

STATION		SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	CURVE CORRECTION RATIO	CURB CURVE CORRECTION RATIO	SURFACE AREA (A=LxW) SF	CADD AREA SF	AREA FOR 18" EXTENSION SF	SUBGRADE COMPACTION SY	PROOF ROLLING (1 HOUR/2000 SY) HR	GEOTEXTILE FABRIC SY	CALCULATED C/C	CHECKED M/G
FROM	TO													
C.R. 18 (TALLMADGE RD)														
FULL DEPTH LANES														
10+30.55	10+62.45	LT	31.90	3.90		124.54		47.85	19.15	0.010				
10+62.45	10+94.94	LT	32.49	3.90	0.9763	0.9744	123.83	47.49	19.04	0.010				
10+94.94	12+16.55	LT	119.52				CADD	683.80	179.28	0.010				
12+16.55	13+25.53	LT	108.98	7.50	1.0255	1.0292	838.19	168.24	111.83	0.056				
13+25.53	13+75.00	LT	49.47	7.50			371.03	74.21	49.47	0.025				
13+75.00	14+50.00	LT	75.00	0.00			0.00	112.50	12.50	0.006				
18+45.00	18+90.00	LT	45.00	35.07			1578.15		175.35	0.088	175.35			
22+29.91	24+88.36	LT	258.45	12.00			3101.40		344.60	0.172				
24+88.36	25+38.36	LT	50.00	6.00			300.00		33.33	0.017				
27+54.80	28+39.67	LT	84.87				CADD	804.95	89.44	0.045				
28+39.67	28+84.32	LT	44.65	22.00			982.30		109.14	0.055				
29+82.19	30+09.28	LT	27.09	2.36			63.93		7.10	0.004				
9+90.00	10+00.00	RT	10.00	2.40			24.00	15.00	4.33	0.002				
10+00.00	10+01.88	RT	1.88	2.82			5.30	2.82	0.90	0.000				
10+01.88	10+30.55	RT	28.67	3.27			93.75	43.00	15.19	0.008				
10+30.55	13+29.34	RT	197.96				CADD	1699.32	296.94	0.111				
13+29.34	14+00.04	RT	70.70	3.09			218.46	106.05	36.06	0.018				
14+00.04	16+00.00	RT	199.96	0.00			0.00	299.94	33.33	0.017				
16+00.00	16+15.00	RT	15.00	0.00			0.00	22.50	2.50	0.001	2.50			
18+45.00	18+90.00	RT	45.00	30.00			1350.00		150.00	0.075	150.00			
20+02.44	20+27.37	RT	24.93				CADD	21.81	2.42	0.001	2.42			
21+23.54	21+35.55	RT	12.01				CADD	7.68	0.85	0.000	0.85			
27+30.61	27+43.42	RT	12.81				CADD	8.25	0.92	0.000				
29+30.29	29+90.37	RT	60.08	3.02			181.44		20.16	0.010				
FULL DEPTH SHOULDER														
14+50.00	14+78.00	LT	28.86	0.00		0.00		43.29	4.81	0.002				
14+78.00	18+45.00	LT	367.00	0.00		0.00		550.50	61.17	0.031				
18+45.00	18+90.00	LT	45.00	8.00		360.00		67.50	47.50	0.024	47.50			
18+90.00	19+49.43	LT	59.43	6.61		392.83		89.15	53.55	0.027	53.55			
19+49.43	19+55.00	LT	5.57	7.76		43.22		8.35	5.73	0.003	5.73			
22+29.91	24+88.36	LT	258.45	8.00		2067.60		387.68	272.81	0.136				
24+88.36	25+38.36	LT	50.00	8.00		400.00		75.00	52.78	0.026				
25+38.36	25+52.00	LT	13.64	8.00		109.12		20.46	14.40	0.007				
25+52.00	27+27.00	LT	175.00	8.00		1400.00		262.50	184.72	0.092				
27+27.00	27+54.80	LT	27.80	8.00		222.40		41.70	29.34	0.015				
27+54.80	28+39.67	LT	88.54				CADD	706.73	93.28	0.047				
28+39.67	28+84.32	LT	44.65	8.00		357.20		66.98	47.13	0.024				
29+82.19	30+09.28	LT	26.69				CADD	108.37	16.49	0.008				
TOTALS CARRIED TO SUBGRADE SUBSUMMARY									2364	1.19	438			

