	QUANTITIES SUMMARY(WIDE CROSS-SECTION)													Materi Kamayaki Kamarandi road BATCH 1								Apr-23
KM	BUSH LIGHT	BUSH HEAVY	GRUB	TREES	ETL	FILL	DRAINS (SOFT)	DRAINS (HARD)	CUL.900 MM	CUL600 MM.	CD	AC	AD	T1	T2	T4	MITRES	C/W	S/C	CHECK DAMS	GABIONS	GRAVEL
	M2	M3	M2	No	M3		M3		M	M	No.	No.	No.	M3	M3	M3						M3
1	8,000	800	7,000		10	0	1,874	187	0	13	2	0	0	2	2	0						2744
2	8,000	800	7,000		10		1,874	187	0	7	1	0	0	1	1	0						2850
3	8,000	800	7,000		10		1,561	156	0	26	4	0	0	4	4	0					56	1778
4	8,000	800	7,000		10		1,420	142	0	26	4	0	0	4	4	0						2850
5	8,000	800	7,000		10	0	2,392	239	0	13	2	0	0	2	2	0						2595
6	8,000	800	7,000		10	0	2,263	226	0	6	1	0	0	1	1	0						2250
7	1,600	160	1,400		10		643	64	0	6	-	-	-	-	-	-	-	-	-	-		2250
8	1,600	160	1,400		10		384	38														
9																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						
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22																						
23																						
24																						
25																						
26																						
27																						
TOTAL	**51,200**	**5,120**	**44,800**	**0**	**80**	**0**	**12,411**	**1,241**	**0**	**97**	**14**	**0**	**0**	**14**	**14**	**0**	**0**	**0**	**0**	**0**	**56**	**17,316**

Road Improvement Plan | **Road No.** | **County** | **Tharaka Nithi** | **From:** 0+000 | **To:** 1+000 | **Page:** 1

Chain-age		(kilometres) / (metres)						0+100					0+200					0+300					0+400				
Road form.		Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Road form.		Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping		Method: RES, ETL or Fill	FILL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	FILL	FILL	FILL	RES	RES	RES	RES	FILL	FILL	FILL	FILL	FILL	FILL	ETL	ETL
Earthworks / Reshaping		Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
Earthworks / Reshaping		Volume of ETL or Fill (m3/m)																									
Gravel	Total 1800	Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Gravel		Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Improved Subgrade	0	Thickness (cm,comp.)	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Improved Subgrade	0	Source (quarry No.)	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1
		Longitudinal gradient (in %)						-1.77					-6.52					-6.52					-6.52				
Mitre drains	Total	Number left =				KAMARANDI SHOPPING CENTRE																					
Mitre drains		Number right =																									
Catch water	Total	Length of drain left =																									
Catch water		Length of drain right =0																									
Culverts	N/Ex	Chainage (m) = New / Existing line																					0+420EX				
Culverts	CD 2	= Cross drainage																					CD				
Culverts	AC 0	= Access culvert/drift																									
Culverts	AD 0	= Left/right				L																					
Culverts	Length (m)	Ø 450 mm																									
Culverts	Length (m) 13	Ø 600mm																					6.8				
Culverts	Length (m) -	Ø 900 mm																									
Culverts	Ramp	Earth fill (m3)																									
Culverts	Ramp	Haunch Type																					IV				
Head-walls	T4= / T3=	Inlet (Material/Type)																					1				
Head-walls	T2= 1 / T1= 1	Outlet (Material/Type)																					1				
																										15	15
																										15	15
		Additional Instruction as per Reference																									

