
	b) Labour				
	For fabrication				
	Mate	day	0.02	550.00	11.00
	Skilled (Blacksmith, welder etc.)	day	0.02	400.00	8.00
	Mazdoor	day	0.02	400.00	8.00
	For fixing in position				
	Mate	day	0.01	550.00	5.50
	Mason	day	0.01	500.00	5.00
	Mazdoor	day	0.20	400.00	80.00

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Add @ 5 per cent of cost of material and labour for electrodes, cutting gas, sealant, anti-corrosive bituminous paint, mild steel grating etc.				31.70
	c) Overhead charges @ 10% on (a+b)				66.56
	d) Contractor Profit@ 10% on (a+b+c)				73.22
	Rate per Each (a+b+c+d)				2158.99
	As per rate taken from SOR 2018 directly (pg 70 item 11)			say	2158.99
				cess (1%)	21.59
				say	2180.58
35	Dismantling				
	Prestressed / Reinforced cement concrete grade M-20 & above				
	<i>Ref: Data Book/ Pg.26</i>				
	a) Labour				
	Mate	day	0.50	550.00	275.00
	Blacksmith	day	0.25	500.00	125.00
	Mazdoor for dismantling, loading and unloading	day	3.50	400.00	1400.00
	b) Machinery				
	Tractor-trolley	hour	0.27	382.00	103.14
	c) Overhead charges @ 10% on (a+b)				190.31
	d) Contractor's profit @ 10% on (a+b+c)				209.35
	Cost for 1.25 cum = a+b+c+d				2302.80
	Rate per cum = (a+b+c+d)/ 1.25				1739.01
	As per rate taken from SOR 2018 directly (pg 15 item 4-I-c) after adding lead cost of material			Labour Cess 1%	17.39
				say	1756.40
	Dismantling Rubble stone masonry in cement mortar.				
	<i>Ref: Data Book/ Pg.28</i>				
	a) Labour				
	Mate	day	0.030	550.00	16.50
	Mazdoor for dismantling, loading and unloading.	day	0.750	400.00	300.00
	b) Machinery				
	Tractor-trolley	hour	0.270	382.00	103.14
	c) Overhead charges @ 10% on (a+b)				41.96
	d) Contractor's profit @ 10% on (a+b+c)				46.16
	Cost for 1.25 cum = a+b+c+d				507.76
	Rate per cum = (a+b+c+d)/ 1.25				489.32
	As per rate taken from SOR 2018 directly (pg 16 item 4-III-b)			Labour Cess 1%	4.89
				say	494.21
36	RCC M20 in Foundation				
	<i>Ref: Data Book/ Pg.336</i>				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2119.51	17168.05
	10mm size chips	cum	5.400	2119.51	11445.36
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	5.210	1683.85	8772.85
	b) Labour				
	Mate	day	0.860	550.00	473.00
	Mason 2nd class	day	1.500	500.00	750.00
	Man Mulia	day	20.000	400.00	8000.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					50086.26
	Formwork @ 4%				2003.45
	d) Overhead charges @ 10 % on (a+b+c)				5208.97
	e) Contractor's profit @ 10 % on (a+b+c+d)				5729.87
	Add for royalty				
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	5.210	0.00	0.00

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Cost of 15 cum=(a+b+c+d)				145929.12
	Rate per cum=(a+b+c+d)/15				9728.61
				Labour cess @1%	97.29
				say	<u>9825.89</u>
37	Providing reinforced cement concrete crash barrier at the edges of road, approaches to bridge structures and medians,constructed with M40 grade concrete with HYSD reinforcement conforming to IRC :21 and dowel bars 25mm dia , 450 mm long at expansion joints filled with pre-moulded asphalt filler board keyed to the structure and installed as per design given in the MOST circular No RW/NH-33022/1/94-DO III dated 24th June,1994 and as per dimensionsin the approved drawing and at locations directed by the Engineer.				
	Ref: Data Book/ Pg.237				
	Unit = linear meter				
	Taking Output=10m				
	a)M40 grade concrete	cum	3	12131.68	36395.04
	b) Labour				
	Mate	day	0.04	550.00	22.00
	Mazdoor	day	1.00	400.00	400.00
	c) Material				
	HYSD Steel reinforcement	tonne	0.28	127499.08	35699.74
	Pre-moulded asphalt filler board	sqm	0.32	1320.00	422.40
	cost of 150 mm dia PVC pipe.	rm	1.00	70.00	70.00
					914.40
	d) Overhead charges @ 10% on (a+b+c)				91.44
	e) Contractor's profit @ 10% on (a+b+c+d)				100.58
	Cost for 10meter				52775.30
	Rate per meter=(a+b+c+d+e)/10				5277.53
	As per rate taken from SOR 2018 directly (pg 45 item 17)			Labour cess @1%	52.78
				say	<u>5330.31</u>
38	RCC Grade M25 for Foundation				
	Ref: Data Book/ Pg.340				
	Using Concrete Mixer				
	Unit = 1 cum				
	Taking output = 15cum				
	a) Material with lead cost				
	Cement	tonne	6.05	1683.85	10187.28
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	2119.51	17168.05
	10 mm Aggregate	cum	5.40	2119.51	11445.36
	b) Labour				
	Mate	day	0.86	550.00	473.00
	Mason	day	1.50	500.00	750.00
	Mazdoor	day	20.00	400.00	8000.00
	c) Machinery				
	Concrete mixer (cap 0.40/0.28 cum)	hour	6.00	187.50	1125.00
	Generator 33 KVA	hour	6.00	392.00	2352.00
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15cum		51500.69		
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				51500.69
	Formwork @ 3.75%				1931.28
	d) Overhead charges @ 10% on (a+b+c)				5343.20
	e) Contractor's profit @ 10 % on (a+b+c+d)				5877.52
	f) Add for royalty				
	Cement	tonne	6.05	0.00	0.00
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	0.00	0.00
	10 mm Aggregate	cum	5.40	0.00	0.00
	Cost for 15 cum = a+b+c+d+e+e				159376.62
	Rate per cum = (a+b+c+d+e+e)/15				10625.11
	As per rate taken from SOR 2018 directly (pg 58 item 3-e)				<u>10625.11</u>
				cess (1%)	<u>106.25</u>
				say	<u>10731.36</u>