SUBGRADE CALCULATIONS

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STATION		SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	CURVE CORRECTION RATIO	CURB CURVE CORRECTION RATIO	SURFACE AREA (A=LxW) SF	CADD AREA SF	AREA FOR 18" EXTENSION SF	SUBGRADE COMPACTION SY	PROOF ROLLING (1 HOUR/2000 SY) HR	GEOTEXTILE FABRIC SY	204	204	204
FROM	TO														
C.R. 18 (TALLMADGE RD) (CONT.)															
FULL DEPTH SHOULDERS															
16+15.00	16+25.00	RT	10.00	1.00		10.00		15.00		2.78	0.001	2.78			
16+25.00	16+53.00	RT	28.86	4.50		129.87		43.29		19.24	0.010	19.24			
16+53.00	20+02.44	RT	349.44	8.00		2795.52		524.16		368.85	0.184	368.85			
20+02.44	20+27.01	RT	23.21				191.28	34.82		25.12	0.013	25.12			
21+24.19	21+37.22	RT	10.57				96.16	15.86		12.45	0.006	12.45			
21+37.22	22+00.00	RT	62.78	8.00		502.24		94.17		66.27	0.033	66.27			
22+00.00	24+79.00	RT	279.00	8.00		2232.00		418.50		294.50	0.147				
24+79.00	26+54.00	RT	175.00	8.00		1400.00		262.50		184.72	0.092				
26+54.00	27+30.61	RT	76.61	8.00		612.88		114.92		80.87	0.040				
27+30.61	27+42.81	RT	9.96				88.36	14.94		11.48	0.006				
29+30.29	29+90.37	RT	59.92				240.57	89.88		36.72	0.018				
29+90.37	30+09.28	RT	18.91	4.00		75.64		28.37		11.56	0.006				
C.R. 18 (TALLMADGE RD MEDIANS)															
FULL DEPTH LANES															
21+61.00	22+00.00	LT	39.00	2.00		78.00				8.67	0.004	8.67			
22+00.00	22+10.00	LT	10.00	2.00		20.00				2.22	0.001				
22+10.00	23+64.93	LT	154.93	2.00		309.86		232.40		60.25	0.030				
23+64.93	24+56.53	LT	91.60	7.50		687.00		137.40		91.60	0.046				
24+56.53	24+70.00	LT	13.47	13.00		175.11		20.20		21.70	0.011				
24+70.00	25+20.00	LT	50.00	7.25		362.50		75.00		48.61	0.024				
25+20.00	27+05.00	LT	185.00	1.50		277.50		277.50		61.67	0.031				
27+05.00	27+55.23	LT	50.23	7.25		364.17		75.35		48.84	0.024				
27+55.23	27+83.98	LT	28.75	13.00		373.75				41.53	0.021				
27+83.98	28+22.00	LT	38.02	11.50		437.23				48.58	0.024				
29+14.00	29+70.00	LT	56.00	5.75		322.00				35.78	0.018				
29+70.00	29+73.26	LT	4.35				23.95	6.53		3.39	0.002				
29+73.26	30+09.28	LT	36.02	8.92		321.30		54.03		41.70	0.021				
21+61.00	22+00.00	RT	39.00	6.50		253.50				28.17	0.014	28.17			
22+00.00	22+08.00	RT	8.00	6.50		52.00				5.78	0.003				
22+08.00	22+10.00	RT	6.28				6.72	9.42		1.79	0.001				
22+10.00	27+55.00	RT	545.00	2.50		1362.50		817.50		242.22	0.121				
27+55.00	27+60.00	RT	6.06				26.21	9.09		3.92	0.002				
29+14.00	29+70.00	RT	56.00	6.50		364.00				40.44	0.020				
29+70.00	29+73.26	RT	5.86				10.44	8.79		2.14	0.001				
29+73.26	30+09.28	RT	36.02	2.50		90.05		54.03		16.01	0.008				
TOTALS CARRIED TO SUBGRADE SUBSUMMARY															
									1970		0.99		532		