Chain-age		(kilometres) / (metres)	0+500					0+600					0+700					0+800					0+900					1+000
Road form.		Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Road form.		Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping		Method: RES, ETL or Fill	ETL	ETL	RES	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
Earthworks / Reshaping		Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
Earthworks / Reshaping		Volume of ETL or Fill (m3/m)																										
Gravel	Total 1800	Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Gravel		Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Improved Subgrade	0	Thickness (cm,comp.)	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Improved Subgrade	0	Source (quarry No.)	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1
		Longitudinal gradient (in %)	-6.52					-6.52					-2.72					-2.72					-2.72					-0.10
Mitre drains	Total	Number left =																										
Mitre drains		Number right =																										
Catch water	Total	Length of drain left =																										
Catch water		Length of drain right =0																										
Culverts	N/Ex	Chainage (m) = New / Existing line																					0+900EX					
Culverts	CD 2	= Cross drainage																					CD					
Culverts	AC 0	= Access culvert/drift																										
Culverts	AD 0	= Left/right																										
Culverts	Length (m)	Ø 450 mm																										
Culverts	Length (m) 13	Ø 600mm																					6					
Culverts	Length (m) -	Ø 900 mm																										
Culverts	Ramp	Earth fill (m3)																										
Culverts	Ramp	Haunch Type																					IV					
Head-walls	T4= / T3=	Inlet (Material/Type)																					1					
Head-walls	T2= 1 / T1= 1	Outlet (Material/Type)																					1					
			15	15																								
			15	15																								
		Additional Instruction as per Reference																										

Quantity Asssessment	Road No.	County	Tharaka Nithi	From:	0+000	To:	1+000	Page:	1

Chainage:	0+000	0+200	0+400	0+600	0+800	1+000

Measurements for Clearing:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																													
Bush Clearing	8	8		8		m	8	8		8		m	8	8		8			m	8	8		8			m	8	8		8			m
Grass Cutting						m						m							m							m							m
Grubbing	7	7		7		m	7	7		7		m	7	7		7			m	7	7		7			m	7	7		7			m
0 Tree and Stump Removal	0					m	0					m	0						m	0						m	0						m

*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:																																				
Height of cut < 0.25m	6					cm	8					cm	14						cm	19						cm	19						cm
For Reshaping:																																				
Existing Roads	9						24						28							17						cm	17						cm

Difference in Level between Exist. Camber and Side Drain for calculating volumes

Height of Cut for calculating volumes

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1,400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal	0	No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m	0	m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	443	m3 (insitu)	281	m3 (insitu)	238	m3 (insitu)	356	m3 (insitu)	356	1,674
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verfied and accepted by the Contractor	Name:	Date:	Signature:
For the Employer	Name:	Date:	Signature:

Road Improvement Plan County: **Tharaka Nithi** From: **1+000** To: **2+000** Page: **2**

Chainage (kilometres)	(metres)	Road form. Subgrade	Road form. Cross section	Earthworks / Reshaping Method: RES, ETL or Fill	Earthworks / Reshaping Choice of reshaping: L, T or E	Earthworks / Reshaping Volume of ETL or Fill (m3/m)	Gravel Total Thickness (cm,comp.)	Gravel 1800 Source (quarry No.)	Improved Subgrade Total Thickness (cm,comp.)	Improved Subgrade 2200 Source (quarry No.)	Longitudinal gradient (in %)	Mitre drains Total Number left = 4	Mitre drains Number right = 4	Catch water Total Length of drain left = 30	Catch water Length of drain right =0	Culverts N/Ex Chainage (m) = New / Existing line	Culverts CD 1 = Cross drainage	Culverts AC = Access culvert/drift	Culverts AD = Left/right	Culverts Length (m) Ø 450 mm	Culverts Length (m) 7 Ø 600mm	Culverts Length (m) - Ø 900 mm	Culverts Ramp Earth fill (m3)	Culverts Ramp Haunch Type	Head-walls T4 = 6 T3= Inlet (Material/Type)	Head-walls T2 = 1 T1= 1 Outlet (Material/Type)	Scour Checks SM = Material this sheet/ Spacing left (m) =	Scour Checks Spacing right (m) = =Total No. this sheet	Additional Instruction as per Reference
1+100		G	A	RES	E/L		30	MS2	275	MS1	-0.10																			
		G	A	RES	E/L		30	MS2	275	MS1																				
		G	A	RES	E/L		30	MS2	275	MS1																				
		G	A	RES	E/L		30	MS2	275	MS1		ACCESS JUNCTION																		
1+200		G	A	RES	E/L		30	MS2	275	MS1	-6.78																			
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
1+300		G	A	ETL	E/L		30	MS2	275	MS1	-6.78																			
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
1+400		G	A	FILL	E/L		30	MS2	275	MS1	-3.42																			
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
1+500		G	A	FILL	E/L		30	MS2	275	MS1	-3.42																			
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
1+600		G	A	FILL	E/L		30	MS2	275	MS1	-3.42																			
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1		MITONGORO SECONDARY SCHOOL																		
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
1+700		G	A	ETL	E/L		30	MS2	275	MS1	1.32																			
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	RES	E/L		30	MS2	275	MS1																				
1+800		G	A	FILL	E/L		30	MS2	275	MS1	1.32																			
		G	A	RES	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
		G	A	ETL	E/L		30	MS2	275	MS1																				
1+900		G	A	RES	E/L		30	MS2	275	MS1	-0.72																			
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
		G	A	FILL	E/L		30	MS2	275	MS1																				
2+000		G	A	FILL	E/L		30	MS2	275	MS1	-0.72																			