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
41	Asphaltic Plug joint				
	Providing and laying of asphaltic plug joint to provide for horizontal movement of 25 mm and vertical movement of 2 mm, depth of joint varying from 75 mm to 100 mm, width varying from 500 mm to 750 mm (in traffic direction), covered with a closure plate of 200mm x 6mm of weldable structural steel conforming to IS: 2062, asphaltic plug to consist of polymer modified bitumen binder, carefully selected single size aggregate of 12.5 mm nominal size and a heat resistant foam caulking/backer rod, all as per approved drawings and specifications.				
	DATA BOOK PAGE 510 SI No-14.19				
	Unit = Running meter				
	Taking output = 12 m				
	a) Labour				
	Mate	day	0.052	550.00	28.60
	Mazdoor	day	1.00	400.00	400.00
	Mazdoor (Skilled)	day	0.30	450.00	135.00
	b) Material				
	Crushed stone aggregate 12.5 mm nominal size	cum	0.75	3521.99	2641.49
	Polymer modified bitumen	kg	77.50	36.30	2813.25
	Galvanised structural steel plate 200 mm wide, 6 mm thick, 12 m long (2.4 sqm) @ 47.10 kg/sqm including 5 per cent wastage	kg	113.00	50.69	5727.97
	Add 1 per cent for welding and foam caulking/backer rod and other incidentals.				117.46
	c) Machinery				
	Mastic cooker 1 tonne capacity	hour	0.50	450.00	225.00
	Smooth 3-wheeled steel roller 8-10 capacity	hour	0.50	587.50	293.75
	d) Overhead charges @ 10% on (a+b+c)				1238.25
	e) Contractor's profit @ 10% on (a+b+c+d)				1362.08
	f) Add for Royalty				
	Crushed stone aggregate 12.5 mm nominal size	cum	0.75	0.00	0.00
	Cost for 12 m asphalt plug joint = (a+b+c+d+e+f)				14982.86
	Rate per m = (a+b+c+d+e+f)/12				1248.57
				Labour Cess 1%	12.49
				say	<u>1261.06</u>
42	PCC 1:3:6 in Foundation				
	Ref: Data Book/ Pg.271				
	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.				
	Unit = cum				
	Taking output = 15 cum				
	a) Labour				
	Mate	day	0.64	550.00	352.00
	Mason	day	1.00	500.00	500.00
	Mazdoor	day	15.00	400.00	6000.00
	b) Material with lead cost				
	40 mm Aggregate	cum	13.80	2184.84	30150.79
	coarse Sand	cum	6.90	0.00	0.00
	cement	tonne	3.300	1683.85	5556.70
	Cost of water	KL	18.000	75.00	1350.00
	c) Overhead charges @ 10% on (a+b)				4390.95
	d) Contractor's profit @ 10% on (a+b+c)				4830.04
					53130.48
	e) Add for royalty				
	40 mm Aggregate	cum	13.80	0.00	0.00
	coarse Sand	cum	6.90	0.00	0.00
	cement	tonne	3.30	0.00	0.00
	Cost for 1.0 cum = a+b+c+d				6931.44
	As per rate taken from SOR 2018 directly (pg 49 item 1-c) after adding lead cost of material			Labour Cess 1%	69.31
				say	<u>7000.76</u>
43	RCC M20 for Superstructure				
	Ref: Data Book/ Pg.336				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2861.40	23177.37
	10mm size chips	cum	5.400	2654.76	14335.73
	Coarse Sand	cum	6.750	1612.00	10881.00
	Cement	MT	5.210	9434.94	49156.02

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	b) Labour				
	Mate	day	0.860	550.00	473.00
	Mason 2nd class	day	1.500	500.00	750.00
	Man Mulia	day	20.000	400.00	8000.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					110250.11
	Formwork @ 20%				22050.02
	d) Overhead charges @ 10 % on (a+b+c)				13230.01
	e) Contractor's profit @ 10 % on (a+b+c+d)				14553.02
	Add for royalty				
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	5.210	0.00	0.00
	Cost of 15 cum=(a+b+c+d)				160083.17
	Rate per cum=(a+b+c+d)/15				10672.21
				Labour cess @1%	106.72
				say	10778.93
44	Dry Lean Cement Concrete Sub-Base				
	Construction of dry lean cement concrete sub base over a prepared subgrade with coarse and fine aggregate, conforming to IS: 383, the size of coarse aggregate not exceeding 25mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after behind.				
	Taking out put -75.00 Cum				
	A) Labour				
	Mate	Each	6.00	550.00	3300.00
	Mason 1st Class	Each	4.00	550.00	2200.00
	Mason 2nd Class	Each	4.00	500.00	2000.00
	Unskilled Mazdoor	Each	132.00	400.00	52800.00
	Surveyer	Each	2.00	550.00	1100.00
	Bhisti	Each	14.00	400.00	5600.00
					67000.00
	B) Machinery				
	Cement concrete mixture 0.28 / 0.40 Cum	Hour	36.00	187.50	6750.00
	S W roller 8-10 Capacity	Hour	6.00	587.50	3525.00
	Water Tanker 6 KL Capacity	Hour	5.00	744.25	3721.25
	Air compressor	Hour	2.00	1359.78	2719.56
					16715.81
	C) Materials with lead cost				
	Chips (25mm to 12mm)	Cum	67.50	2119.51	143067.06
	Sand	Cum	33.75	0.00	0.00
	Cement @ 150 Kg / Cum	MT	11.25	1683.85	18943.29
	Water Tanker 6 KL Capacity	KL	18.00	63.56	1144.08
					163154.43
	Total (A+B+C)				246870.24
	D) 10 % OHC on (A+B+C)				24687.024
	E) 10 % PC on (A+B+C+D)				27155.73
	Chips	Cum	67.50	0.00	0.00
	sand	Cum	33.75	0.00	0.00
	Cement	MT	11.25	0.00	0.00
					0.00
	Total (A+B+C+D+E)				727489.61
	Rate per 1.00 Cum				9699.86
	As per rate taken from SOR 2018 directly (pg 53 item 1) after adding lead cost of material			Labour cess (1%)	97
				say	9796.86