SUBGRADE CALCULATIONS

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STATION		SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	CURVE CORRECTION RATIO	CURB CURVE CORRECTION RATIO	SURFACE AREA (A=LxW) SF	CADD AREA SF	AREA FOR 18" EXTENSION SF	SUBGRADE COMPACTION SY	PROOF ROLLING (1 HOUR/2000 SY) HR	GEOTEXTILE FABRIC SY	
FROM	TO												
C.R. 81N (MOGADORE RD) (CONT.)													
FULL DEPTH SHOULDER													
18+84.20	19+42.59	LT	58.39	4.00	1.1593	1.1680	270.77		102.30	41.45	0.021		
19+42.59	20+92.59	LT	150.00	4.00			600.00		225.00	91.67	0.046		
20+92.59	21+00.00	LT	7.41	4.00	0.8407	0.8320	24.92		9.25	3.80	0.002		
21+00.00	23+00.00	LT	200.00	4.00	0.8407	0.8320	672.56		249.60	102.46	0.051	102.46	
23+00.00	23+29.80	LT	29.80	4.00	0.8407	0.8320	100.21		37.19	15.27	0.008		
23+29.80	23+74.27	LT	37.00		CADD			75.08		55.50	14.51	0.007	
23+74.27	24+51.68	LT	77.41	0.00	0.8320	0.8320	0.00		96.61	10.73	0.005		
24+51.68	24+90.90	LT	39.22	0.00			0.00		58.83	6.54	0.003		
24+90.90	25+75.00	LT	84.29		CADD			160.22		126.44	31.85	0.016	
25+75.00	25+85.17	LT	10.17	3.78			38.44		15.26	5.97	0.003		
25+85.17	25+95.68	LT	10.51	4.00			42.04		15.76	6.42	0.003		
25+95.68	27+19.54	LT	123.86	4.00			495.44		185.79	75.69	0.038		
27+19.54	27+67.03	LT	47.49	4.00			189.96		71.24	29.02	0.015		
27+67.03	28+16.31	LT	49.35		CADD			181.23		74.03	28.36	0.014	
28+16.31	28+53.00	LT	36.69	4.00			146.76		55.04	22.42	0.011		
28+53.00	28+73.00	LT	20.00	2.47			49.40		30.00	8.82	0.004		
28+73.00	28+93.95	LT	20.95	0.94			19.71		31.42	5.68	0.003		
15+41.24	16+64.36	RT	123.87		CADD			636.02		185.81	91.31	0.046	
16+64.36	18+25.00	RT	160.64	4.00	0.8407	0.8320	540.20		200.48	82.30	0.041		
18+25.00	19+42.59	RT	117.59	4.00	0.8521	0.8434	400.79		148.76	61.06	0.031		
19+42.59	20+92.59	RT	150.00	4.00			600.00		225.00	91.67	0.046		
20+92.59	21+00.00	RT	7.41	4.00	1.1069	1.1156	32.81		12.40	5.02	0.003		
21+00.00	22+15.00	RT	115.00	4.00	1.0962	1.1050	504.25		190.61	77.21	0.039	77.21	
22+15.00	23+00.00	RT	85.00	4.00	1.0840	1.0927	368.56		139.32	56.43	0.028	56.43	
23+00.00	24+05.78	RT	105.78	4.00	1.0840	1.0927	458.66		173.38	70.23	0.035		
24+05.78	24+17.33	RT	11.61		CADD			50.55		17.42	7.55	0.004	
25+21.71	25+57.58	RT	35.36		CADD			143.16		53.04	21.80	0.011	
25+57.58	25+95.68	RT	38.10	4.00			152.40		57.15	23.28	0.012		
25+95.68	27+93.03	RT	197.35	4.00			789.40		296.03	120.60	0.060		
27+93.03	28+93.95	RT	100.92		CADD			271.02		151.38	46.93	0.023	
HIGHWAY VIEW DR.													
FULL DEPTH LANES													
9+37.37	9+67.36	LT	29.99		CADD			582.88		64.76	0.032		
9+37.37	9+65.39	RT	28.02		CADD			638.05		70.89	0.035		
FULL DEPTH SHOULDERS													
9+37.37	9+63.96	LT	37.74		CADD			119.52		56.61	19.57	0.010	
9+63.96	9+66.83	LT	12.02		CADD			21.69		18.03	4.41	0.002	
9+11.47	9+37.37	RT	26.18		CADD			48.02	0.00	39.27	9.70	0.005	
9+37.37	9+59.00	RT	28.85		CADD			91.67		43.28	14.99	0.007	
9+59.00	9+64.89	RT	12.06		CADD			22.41		18.09	4.50	0.002	
TOTALS CARRIED TO SUBGRADE SUBSUMMARY										1445	0.73	237	