Quantity Asssessment	County	Tharaka Nithi	From:	1+000	To:	2+000	Page:	2

Chainage:	1+000						1+200						1+400						1+600						1+800						2+000
Measurements for Clearing:			1 to 4 readings*)										**Free Clearance Width for Calculating areas**													Aver. (m)	1 to 4 readings*)				
Bush Clearing		8		8			m	8	8		8			m	8	8		8			m	8	8		8			m	8	8		8			m
Grass Cutting							m							m							m							m							m
Grubbing		7		7			m	7	7		7			m	7	7		7			m	7	7		7			m	7	7		7			m
#REF! **Tree and Stump Removal**							m	0						m	0						m	0						m	0						m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:																																			
													Height of Cut for calculating volumes																						
Height of cut < 0.25m							cm	14						cm							cm	16						cm	18						cm
For Reshaping:													**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																						
Existing Roads		13							36						10							20						cm	28						cm

Quantities									**Total this page**
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	400	m3 (insitu)	151	m3 (insitu)	432	m3 (insitu)	324	m3 (insitu)	238	1,544
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verfied and accepted by the Contractor	**Name:**	**Date:**	**Signature:**
For the Employer	**Name:**	**Date:**	**Signature:**

Road Improvement Plan | **County** Tharaka Nithi | **From:** 2+000 | **To:** 3+000 | **Page:** 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Chain-age (kilometres) (metres)					2+100					2+200					2+300					2+400					2+500					2+600					2+700					2+800					2+900					3+000
Road form. Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Road form. Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping: Method: RES, ETL or Fill	FILL	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	FILL	FILL	FILL	FILL	FILL	RES	RES	RES	FILL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
Earthworks / Reshaping: Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
Earthworks / Reshaping: Volume of ETL or Fill (m3/m)																																																		
Gra-vel Total: Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Gra-vel 1800: Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Improved Subgrade Total: Thickness (cm,comp.)	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275
Improved Subgrade 2200: Source (quarry No.)	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1	MS1
Longitudinal gradient (in %)					-0.72					-0.72					1.09					1.09					-3.62					-3.62					-1.30					-1.30					-1.30					-1.30
Mitre drains Total: Number left = 3					1		1			1		1													1			1		1																				
Mitre drains: Number right = 3																																																		
Catch water Total: Length of drain left = 30																																																		
Catch water: Length of drain right =0																																																		
Culverts N/Ex: Chainage (m) = New / Existing line																														2+620EX						2+730EX			2+800EX					2+890EX						
Culverts CD 4 = Cross drainage																														CD						CD			CD					CD						
Culverts AC = Access culvert/drift																																																		
Culverts AD = Left/right																																																		
Culverts Length (m): Ø 450 mm																																																		
Culverts Length (m) 26: Ø 600mm																														6						6.7			6					6.7						
Culverts Length (m) 0.0: Ø 900 mm																																																		
Culverts Ramp: Earth fill (m3)																																																		
Culverts Haunch Type																														IV						IV			IV					IV						
Head-walls T4=2 T3= Inlet (Material/Type)																														1						1			1					1						
Head-walls T2= T1= Outlet (Material/Type)																														1						1			1					1						