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
45	Excavation in hilly area in ordinary rock not requiring blasting by mechanical means including cutting and trimming of slopes and disposal of cut material with all leads and lifts.				
	Ref: Data Book/ Pg.85				
	Unit=Cum				
	Taking output = 170 cum				
	a) Labour				
	Mate	day	0.32	550.00	176.00
	Mazdoor	day	8.00	400.00	3200.00
	b) Machinery				
	Dozer 180 HP	hour	6.00	3914.88	23489.28
	Front end loader	hour	7.00	850.00	5950.00
	Tipper 5.5 cum capacity,4 trips per hour	hour	7.00	849.00	5943.00
	C) Overhead charges @ 10% on (a)				3875.83
	D) Contractor's profit @ 10 % on (a+b+c)				4263.41
	Rate per 170 cum = (a+b+c+d)				51775.20
	Rate per one cum As per rate taken from SOR 2018 directly (pg 27 item 32) after adding lead cost of material				304.56
				cess 1 %	3.05
				say	<u>307.61</u>
46	Excavation in soil in hilly area by mechanical means including cutting and trimming of slopes and disposal of cut material with all leads and lifts. Ref: Data Book/ Pg.84				
	Unit=Cum				
	Taking output = 260 cum				
	a) Labour				
	Mate	day	0.24	550.00	132.00
	Mazdoor	day	6.00	400.00	2400.00
	b) Machinery				
	Dozer 180 HP	hour	6.00	3914.88	23489.28
	Front end loader	hour	6.00	850.00	5100.00
	Tipper 5.5 cum capacity,4 trips per hour	hour	12.00	849.00	10188.00
	b) Overhead charges @ 10% on (a)				4130.93
	c) Contractor's profit @ 10 % on (a+b)				4544.02
	Rate per 260 cum = (a+b+c)				54961.40
	Rate per one cum As per rate taken from SOR 2018 directly (pg 27 item 31) after adding lead cost of material				211.39
				cess 1 %	2.11
				say	<u>213.50</u>
47	RCC Grade M25 in Sub Structure				
	Ref: Data Book/ Pg.340				
	Using Concrete Mixer				
	Unit = 1 cum				
	Taking output = 15cum				
	a) Material with lead cost				
	Cement	tonne	6.05	1683.85	10187.28
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	2119.51	17168.05
	10 mm Aggregate	cum	5.40	2119.51	11445.36
	b) Labour				
	Mate	day	0.86	550.00	473.00
	Mason	day	1.50	500.00	750.00
	Mazdoor	day	20.00	400.00	8000.00
	c) Machinery				
	Concrete mixer (cap 0.40/0.28 cum)	hour	6.00	187.50	1125.00
	Generator 33 KVA	hour	6.00	392.00	2352.00
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15cum		51500.69		
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				51500.69
	Formwork @ 10%				5150.07
	d) Overhead charges @ 10% on (a+b+c)				5665.08

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	e) Contractor's profit @ 10 % on (a+b+c+d)				6231.58
	f) Add for royalty				
	Cement	tonne	6.05	0.00	0.00
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	0.00	0.00
	10 mm Aggregate	cum	5.40	0.00	0.00
	Cost for 15 cum = a+b+c+d+e+f				154996.62
	Rate per cum = (a+b+c+d+e+f)/15				10333.11
	As per rate taken from SOR 2018 directly (pg 65 item 3-f) after adding lead cost of material				10333.11
				cess (1%)	103.33
				say	10436.44
48	RCC Grade M25 in Super Structure				
	<i>Ref: Data Book/ Pg.340</i>				
	Using Concrete Mixer				
	Unit = 1 cum				
	Taking output = 15cum				
	a) Material with lead cost				
	Cement	tonne	5.99	1683.85	10086.25
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	2119.51	17168.05
	10 mm Aggregate	cum	5.40	2119.51	11445.36
	b) Labour				
	Mate	day	0.86	550.00	473.00
	Mason	day	1.50	500.00	750.00
	Mazdoor	day	20.00	400.00	8000.00
	c) Machinery				
	Concrete mixer (cap 0.40/0.28 cum)	hour	6.00	187.50	1125.00
	Generator 33 KVA	hour	6.00	392.00	2352.00
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15cum		51399.66		
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				51399.66
	Formwork @ 20%				10279.93
	d) Overhead charges @ 10% on (a+b+c)				6167.96
	e) Contractor's profit @ 10 % on (a+b+c+d)				6784.76
	f) Add for royalty				
	Cement	tonne	5.99	0.00	0.00
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	0.00	0.00
	10 mm Aggregate	cum	5.40	0.00	0.00
	Cost for 15 cum = a+b+c+d+e+f				182031.12
	Rate per cum = (a+b+c+d+e+f)/15				12135.41
	As per rate taken from SOR 2018 directly (pg 67 item A-1) after adding lead cost of material				12135.41
				cess (1%)	121.35
				say	12256.76
49	Supplying & Laying Reinforced Cement Concrete Pipe NP4/ Prestressed Concrete Pipe on First Class Bedding in Single Row .				
	Supplying & Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .				
	Unit = metre				
	1000 mm dia				
	Labour				
	Mate	day	0.180	550.00	99.00
	Mason	day	0.500	550.00	275.00
	Mazdoor	day	4.000	400.00	1600.00
	Material				
	Sand at site	cum	0.070	0.00	0.00
	Cement at site	tonne	0.050	1683.85	84.19
	RCC pipe NP 4	mtr	12.500	8488.66	106108.30
	Overheads @10 %(a+b)				8112.49
	Contractors profit @10 %(a+b+c)				11627.90
	Royalty				