SUBGRADE CALCULATIONS

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CALCULATED
CIC
CHECKED
MGS

STATION		SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	CURVE CORRECTION RATIO	CURB CURVE CORRECTION RATIO	SURFACE AREA (A=LxW) SF	CADD AREA SF	AREA FOR 18" EXTENSION SF	204 SUBGRADE COMPACTION SY		204 PROOF ROLLING (1 HOUR/2000 SY) HR		CALCULATED CIC	CHECKED MGS
FROM	TO									01/CMQ/PV/ PCE	02/CMQ/PV	01/CMQ/PV/ PCE	02/CMQ/PV		
RAMP A															
FULL DEPTH LANES															
10+24.75	10+72.43	LT	47.68	6.73		320.89					35.65		0.018		
10+72.43	11+17.87	LT	45.44				1180.96				131.22		0.066		
9+92.70	10+56.07	RT	63.37	16.00		1013.92					112.66		0.056		
10+56.07	11+02.48	RT	46.41	20.09		932.38					103.60		0.052		
11+02.48	11+17.87	RT	15.39				596.60				66.29		0.033		
FULL DEPTH SHOULDERS															
9+92.70	10+23.92	LT	31.22	6.00		187.32		46.83			26.02		0.013		
10+23.92	11+02.24	LT	94.40				646.77	141.60			87.60		0.044		
9+92.70	10+55.81	RT	63.11	3.00		189.33		94.66			31.55		0.016		
10+55.81	11+25.79	RT	70.71				314.82	106.07			46.77		0.023		
RAMP B															
FULL DEPTH LANES															
172+76.08	173+42.34	LT	66.26				1163.22				129.25		0.065		
172+76.08	173+08.39	RT	32.31				783.45				87.05		0.044		
173+08.39	175+61.49	RT	253.10	16.00	1.0234	1.0468	4144.36				460.48		0.230		
175+61.49	181+16.05	RT	554.56	16.00	0.9990	0.9979	8864.09				984.90		0.492		
181+16.05	185+00.17	RT	384.12	16.00	0.9990	0.9979	6139.77				682.20		0.341		
185+00.17	186+94.68	RT	194.51	14.00	0.9991	0.9982	2720.69				302.30		0.151		
FULL DEPTH SHOULDERS															
172+86.14	173+42.34	LT	89.28				438.54	133.92			63.61		0.032		
173+42.34	175+61.49	LT	219.15	6.00	0.9912	0.9825	1303.33	322.97			180.70		0.090		
175+61.49	180+16.04	LT	454.55	6.00	1.0004	1.0008	2728.39	682.37			378.97		0.189		
180+16.04	181+16.05	LT	100.01	7.00	1.0005	1.0009	700.42	150.15			94.51		0.047		
181+16.05	186+94.68	LT	578.63	8.00	1.0005	1.0010	4631.35	868.81			611.13		0.306		
172+71.84	173+10.98	RT	45.75				185.20	68.63			28.20		0.014		
173+10.98	174+80.00	RT	169.02	3.00	1.0512	1.0555	533.02	267.60			88.96		0.044		
174+80.00	175+05.00	RT	25.00	3.50	1.0519	1.0570	92.04	39.64			14.63		0.007		
175+05.00	175+61.49	RT	56.49	4.00	1.0526	1.0585	237.85	89.69			36.39		0.018		
175+61.49	179+25.00	RT	363.51	4.00	0.9976	0.9974	1450.55	543.85			221.60		0.111		
179+25.00	179+30.00	RT	5.00	3.50	0.9977	0.9974	17.46	7.48			2.77		0.001		
179+30.00	181+16.05	RT	186.05	3.00	0.9977	0.9975	556.87	278.38			92.81		0.046		
I-76															
FULL DEPTH LANES															
87+00.00	89+50.00	LT	250.00	12.00	1.0192	1.0213	3057.60				339.73		0.170		
89+50.00	90+50.00	LT	100.00	6.00	1.0182	1.0192	610.92				67.88		0.034		
FULL DEPTH SHOULDERS															
73+78.61	81+29.84	LT	751.23	0.00			0.00	1126.85			125.21		0.063		
87+00.00	89+50.00	LT	250.00	8.00	1.0227	1.0241	2045.40	384.04			269.94		0.135		
89+50.00	90+50.00	LT	100.00	8.50	1.0228	1.0243	869.38	153.65			113.67		0.057		
TOTALS CARRIED TO SUBGRADE SUBSUMMARY										642	5377	0.33	2.69		