Quantity Asssessment	County	Tharaka Nithi	From:	2+000	To:	3+000	Page:	3

Chainage:	2+000							2+200					2+400						2+600						2+800						3+000
Measurements for Clearing:	####		1 to 4 readings*)										**Free Clearance Width for Calculating areas**												Aver. (m)		1 to 4 readings*)				
Bush Clearing	8	8			8			m	8	8		8		m	8	8		8			m	8	8		8			m	8	8		8			m
Grass Cutting								m						m							m							m							m
Grubbing	7	7			7			m	7	7		7		m	7	7		7			m	7	7		7			m	7	7		7			m
#REF! **Tree and Stump Removal**								m	0					m	0						m	0						m	0						m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:															**Height of Cut for calculating volumes**																		
Height of cut < 0.25m	23							cm	21					cm	8						cm							cm	8						cm
For Reshaping:															**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																		
Existing Roads	30								21						3							29						cm	21						cm

Quantities										**Total this page**
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour		m3 (insitu)	313	m3 (insitu)	508	m3 (insitu)	227	m3 (insitu)	313	1,361
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verfied and accepted by the Contractor	**Name:**	**Date:**	**Signature:**
For the Employer	**Name:**	**Date:**	**Signature:**

Road Improvement Plan | **County** | **Tharaka Nithi** | **From:** | **3+000** | **To:** | **4+000** | **Page:** | **4**

Chainage (kilometres)	(metres)	Subgrade	Cross section	Method: RES, ETL or Fill	Choice of reshaping: L, T or E	Volume of ETL or Fill (m3/m)	Gravel Total Thickness (cm,comp.)	Gravel 1800 Source (quarry No.)	Improved Subgrade Total Thickness (cm,comp.)	Improved Subgrade 2200 Source (quarry No.)	Longitudinal gradient (in %)	Mitre drains Total Number left = 8	Mitre drains Total Number right = 0	Catch water Total Length of drain left = 25	Catch water Total Length of drain right =0	Culverts N/Ex Chainage (m) = New / Existing line	Culverts CD 4 = Cross drainage	Culverts AC = Access culvert/drift	Culverts AD = Left/right	Culverts Length (m) Ø 450 mm	Culverts Length (m) 26 Ø 600mm	Culverts Length (m) 0.0 Ø 900 mm	Culverts Ramp Earth fill (m3)	Culverts Ramp Haunch Type	Head-walls T4=6 T3= Inlet (Material/Type)	Head-walls T2=1 T1=1 Outlet (Material/Type)	Scour Checks SM = Material this sheet/ Spacing left (m) =	Scour Checks 0 Spacing right (m) = =Total No. this sheet	Additional Instruction as per Reference
3+000		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
3+100		G	A	ETL	E/L		30	MS2	275	MS1	-1.30					3+100EX	CD				6				1	1			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	FILL	E/L		30	MS2	275	MS1																			
		G	A	FILL	E/L		30	MS2	275	MS1																			
3+200		G	A	FILL	E/L		30	MS2	275	MS1	-1.30																		
		G	A	FILL	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1						3+293EX	CD				6.7				IV	1	1		
3+300		G	A	RES	E/L		30	MS2	275	MS1	-1.30																		
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	ETL	E/L		30	MS2	275	MS1																			
3+400		G	A	ETL	E/L		30	MS2	275	MS1	-1.30																		
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
3+500		G	A	RES	E/L		30	MS2	275	MS1	-4.89																		
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1						3+600EX	CD				6				IV	1	1		
3+600		G	A	RES	E/L		30	MS2	275	MS1	-4.89																		
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
3+700		G	A	FILL	E/L		30	MS2	275	MS1	-4.89					3+720EX	CD				6.7				IV	1	1		
		G	A	FILL	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	FILL	E/L		30	MS2	275	MS1																			
		G	A	FILL	E/L		30	MS2	275	MS1																			
3+800		G	A	RES	E/L		30	MS2	275	MS1	3.89																		
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	ETL	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
3+900		G	A	RES	E/L		30	MS2	275	MS1	3.89																		
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
		G	A	RES	E/L		30	MS2	275	MS1																			
4+000		G	A	RES	E/L		30	MS2	275	MS1	-4.40																		