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Sand at site	cum	0.070	0.00	0.00
	Cement at site	tonne	0.050	0.00	0.00
	RCC pipe NP 4	mtr	12.500	390.00	4875.00
	Cost of 12.5 m				132781.88
	Cost per meter				10622.55
				Labour Cess 1%	106.23
				say	<u>10728.78</u>
	1200 mm dia				
	Labour				
	Mate	day	0.280	550.00	154.00
	Mason	day	1.000	550.00	550.00
	Mazdoor	day	6.000	400.00	2400.00
	Material				
	Sand at site	cum	0.090	0.00	0.00
	Cement at site	tonne	0.070	1683.85	117.87
	RCC pipe NP 4	mtr	12.500	9488.66	118608.30
	Overheads @10 %(a+b)				9137.26
	Contractors profit @10 %(a+b+c)				13096.74
	Royalty and lead				
	Sand at site	cum	0.090	0.00	0.00
	Cement at site	tonne	0.070	0.00	0.00
	RCC pipe NP 4	mtr	12.500	440.00	5500.00
	Cost of 12.5 m				149564.18
	Cost per meter				11965.13
				Labour Cess 1%	119.65
				say	<u>12084.79</u>
50	RCC M20 in Sub Structure				
	<i>Ref: Data Book/ Pg.457</i>				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2119.51	17168.05
	10mm size chips	cum	5.400	2119.51	11445.36
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	5.210	1683.85	8772.85
	b) Labour				
	Mate	day	0.860	550.00	473.00
	Mason 2nd class	day	1.500	500.00	750.00
	Man Mulia	day	20.000	400.00	8000.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					50086.26
	Formwork @ 10%				5008.63
	d) Overhead charges @ 10 % on (a+b+c)				5509.49
	e) Contractor's profit @ 10 % on (a+b+c+d)				6060.44
	f) Add for royalty				
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	5.210	0.00	0.00
	Cost of 15 cum=(a+b+c+d+e+f)				143754.57
	Rate per cum=(a+b+c+d+e+f)/15				9583.64
	As per rate taken from SOR 2018 directly (pg 65 item 3-e) after adding lead cost of material			Labour cess @1%	95.84
				say	<u>9679.47</u>

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
51	Dismantling of flexible pavements				
	Dismantling of flexible pavements and disposal of dismantled materials upto a lead of 1000m stacking serviceable and unserviceable materials separately				
	Pg 36 of MORTH Data Book				
	Unit- cum				
	Taking output= 1 cum				
	By Manual means				
	Bituminous courses				
	Labour				
	Mate	day	0.060	550.00	33.00
	Mazdoor	day	1.500	400.00	600.00
	Machinery				
	Tractor trolley	hour	0.380	382.00	145.16
	Overheads @ 10 % on (a+b)				77.82
	Contractors profit @ 10 % on (a+b)				85.60
	Rate per cum = (a+b+c+d)				941.57
				Labour Cess 1%	9.42
				say	950.99
52	Fine Dressing and Turfing using sods with Initial Lead and Lift.				
	Furnishing and laying of the live sods of perrinial turf forming grass on embankment slope , verges or other locations shown on the drawing or as directed by Engineer including preparation of ground, fetching of sods and watering.				
	Pg 75,item no 307, MORTH Data Book				
	Unit = sqm				
	Taking output = 100 sqm				
	a) Labour				
	Mate	day	0.120	550.00	66.00
	Mazdoor for preparation of ground and fetching of sods	day	3.000	400.00	1200.00
	b) Machinery				
	Water tanker including watering for 3 months	hour	2.000	744.25	1488.50
	Tractor-trolley	hour	1.000	382.00	382.00
	b) Material				
	Farmyard manure @ 0.18 cum per 100 sqm at site work	cum	0.180	121.00	21.78
	Cost of water	KL	12.000	63.56	762.72
	b) Overhead charges @ 10% on (a)				392.10
	c) Contractor's profit @ 10% on (a)				431.31
	Cost for 100 sqm = (a+b+c+d)				4744.41
	Rate per sqm = (a+b+c+d)/100				47.44
				Labour Cess 1%	0.47
				say	47.92
	RCC Railing				
53	Construction of RCC railing of M30 Grade aggregate size not exceeding 20 mm , true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.				
	Unit = 1 RM				
	Taking output = 2 x 24 m span = 48 m.				
	a) Material				
	Cement concreteM30 Grade	cum	4.092	12484.34	51085.91
	No. of vertical posts = (12 + 2)2 = 28 Nos., External area of vertical post 0.25x0.275 = 0.0687sqm, Concrete in vehicle posts = 0.0687 x 28 = 1.9326 cum, Hand rail in2 tiers = 2 x 24 = 48 m, External area = 0.170 x 0.175 = 0.0297 sqm, Concrete in hand rails = 0.03 x 48 = 2.16 cum, Total Concrete = 1.932 + 1.4256 = 3.349 cum. (Refer MoRTH SD / 202).				
	b) Add 12 per cent of above cost for form work for casting in casting yard.				6130.31
	c) HYSD bar reinforcement Rate	MT	0.865	127499.08	110286.71
	Rate for 48 m (a+b+c)				167502.93
	Rate per metre (a+b+c)/48				3489.64
					3489.64
				cess (1%)	34.90
				say	3524.54