SUBGRADE CALCULATIONS

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STATION		SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	CURVE CORRECTION RATIO	CURB CURVE CORRECTION RATIO	SURFACE AREA (A=LxW) SF	CADD AREA SF	AREA FOR 18" EXTENSION SF									204	204	204	204
FROM	TO																	SUBGRADE COMPACTION SY	PROOF ROLLING (1 HOUR/2000 SY) HR	GEOTEXTILE FABRIC SY	GEOTEXTILE FABRIC SY
																	02/CMQ/PV	02/CMQ/PV	02/CMQ/PV	01/CMQ/PV/ PCE	02/CMQ/PV
RAMP C																					
FULL DEPTH LANES																					
207+45.49	207+98.83	LT	53.34	16.00			853.44											94.83		0.047	
207+98.83	208+48.83	LT	50.00	24.00			1200.00											133.33		0.067	
208+48.83	208+88.87	LT	40.04	32.00			1281.28											142.36		0.071	
208+88.87	209+00.00	LT	11.13	32.00	0.9467	0.8933	337.18											37.46		0.019	
209+00.00	210+67.77	LT	167.77	32.00	0.9467	0.8933	5082.49											564.72		0.282	564.72
210+67.77	211+00.00	LT	32.23					1295.90										143.99		0.072	143.99
211+00.00	211+13.43	LT	13.43					217.60										24.18		0.012	
209+25.81	210+62.25	RT	136.44	16.00	1.0267	1.0533	2241.33											249.04		0.125	249.04
210+62.25	211+00.00	RT	37.75					737.61										81.96		0.041	81.96
211+00.00	211+13.43	RT	13.43					887.20										98.58		0.049	
FULL DEPTH SHOULDERS																					
207+76.92	207+82.57	LT	2.43					13.88										1.54		0.001	
207+82.57	207+98.83	LT	16.26	3.00			48.78											5.42		0.003	
207+98.83	208+48.83	LT	50.00	3.00			150.00											16.67		0.008	
208+48.83	208+88.87	LT	40.04	3.00			120.12											13.35		0.007	
208+88.87	209+00.00	LT	11.13	3.00	0.8883	0.8833	29.66											3.30		0.002	
209+00.00	210+67.77	LT	167.77	3.00	0.8883	0.8833	447.09											49.68		0.025	49.68
210+67.77	210+72.77	LT	3.14					16.49										1.83		0.001	1.83
207+45.49	207+63.68	RT	20.99					205.43	31.49									26.32		0.013	
207+63.68	208+36.99	RT	73.31	7.00			513.17		109.97									69.24		0.035	
208+36.99	208+37.99	RT	1.57					7.21	2.36									1.06		0.001	
209+25.81	210+62.25	RT	136.44	6.00	1.0633	1.0733	870.46		219.66									121.12		0.061	121.12
210+62.25	211+00.00	RT	39.86					221.31	59.79									31.23		0.016	31.23
211+00.00	211+30.94	RT	44.86					190.80	67.29									28.68		0.014	
GEOTEXTILE																					
CR-18																					
20+00.00	20+50.00	LT	50.00					2097.00													233.00
CR-81																					
21+00.00	23+00.00	RT	200.00					225.00													25.00
RAMP C																					
210+00.00	210+67.77	LT	67.77					306.00													34.00
TOTALS CARRIED TO SUBGRADE SUBSUMMARY																					
																	1940	0.98	1244	258	34