MAIGANI SHOPPING CENTRE

ACCESS JUNCTION

Quantity Asssessment	County	Tharaka Nithi	From:	3+000	To:	4+000	Page:	4

Chainage:	3+000							3+200						3+400						3+600						3+800						4+000	
Measurements for Clearing:	####		1 to 4 readings*)											**Free Clearance Width for Calculating areas**												Aver. (m)		1 to 4 readings*)					
Bush Clearing	8	8		8			m	8	8		8			m	8	8		8			m	8	8		8			m	8	8		8			m
Grass Cutting							m							m							m							m							m
Grubbing	7	7		7			m	7	7		7			m	7	7		7			m	7	7		7			m	7	7		7			m
#REF! **Tree and Stump Removal**							m	0						m	0						m	0						m	0						m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:																																			
														Height of Cut for calculating volumes																					
Height of cut < 0.25m							cm	22						cm	7						cm	18						cm	8						cm
For Reshaping:														**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																					
Existing Roads	16							36							44							18						cm	23						cm

Quantities									**Total this page**
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)	9	m3 (insitu)	4	13
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	367.2	m3 (insitu)	151	m3 (insitu)	65	m3 (insitu)	346	m3 (insitu)	292	1,220
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verfied and accepted by the Contractor	**Name:**	**Date:**	**Signature:**
For the Employer	**Name:**	**Date:**	**Signature:**

Road Improvement Plan County Tharaka Nithi From: 4+000 To: 5+000 Page: 5

Chain-age		(kilometres) / (metres)					4+100					4+200					4+300					4+400					4+500					4+600					4+700					4+800					4+900					5+000
Road form.		Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Road form.		Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping		Method: RES, ETL or Fill	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	FILL	FILL	FILL	FILL	FILL	FILL	FILL	RES	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	RES	RES
Earthworks / Reshaping		Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
Earthworks / Reshaping		Volume of ETL or Fill (m3/m)																																																		
Gra- vel	Total	Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Gra- vel	1800	Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Improved Subgrade	Total	Thickness (cm,comp.)	275	275	275	275																																														
Improved Subgrade	2200	Source (quarry No.)	MS1	MS1	MS1	MS1																																														
		Longitudinal gradient (in %)					-4.40					-4.40					-4.40					0.57					0.57					0.57					0.57					0.57					-2.63					-2.63
Mitre drains	Total	Number left = 4																																																	
Mitre drains		Number right = 0																																																	
Catch water	Total	Length of drain left = 30																																																	
Catch water		Length of drain right =0																																																	
Culverts	N/Ex	Chainage (m) = New / Existing line															4+300EX									4+490EX																										
Culverts	CD 2	= Cross drainage															CD									CD																										
Culverts	AC	= Access culvert/drift																																																	
Culverts	AD 0	= Left/right																																																	
Culverts – Length (m)		Ø 450 mm																																																	
Culverts – Length (m)	13	Ø 600mm															6									7																										
Culverts – Length (m)	-	Ø 900 mm																																																	
Culverts – Ramp		Earth fill (m3)																																																	
Culverts – Ramp		Haunch Type															IV									IV																										
Head-walls	T4=8 T3=	Inlet (Material/Type)															1									1																										
Head-walls	T2=1 T1=1	Outlet (Material/Type)															1									1																										
Scour Checks	SM	= Material this sheet/ Spacing left (m) =																																																	
Scour Checks	0	Spacing right (m) = =Total No. this sheet																																																	
		Additional Instruction as per Reference					PROV																																													

Quantity Asssessment	County	Tharaka Nithi	From:	4+000	To:	5+000	Page:	5

Chainage:	4+000							4+200						4+400						4+600						4+800						5+000
Measurements for Clearing:		1 to 4 readings*)												**Free Clearance Width for Calculating areas**												Aver. (m)	1 to 4 readings*)					
Bush Clearing	8	8		8			m	8	8		8		m	8	8		8			m	8	8		8			m	8	8		8		m
Grass Cutting							m						m							m							m						m
Grubbing	7	7		7			m	7	7		7		m	7	7		7			m	7	7		7			m	7	7		7		m
#REF! **Tree and Stump Removal**							m	0					m	0						m	0						m	0					m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:														**Height of Cut for calculating volumes**																		
Height of cut < 0.25m	7						cm	9					cm							cm	1						cm	16					cm
For Reshaping:														**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																		
Existing Roads	12							10						7							10						cm	8					cm