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
55	Excavation for Road roadway in hard Rock (blasting prohibited) with rock breakers including breaking rock,loading in tippers and disposal within all lifts and lead upto 1000 metres,trimming boottom and side slopes in accordance with requirements of lines ,grades,and crossections.				
	Unit=Cum				
	Taking output = 36 cum				
	a) Labour				
	Mate	day	0.40	550.00	220.00
	Mazdoor for trimming slopes including mannual loadings in truck	day	10.00	400.00	4000.00
	b) Machinery				
	Hydraulic excavator with rock breaker attachment @ 6cum per hour	hour	6.00	1129.75	6778.50
	Tipper 5.5 cum capacity,1 trip per hour	hour	6.50	849.00	5518.50
	Credit for ecavated rock found suitable for use @50% of excavated quatity	cum	18.00	200.00	1800.00
	c) Overhead charges @ 10% on (a+b)				1831.70
	d) Contractor's profit @ 10 % on (a+b+c)				2014.87
	Rate per 36 cum = (a+b+c+d)				20363.57
	Rate per one cum= (a+b+c+d)/36				565.65
				cess 1 %	5.66
				say	571.31
56	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, inaccordance with requirments of lines grades and cross-sections and transporting to the embankment location within all lift and lead upto 1000m				
	Unit=Cum				
	Taking output = 360 cum				
	a) Labour				
	Mate	day	0.08	550.00	44.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Hydraulic Excavator 0.9 cum bucket capacity @60 cum per hour	hour	6.00	1129.75	6778.50
	Tipper 5.5 cum capacity,4 trips per hour	hour	16.00	849.00	13584.00
	c) Overhead charges @ 10% on (a+b)				2120.65
	d) Contractor's profit @ 10 % on (a+b+c)				2332.72
	Rate per 360 cum = (a+b+c+d)				25659.87
	Rate per one cum=(a+b+c+d)/360				71.28
				cess 1 %	0.71
				say	71.99
57	Excavation for roadway in ordinary rock with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, transporting to embankment site within all leads and lifts upto 1000m, trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections				
	Unit=Cum				
	Taking output = 240 cum				
	a) Labour				
	Mate	day	0.08	550.00	44.00
	Mazdoor	day	2.00	400.00	800.00
	b) Machinery				
	Hydraulic Excavator 0.9 cum bucket capacity @36 cum per hour	hour	6.00	1129.75	6778.50
	Tipper 5.5 cum capacity,4 trips per hour	hour	11.00	849.00	9339.00
	c) Overhead charges @ 10% on (a+b)				1696.15
	d) Contractor's profit @ 10 % on (a+b+c)				1865.77
	Rate per 240 cum = (a+b+c+d)				20523.42
	Rate per one cum=(a+b+c+d)/240				85.51
				cess 1 %	0.86
				say	86.37

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
58	RCC Grade M30 for Foundation				
	<i>Ref: Data Book/ Pg.344</i>				
	Using Concrete Mixer				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2119.51	17168.05
	10mm size chips	cum	5.400	2119.51	11445.36
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.100	1683.85	10271.47
	b) Labour				
	Mate	day	0.860	550.00	473.00
	Mason 2nd class	day	1.500	500.00	750.00
	Man Mulia	day	20.000	400.00	8000.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					51584.88
	Formwork @ 3.5%				1805.47
	d) Overhead charges @ 10 % on (a+b+c)				5339.04
	e) Contractor's profit @ 10 % on (a+b+c+d)				5872.94
	Add for royalty				
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.100	0.00	0.00
	Cost of 15 cum=(a+b+c+d)				187265.07
	Rate per cum=(a+b+c+d)/15				12484.34
	As per rate taken from SOR 2018 directly (pg 58 item 3-e) after adding lead cost of material			Labour cess @1%	124.84
				say	<u>12609.18</u>
59	RCC Grade M30 for Substurcture				
	<i>Ref: Data Book/ Pg.458</i>				
	Using Concrete Mixer				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2119.51	17168.05
	10mm size chips	cum	5.400	2119.51	11445.36
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.100	1683.85	10271.47
	b) Labour				
	Mate	day	0.860	550.00	473.00
	Mason 2nd class	day	1.500	500.00	750.00
	Man Mulia	day	20.000	400.00	8000.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					51584.88
	Formwork @ 10%				5158.49
	d) Overhead charges @ 10 % on (a+b+c)				5674.34
	e) Contractor's profit @ 10 % on (a+b+c+d)				6241.77
	Add for royalty				
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.100	0.00	0.00
	Cost of 15 cum=(a+b+c+d)				182712.87
	Rate per cum=(a+b+c+d)/15				12180.86
	As per rate taken from SOR 2018 directly (pg 65 item 3-g) after adding lead cost of material			Labour cess @1%	121.81
				say	<u>12302.67</u>

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
60	RCC Grade M30 for Superstructure				
	<i>Ref: Data Book/ Pg.477</i>				
	Using Concrete Mixer				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2119.51	17168.05
	10mm size chips	cum	5.400	2119.51	11445.36
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.100	1683.85	10271.47
	b) Labour				
	Mate	day	0.900	550.00	495.00
	Mason 2nd class	day	1.500	500.00	750.00
	Man Mulia	day	21.000	400.00	8400.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					52006.88
	Formwork @ 20%				10401.38
	d) Overhead charges @ 10 % on (a+b+c)				6240.83
	e) Contractor's profit @ 10 % on (a+b+c+d)				6864.91
	Add for royalty				
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.100	0.00	0.00
	Cost of 15 cum=(a+b+c+d)				216857.07
	Rate per cum=(a+b+c+d)/15				14457.14
				Labour cess @1%	144.57
				say	<u>14601.71</u>
61	RCC Grade M30 for Wearing Coat				
	<i>Ref: Data Book/ Pg.344</i>				
	Using Concrete Mixer				
	Unit = 1 cum				
	Taking output = 15cum				
	a) Material with lead cost				
	Cement	tonne	6.10	1683.85	10271.47
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	2119.51	17168.05
	10 mm Aggregate	cum	5.40	2119.51	11445.36
	b) Labour				
	Mate	day	0.86	550.00	473.00
	Mason	day	1.50	500.00	750.00
	Mazdoor	day	20.00	400.00	8000.00
	c) Machinery				
	Concrete mixer (cap 0.40/0.28 cum)	hour	6.00	187.50	1125.00
	Generator 33 KVA	hour	6.00	392.00	2352.00
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15cum		51584.88		
	Basic Cost of Labour, Material & Machinery (a+b+c) for 15 cum				51584.88
	d) Overhead charges @ 10% on (a+b+c)				5158.49
	e) Contractor's profit @ 10 % on (a+b+c+d)				5674.34
	f) Add for royalty				
	Cement	tonne	6.10	0.00	0.00
	Coarse sand	cum	6.75	0.00	0.00
	20 mm Aggregate	cum	8.10	0.00	0.00
	10 mm Aggregate	cum	5.40	0.00	0.00
	Cost for 15 cum = a+b+c+d+e+e				287660.52
	Rate per cum = (a+b+c+d+e+e)/15				19177.37
	As per rate taken from SOR 2018 directly (pg 67 item A-1) after adding lead cost of material				<u>19177.37</u>
				cess (1%)	<u>191.77</u>
				say	<u>19369.14</u>