SUBGRADE CALCULATIONS

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STATION		SIDE	LENGTH (L) FT	AVERAGE WIDTH (W) FT	CURVE CORRECTION RATIO	CURB CURVE CORRECTION RATIO	SURFACE AREA (A=L*W) SF	CADD AREA SF	AREA FOR 12" EXTENSION SF	AREA FOR 18" EXTENSION SF	AREA FOR 20" EXTENSION SF	AREA FOR 22" EXTENSION SF	AREA FOR 26" EXTENSION SF	204		204		204				
FROM	TO													SUBGRADE COMPACTION SY		PROOF ROLLING (1 HOUR/2000 SY) HR		GEOTEXTILE FABRIC SY				
														01/CMQ/PV/ PCE	02/CMQ/PV	01/CMQ/PV/ PCE	02/CMQ/PV	01/CMQ/PV/ PCE	02/CMQ/PV			
C.R. 81 S STUB																						
FULL DEPTH LANES																						
402+04.83	402+82.33	RT	77.50	12.00	0.9973	0.9946	927.49								103.05		0.052					
402+82.33	403+27.41	RT	45.08				572.01								63.56		0.032					
403+27.41	403+53.30	RT	25.89				413.01								45.89		0.023		45.89			
FULL DEPTH SHOULDERS																						
402+04.83	402+64.06	LT	59.23	1.50	1.0003	1.0007	88.87								9.87		0.005					
402+64.06	402+64.66	LT	1.41				1.23								0.14		0.000					
402+04.83	402+09.83	RT	5.00	3.63	0.9938	0.9930	18.04								2.83		0.001					
402+09.83	402+82.33	RT	72.50	4.00	0.9937	0.9928	288.17								107.97		44.02		0.022			
402+82.33	403+25.97	RT	43.49				218.04								31.48		0.016					
403+25.97	403+53.30	RT	27.18				164.64								22.82		0.011		22.82			
RAMP C / C.R. 81 S MEDIAN																						
CONCRETE MEDIANS																						
207+81.57	208+88.87	LT	107.30				850.68								94.52		0.047					
208+88.87	209+00.00	LT	11.13	4.00	0.8767	0.8700	39.03								4.34		0.002					
209+00.00	210+68.77	LT	168.77	4.00	0.8767	0.8700	591.84								65.76		0.033		65.76			
210+67.77	210+69.77	LT	2.00				6.28								0.70		0.000		0.70			
RAMP C / C.R. 81 S STUB MEDIAN																						
CONCRETE MEDIANS																						
207+42.47	208+37.98	RT	95.51				868.42								96.49		0.048					
RAMP D																						
FULL DEPTH LANES																						
500+36.57	500+70.14	LT	33.57				1103.70								122.63		0.061					
500+70.14	501+00.00	LT	29.86	17.31			516.88								57.43		0.029					
501+00.00	501+56.57	LT	56.57	16.00			905.12								100.57		0.050					
500+36.57	500+94.71	RT	58.14				1667.55								185.28		0.093					
500+94.71	501+40.00	RT	45.29	6.38			288.95								32.11		0.016					
FULL DEPTH SHOULDERS																						
500+45.04	501+00.00	LT	56.37				264.81								38.82		0.019					
501+00.00	501+41.00	LT	41.00	3.00			123.00								20.50		0.010					
501+41.00	501+56.57	LT	15.57	2.76			42.97								7.37		0.004					
500+66.53	501+40.83	RT	99.42				568.00								79.68		0.040					
501+40.83	501+56.57	RT	15.74	6.25			98.37								13.55		0.007					
GORE																						
I-76 / RAMP B																						
81+29.84	85+09.04	LT	379.20				4261.13								473.46		0.237					
RAMP C / C.R. 81 S STUB																						
208+37.99	209+25.81	RT	87.82				356.90								39.66		0.020					
TOTALS CARRIED TO SUBGRADE SUBSUMMARY														658	1099	0.33	0.55			136		

SUBGRADE CALCULATIONS

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CALCULATED
C/C
CHECKED
M/G

10
10