Quantities									**Total this page**
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verfied and accepted by the Contractor	**Name:**	**Date:**	**Signature:**
For the Employer	**Name:**	**Date:**	**Signature:**

Road Improvement Plan | **County** Tharaka Nithi | **From:** 5+000 | **To:** 6+000 | **Page:** 6

Chainage (kilometres)					5+100					5+200					5+300					5+400				
Chainage (metres)																								
Road form.: Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Road form.: Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping: Method: RES, ETL or Fill	FILL	FILL	FILL	FILL	FILL	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	FILL	FILL	FILL	FILL	FILL	RES	ETL	ETL
Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
Volume of ETL or Fill (m3/m)																								
Gra- vel (Total 1800): Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Longitudinal gradient (in %)					-1.01					-1.01					-1.01					-1.01				
Mitre drains (Total): Number left = 5																								
Number right = 2																								
Catch water (Total): Length of drain left = 25																								
Length of drain right =0																								
Culverts N/Ex: Chainage (m) = New / Existing line																								
CD 1 = Cross drainage																								
AC 0 = Access culvert/drift																								
AD 0 = Left/right																								
Length (m): Ø 450 mm																								
6 Ø 600mm																								
- Ø 900 mm																								
Ramp: Earth fill (m3)																								
Haunch Type																								
Head-walls T4=2 T3= Inlet (Material/Type)																								
T2= T1= Outlet (Material/Type)																								
Scour Checks SM = Material this sheet/ Spacing left (m) =																								
0 Spacing right (m) = =Total No. this sheet																								
Additional Instruction as per Reference																								

Chainage (kilometres)	5+500					5+600					5+700					5+800					5+900					6+000
Chainage (metres)																										
Road form.: Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Road form.: Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping: Method: RES, ETL or Fill	ETL	ETL	ETL	RES	ETL	FILL	FILL	FILL	FILL	FILL	ETL	FILL	ETL	ETL	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
Volume of ETL or Fill (m3/m)																										
Gra- vel (Total 1800): Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Longitudinal gradient (in %)	-1.01					-4.22					-0.09					-0.09					-0.09					-3.55
Mitre drains (Total): Number left = 5															KAMARANDI DISPENSARY					KAMARANDI MIXED SECONDARY SCHOOL						
Number right = 2																										
Catch water (Total): Length of drain left = 25																										
Length of drain right =0																										
Culverts N/Ex: Chainage (m) = New / Existing line																				5+890EX						
CD 1 = Cross drainage																				CD						
AC 0 = Access culvert/drift																										
AD 0 = Left/right															R											
Length (m): Ø 450 mm																										
6 Ø 600mm																				6						
- Ø 900 mm																										
Ramp: Earth fill (m3)																										
Haunch Type																				IV						
Head-walls T4=2 T3= Inlet (Material/Type)																				1						
T2= T1= Outlet (Material/Type)																				1						
Scour Checks SM = Material this sheet/ Spacing left (m) =																										
0 Spacing right (m) = =Total No. this sheet																										
Additional Instruction as per Reference																										

Quantity Asssessment	County	Tharaka Nithi	From:	5+000	To:	6+000	Page:	6

Chainage:	5+000						5+200						5+400						5+600						5+800						6+000
Measurements for Clearing:	####		1 to 4 readings*)										**Free Clearance Width for Calculating areas**												Aver. (m)		1 to 4 readings*)				
Bush Clearing	8	8		8			m	8	8		8		m	8	8		8		m	8	8		8		m	8	8		8		m
Grass Cutting							m						m						m						m						m
Grubbing	7	7		7			m	7	7		7		m	7	7		7		m	7	7		7		m	7	7		7		m
#REF! **Tree and Stump Removal**							m	0					m	0					m	0					m	0					m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:													**Height of Cut for calculating volumes**																		
Height of cut < 0.25m	6						cm	3					cm						cm	7					cm	6					cm
For Reshaping:													**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																		
Existing Roads	15							13						18						10					cm	3					cm