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
62	WEARING COAT				
	<i>Ref: Data Book/ Pg.492</i>				
	Providing and laying Cement concrete wearing coat M-30 grade excluding reinforcement complete as per drawing and Technical Specifications				
	Unit = 1 cum				
	Material				
	Cement Concrete M- 30	cum	1.00	19369.14	19369.14
	HYSD bar reinforcement.	MT	0.075	128774.08	0.00
	Labour for clearing.	day	0.150	400.00	0.00
	c) Overhead charges @ 10% on labour				0.00
	d) Contractor Profit@ 10% on labour.				0.00
				cess (1%)	0.00
					19369.14
45	Excavation in hilly area in hard rock requiring blasting by mechanical means including cutting and trimming of slopes and disposal of cut material with all leads and lifts.				
	<i>Ref: Data Book/ Pg.85</i>				
	Unit=Cum				
	Taking output = 170 cum				
	a) Labour				
	Mate	day	0.49	550.00	269.50
	Mazdoor	day	10.00	400.00	4000.00
	Driller	day	2.00	400.00	800.00
	Blaster	day	0.25	400.00	100.00
	b) Machinery				
	Dozer 180 HP	hour	6.00	3914.88	23489.28
	Air compressor 250 cfm	hour	5.00	1359.78	6798.90
	Front end loader	hour	7.00	850.00	5950.00
	Tipper 5.5 cum capacity,4 trips per hour	hour	7.00	849.00	5943.00
	c) Materials				
	Gelatine 80 per cent	kg	35.00		0.00
	Electric detonators @ 1 detonator for 2 Gelatine sticks of 125 gms each	nos	140.00		0.00
	d) Overhead charges @ 10% on (a+b+c)				4735.07
	e) Contractor's profit @ 10 % on (a+b+c+d)				5208.57
	Rate per 170 cum = (a+b+c+d)				71927.00
	Rate per one cum				423.10
	As per rate taken from SOR 2018 directly (pg 28 item 33) after adding lead cost of material			cess 1 %	4.23
				say	427.33
60	RCC Grade M40 for Supersturcture				
	Using Concrete Mixer				
	Unit=cum				
	Taking output = 15 cum				
	a) Material with lead cost				
	20 mm size chips	cum	8.100	2861.40	23177.37
	10mm size chips	cum	5.400	2654.76	14335.73
	Coarse Sand	cum	6.750	1612.00	10881.00
	Cement	MT	6.450	9434.94	60855.34
	Admixture @ 0.40 per cent of cement	kg	25.800	40.00	1032.00
	b) Labour				
	Mate	day	0.960	550.00	528.00
	Mason 2nd class	day	2.000	500.00	1000.00
	Man Mulia	day	22.000	400.00	8800.00
	c) Machinery				
	Concrete mixer	hour	6.000	187.50	1125.00
	Generator 33 KVA	hour	6.000	392.00	2352.00
					124086.44
	Formwork @ 20%				24817.29
	d) Overhead charges @ 10 % on (a+b+c)				14890.37
	e) Contractor's profit @ 10 % on (a+b+c+d)				16379.41
	Add for royalty				

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	20 mm size chips	cum	8.100	0.00	0.00
	10mm size chips	cum	5.400	0.00	0.00
	Coarse Sand	cum	6.750	0.00	0.00
	Cement	MT	6.450	0.00	0.00
	Cost of 15 cum=(a+b+c+d)				180173.50
	Rate per cum=(a+b+c+d)/15				12011.57
				Labour cess @1%	120.12
				say	12131.68
61	Reinforced cement concrete approach slab including reinforcement and formwork complete as per drawing and Technical Specifications.				
MoRT H 14.11- 1500,1 600,17	Unit = 1 cum				
	Taking output = 1um				
	a) Material				
	Cement Concrete M25 grade	Cum	1.00	12256.76	12256.76
	HYSD bar reinforcement	MT	0.05	128774.08	6438.70
	Rate per 1 cum			say	18695.46
49	Supplying & Laying Reinforced Cement Concrete Pipe NP4/ Prestressed Concrete Pipe on First Class Bedding in Single Row .				
	Supplying & Laying Reinforced cement concrete pipe NP4/prestressed concrete pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .				
	Unit = metre				
	900 mm dia				
	Labour				
	Mate	day	0.180	550.00	99.00
	Mason	day	0.500	500.00	250.00
	Mazdoor	day	4.000	400.00	1600.00
	Material				
	Sand at site	cum	0.070	0.00	0.00
	Cement at site	tonne	0.050	1683.85	84.19
	RCC pipe NP 4	mtr	12.500	7316.50	91456.30
	Overheads @10 %(a+b)				7011.71
	Contractors profit @10 %(a+b+c)				10050.12
	Royalty				
	Sand at site	cum	0.070	0.00	0.00
	Cement at site	tonne	0.050	0.00	0.00
	RCC pipe NP 4	mtr	12.500	340.00	4250.00
	Cost of 12.5 m				114801.33
	Cost per meter				9184.11
				Labour Cess 1%	91.84
				say	9275.95
	Overhead Signs				
	Providing and erecting overhead signs with a corrosion resistant 2mm thick aluminium alloy sheet with high intensity grade retro-reflective sheeting of encapsulated lens type with vertical and lateral clearance given in Clauses 802.2 and 802.3 and installed as per Clause 802.7 over a designed support system of aluminium alloy or galvanised steel trestles and trusses of sections and type as per structural design requirements and approved plans.				
A.	Truss and Vertical Support				
	Unit = tonne				
	Taking output = 1 tonne				
	a) Labour				
	Mate	day	0.240	400.00	96.00
	Blacksmith	day	2.000	550.00	1100.00
	Mazdoor	day	4.000	400.00	1600.00
	b) Material				

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Aluminium alloy/galvanised steel including 5 per cent wastage	tonne	1.050	50698.95	53233.90
	Add 1 per cent on cost of materials for nuts,bolts and drilling and welding consumables				532.34
	Add 15 per cent of cost of materials for fabrication of trusses as per approved design				7985.09
	c) Machinery				
	Crane 3 tonne capacity	hour	3.000	375.00	1125.00
	Truck	hour	0.500	212.50	106.25
	Cost of Painting	LS			375.00
	Cost of Fixing,using nuts & Bolts etc.	LS			1250.00
					67403.57
	d) Overhead charges @ 10% on (a+b+c)				6740.36
	e) Contractor's profit @ 10% on (a+b+c+d)				7414.39
	Rate per tonne				81558.32
				Labour cess @1%	815.58
				say	82373.90
	Transportation to work site @108.85 per tonne per 5km				108.85
					82482.75
B.	Aluminium Alloy Plate for Overhead sign				
	Unit = sqm				
	Taking output = 1 sqm				
	a) Labour				
	Mate	day	0.020	400.00	8.00
	Blacksmith	day	0.100	550.00	55.00
	Mazdoor	day	0.150	400.00	60.00
	b) Material				
	Aluminium alloy plate,2mm thick, fixed with high intensity grade sheeting vide Clause 801.3	Sqm	1.000	4725.00	4725.00
	Miscellaneous				
	Add 1 per cent of cost of labour for lifting arrangemnet, like ladders,pulleys,ropes etc.				1.23
					4849.23
	c) Overhead charges @ 10% on (a+b)				484.92
	d) Contractor's profit @10% on (a+b+c)				533.42
	Rate per sqm				5867.57
				Labour cess @1%	58.68
				say	5926.24
	Road Delineators				
83	Supplying and installation of delineators (road way indicators, hazard markers, object markers), 80-100 cm high above ground level, painted black and white in 15 cm wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed into the ground and confirming to IRC:79 and the drawings.				
	Ref: Data Book/ Pg. 228				
	Unit = Each				
	Taking output = 30 Nos				
	a) Labour				
	Mate	day	0.04	550.00	22.00
	Mazdoor	day	1.00	400.00	400.00
	b) Material				
	Cost of approved type of delineators from ISI certified firm as per the standard drawing given in IRC:79	Nos	30.00	275.00	8250.00
	Add 10 per cent cost of material for installation				825.00
	c) Overhead charges @ 10% on (a+b)				949.70
	d) Contractor's profit @ 10 % on (a+b+c)				1044.67
	Cost for 30 Nos = a+b+c+d				11491.37
	Rate per 1 No = (a+b+c+d)/30				383.05
	As per rate taken from SOR 2018 directly (pg 43 item 15-b) after adding lead cost of material			say	545.50
				cess (1%)	5.46
				say	550.96

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
84	Cast in Situ Cement Concrete M20 Kerb				
	Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408				
	Unit = Running metre				
	Taking output = 360 metre				
	Using Concrete Mixer				
	Cement Concrete				
	Cement concrete of grade M20 = 12.60 cum				
	Cement concrete of grade M10 for base= 11.61 cum				
	Total Concrete = 24.21 cu.m				
	a) Labour				
	Mate	day	0.720	550.00	396.00
	Mason	day	2.000	500.00	1000.00
	Mazdoor	day	16.000	400.00	6400.00
	b) Machinery				
	Kerb casting machine @ 60 metres/hour	hour	6.000	327.00	1962.00
	Concrete mixer 0.48/0.28 cum capacity	hour	12.000	187.50	2250.00
	Water tanker 6 KL capacity	hour	5.000	744.25	3721.25
	c) Material				
	Crushed stone aggregate 20 mm nominal size 59 per cent	cum	21.790	2119.51	46184.17
	Coarse sand 30 per cent	cum	10.900	0.00	0.00
	Cement 11 per cent	tonne	5.700	1683.85	9597.93
	Cost of water	KL	30.000	75.00	2250.00
	d) Overhead charges @ 10 % on (a+b+c)				7376.14
	e) Contractor's profit @ 10 % on (a+b+c)				8113.75
	Lead & royalty				
	Crushed stone aggregate 20 mm nominal size 59 per cent	cum	21.790	0.00	0.00
	Coarse sand 30 per cent	cum	10.900	0.00	0.00
	Cement 11 per cent	tonne	5.700	0.00	0.00
	Cost for 360 meter = a+b+c+d+e				228082.76
	Rate per metre = (a+b+c+d+e)/360				633.56
	As per rate taken from SOR 2018 directly (pg 41 item 1) after adding lead cost of material				633.56
				cess (1%)	6.34
				say	639.90
	Chequered terrazzo tiles 22 mm thick with graded marble chips of size up to 6 mm in floors, jointed with neat cement slurry mixed with pigment to match the shade of the tiles, including rubbing and polishing complete, on 20 mm thick bed of cement mortar 1:3 (1 cement :3 coarse sand) :Light shade pigment using white cement				
	Unit = sqm				
	Taking output = 10 sqm				
	a) Labour				
	Mason II class	day	1.60	500.00	800.00
	Mate	day	2.00	550.00	1100.00
	Mazdoor	day	2.00	400.00	800.00
	b) Material				
	Chequered terrazzo tiles 22 mm thick(light shade) including 10% wastage	sqm	11.00	289.22	3181.42
	Cement mortar 1:3	cum	0.224	1378.76	308.84
	Grey cement for slurry @ 4.4kg/sqm	MT	0.044	9936.95	437.23
	White cement for grouting	MT	0.044	14000.00	616.00
	Red, light shade pigment	kg	3.08	75.00	231.00
	c) Overhead charges @ 10% on (a+b)				716.56
	d) Contractor's profit @ 10 % on (a+b+c)				788.22
	Cost for 10 sqm = a+b+c+d				8979.27
	Rate per 1 sqm = (a+b+c+d)/10				897.93
				say	897.93
				cess (1%)	8.98
				say	906.91