Quantities									**Total this page**
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	378	m3 (insitu)	400	m3 (insitu)	346	m3 (insitu)	432	m3 (insitu)	508	2,063
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verfied and accepted by the Contractor	**Name:**	**Date:**	**Signature:**
For the Employer	**Name:**	**Date:**	**Signature:**

Road Improvement Plan		County	Tharaka Nithi	From:	5+000	To:	6+000	Page:	6

Section			Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Chain-age			(kilometres)					6+100					6+200					6+300
			(metres)															
Road form.			Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
			Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earthworks / Reshaping			Method: RES, ETL or Fill	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL		
			Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L
			Volume of ETL or Fill (m3/m)															
Gra- vel	Total		Thickness (cm,comp.)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	540		Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2
Longitudinal gradient (in %)								1.46					-2.25					
Mitre drains	Total		Number left = 5		ACCESS JUNCTION					KAMARANDI PRIMARY SCHOOL			ACCESS JUNCTION					
			Number right = 2															
Catch water	Total		Length of drain left = 25															
			Length of drain right =0															
Culverts	N/Ex		Chainage (m) = New / Existing line				6+083EX											
	CD	1	= Cross drainage				CD											
	AC	0	= Access culvert/drift															
	AD	0	= Left/right		L					R			L					
	Length (m)		Ø 450 mm															
		6	Ø 600mm				6											
		-	Ø 900 mm															
	Ramp		Earth fill (m3)															
			Haunch Type				IV											
Head-walls	T4=2	T3=	Inlet (Material/Type)				1											
	T2=	T1=	Outlet (Material/Type)				1											
Scour Checks	SM		= Material this sheet/ Spacing left (m) =															
	0		Spacing right (m) = =Total No. this sheet															
Additional Instruction as per Reference																		

Quantity Asssessment	County	Tharaka Nithi	From:	6+000	To:	7+000	Page:	6

Chainage:	6+000	6+200	6+400	6+600	6+800	6+000

| Measurements for Clearing: | | #### | 1 to 4 readings*) | | | | | | | | | | Free Clearance Width for Calculating areas | | | | | | | | | |

Road Improvement Plan	County	Tharaka Nithi	From:	5+000	To:	6+000	Page:	6

Section			Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Chain-age			(kilometres)					0+100					0+200					0+300					0+400
			(metres)																				
Road form.			Subgrade	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G				
			Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
Earthworks / Reshaping			Method: RES, ETL or Fill	FILL	FILL	FILL	FILL	FILL	FILL	FILL	RES	ETL	ETL	ETL	ETL	ETL	ETL						
			Choice of reshaping: L, T or E	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L	E/L				
			Volume of ETL or Fill (m3/m)																				
Gra- vel	Total		Thickness (cm,comp.)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25				
	462		Source (quarry No.)	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2	MS2				
Longitudinal gradient (in %)									-5.08					-9.67									
Mitre drains	Total		Number left = 5	ROAD JUNCTION			1	1									20*900MM CULVERTS						
			Number right = 2																				
Catch water	Total		Length of drain left = 25																				
			Length of drain right =0																				
Culverts	N/Ex		Chainage (m) = New / Existing line														0+276EX						
	CD	1	= Cross drainage														CD						
	AC	0	= Access culvert/drift																				
	AD	0	= Left/right																				
	Length (m)		Ø 450 mm																				
		0	Ø 600mm																				
		45	Ø 900 mm														45						
	Ramp		Earth fill (m3)														1						
			Haunch Type														1						
Head-walls	T4=2	T3=	Inlet (Material/Type)																				
	T2=	T1=	Outlet (Material/Type)																				
Scour Checks	SM		= Material this sheet/ Spacing left (m) =																				
	0		Spacing right (m) = =Total No. this sheet																				
Additional Instruction as per Reference																							

Quantity Asssessment	County	Tharaka Nithi	From:	0+000	To:	1+000	Page:	6

Chainage:	0+000	0+200

Measurements for Clearing:

| | | #### | 1 to 4 readings*) | | |