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Plastering with cement mortar 1:3 on brickwork in substructure as per drawing and technical specification.				
	Unit = sqm				
	Taking output = 10 sqm				
	a) Labour				
	Mate	day	0.04	400.00	16.00
	Mason	day	0.50	500.00	250.00
	Mazdoor	day	0.50	400.00	200.00
	b) Material				
	Cement mortar 1:3	cum	0.144	1378.76	198.54
	c) Overhead charges @ 10% on (a+b+c)				66.45
	d) Contractor's profit @ 10 % on (a+b+c+d)				73.10
	f) Add for royalty				
	Cement mortar 1:3 (Sand)	cum	0.14	0.00	0.00
	Cost for 10 sqm = a+b+c+d				804.10
	Cost for 1 sqm = (a+b+c+d)/10			say	80.41
				cess (1%)	0.80
				say	81.21
	Brick masonry work in 1:3 in substructure complete excluding pointing and plastering, as per drawing and technical specification.				
	Unit = cum				
	Taking output = 1 cum				
	a) Labour				
	Mate	day	0.06	400.00	24.00
	Mason	day	0.80	500.00	400.00
	Mazdoor	day	0.80	400.00	320.00
	b) Material				
	Brick 1st class	Nos	500.00	1.43	716.00
	Cement mortar 1:3	cum	0.25	1378.76	344.69
	Add for scaffolding @ 5 per cent of cost of material and labour				90.23
	c) Overhead charges @ 10% on (a+b+c)				189.49
	d) Contractor's profit @ 10 % on (a+b+c+d)				208.44
	f) Add for royalty				
	Cement mortar 1:3 (Sand)	cum	0.25	45.00	11.25
	Cost for 1 cum = a+b+c+d				2304.11
				say	2304.11
				cess (1%)	23.04
				say	2327.15

Sl. No.	Description	Unit	Quantity	Rate Rs	Cost Rs
	Metal Beam crash barrier				
	Providing and erecting "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road / ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre-to-centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810.				
	<i>Ref: Data Book/ Pg.238</i>				
	Unit = Running meter				
	Taking Output=4.5 m				
	a) Labour				
	Mate	day	0.06	550.00	33.00
	Blacksmith	day	0.50	500.00	250.00
	Mazdoor	day	1.00	400.00	400.00
	b) Machinery				
	Tractor-trolley	hour	0.10	382.00	38.20
	c) Material				
	Corrugated sheet, 3 mm thick, "W" beam section railing, 4.5 m in length	kg	41.21	0.000	0.00
	channel post, 150 x 75 x 5 mm, 1.8 m long, 3 Nos @ 16.4 kg per mtr	kg	88.56	0.000	0.00
	Spacer 150 x 75 x 5 mm channel 0.33 m long, 3 Nos @ 16.4 kg per m	kg	16.24	0.000	0.00
	Nuts and bolts	kg	20.00	70.00	1400.00
	Add 25 per cent of the cost of material for fabrication, nuts, bolts, washers, etc.				350.00
					2471.20
	d) Overhead charges @ 10% on (a+b+c)				247.12
	e) Contractor's profit @ 10% on (a+b+c+d)				271.83
	Cost for 4.5meter				16160.40
	Rate per meter=(a+b+c+d+e)/4.5				3591.20
	As per rate taken from SOR 2018 directly (pg 45 item 18) after adding lead cost of material			Labour cess @1%	35.91
				say	<u>3627.11</u>
	Gabion Structure for Retaining Earth				
	Providing and constructing Gabion structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 mm x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be securely tied with 4 mm galvanised steel wire.				
	Unit = cum				
	Taking Output= 2x1x0.3x10 no.s = 6.00cum				
	a) Labour				
	Mate	day	0.14	550.00	77.00
	Mazdoor	day	2.50	400.00	1000.00
	Mazdoor (Skilled)	day	1.00	450.00	450.00
	b) Material				
	Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4 mm dia GI wire in rolls of required size to cover 6.00 cum	sqm	65.00	280.000	18200.00
	Stone boulders with least dimension of 200 mm	cum	6.00	575.000	3450.00
	Stone spalls of minimum size 25mm	cum	1.20	66.000	79.20
	c) Overhead charges @ 10% on (a+b+c)				2325.62
	d) Contractor's profit @ 10% on (a+b+c+d)				2325.62
	e) Add for lead and royalty				
	Stone boulders with least dimension of 200 mm		6.00	2119.51	0.00
	Stone spalls of minimum size 25mm		1.20	2119.51	0.00
	Cost for 6 cumec				27907.44
	Rate per meter=(a+b+c+d+e)/6				4651.24
				Labour cess @1%	46.51
				say	<u>4697.75</u>