DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 0+000 **To:** 1+000

Chain-age		(kilometres)	0 + 0				0 + 100				0 + 200				0 + 300				0 + 400				0 + 500				0 + 600				0 + 700				0 + 800				0 + 900				1 + 0
		(metres)																																										
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or 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
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
		Longitudinal gradient (in %)	0				0				0				-1				-1				-1				-2				0				-1				0				
Mitre drains	Total	Number left =																																										
	0	Number right =																																										
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m)	0+000EX																																									
	N	= New line																																										
	Ex	= Existing line																																										
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																																										
Head-walls		Inlet (Material/Type)																																										
		Outlet (Material/Type)																																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
Additional Instruction as per Reference			Start KM 0+000 - Kinna Market																																									

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	0+000	To:	1+000	pg	2

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

Input Measurements: — **Free Clearance Width for Calculating areas**

	Aver. (m)	1 to 4 readings*)					0+000	0+200	0+400	0+600	0+800	Aver. (m)	1 to 4 readings				
Bush Clearing	8	8	0	0	0	m	8	8	8	8	8	8	8	0	0	0	m
Grass Cutting						m											m
Grubbing	8	8	0	0	0	m	8	8	8	8	8	8	8	0	0	0	m
Tree and stump removal	0					m	0	0	0	0	0	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).

Cross Section Sketch — - | - | - | - | -

Measurements for small cut to fill: — **Height of Cut / Differences in Levels for calculating volumes**

	Aver. (m)	1 to 4 readings*)					0+000	0+200	0+400	0+600	0+800	Aver. (m)	1 to 4 readings*)				
Height of cut < 0.25m	0	0				cm	0	0	0	0	0	0	0		0		cm
Height of cut > 0.25m	0	0				cm	0	0	0	0	0	0	0		0		cm

For Reshaping : — **Difference in Level between Exist. Camber and Side Drain for calculating volumes**

							0+000	0+200	0+400	0+600	0+800						
Existing Roads	0					cm	0	0	0	0	0	0					cm
Sloping						cm											cm

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

Quantities: — **Quantities**

	0+000		0+200		0+400		0+600		0+800	Total this page
Bush Clearing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	600	m2	600	m2	600	m2	600	m2	600	**3,000**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

Quantities

	0+000		0+200		0+400		0+600		0+800	Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 1+000 **To:** 2+000

Chain-age		(kilometres)	1 +				1 +				1 +				1 +				1 +				1 +				1 +				1 +				1 +				1 +				1 +			2 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works	Method: RES, ETL or FILL		RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
	Choice of reshaping: L, T or 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
	Volume of ETL or Fill (m3/m)																																											
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
Longitudinal gradient (in %)			-1				0				-1				0				0				0				0				-1				0				-1					
Mitre drains	Total	Number left =													1								1				1				1								1					
	7	Number right =																	1																1									
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts	N Ex	Chainage (m) = New line = Existing line					1+100EX	1+110EX																																				
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																																										
Head-walls		Inlet (Material/Type)																																										
		Outlet (Material/Type)																																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
Additional Instruction as per Reference																																												

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	1+000	To:	2+000	pg	3

Chainage:	1+000						1+200						1+400						1+600						1+800						2+000
Input Measurements:	Aver. (m)	1 to 4 readings*)					**Free Clearance Width for Calculating areas**																		Aver. (m)	1 to 4 readings					
Bush Clearing	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	
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).

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)					**Height of Cut / Differences in Levels for calculating volumes**																		Aver. (m)	1 to 4 readings*)				
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																													
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm
Sloping						cm						cm						cm						cm						cm

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

Quantities:	**Quantities**									**Total this page**
Bush Clearing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	600	m2	600	m2	600	m2	600	m2	600	**3,000**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									**Total this page**
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 2+000 **To:** 3+000

Chain-age		(kilometres)	2 +				2 + 100				2 + 200				2 + 300				2 + 400				2 + 500				2 + 600				2 + 700				2 + 800				2 + 900			3 + 0
		(metres)	0																																									
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	RS	RS	RS	RS	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or 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
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																								
		Source (quarry No.)																																								
		Longitudinal gradient (in %)	0				9				-1				-3				-3				-1				-1				-1				0				-2			
Mitre drains	Total	Number left =																																								
	1	Number right =	1																																							
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line						2+140 N															1+500 N								2+700EX	2+700 N										
	Ex	= Existing line																																								
	CD	= Cross drainage						CD															CD									CD										
	AC/D	= Access culvert/ drift																																								
	L/R	= Left/ right																																								
	Length (m)	Ø 450mm																																								
		Ø 600mm																																								
		Ø 900mm						8															10									8										
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)						IV															IV									IV										
Head-walls		Inlet (Material/Type)						I															I									I										
		Outlet (Material/Type)						I															I									I										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																								
	0	Spacing right (m) = =Total No. this sheet																																								
Additional Instruction as per Reference																																										

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	2+000	To:	3+000	pg	4

Chainage:	2+000						2+200						2+400						2+600						2+800						2+000
Input Measurements:	Aver. (m)	1 to 4 readings*)					**Free Clearance Width for Calculating areas**																		Aver. (m)	1 to 4 readings					
Bush Clearing	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	
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).

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)					**Height of Cut / Differences in Levels for calculating volumes**																		Aver. (m)	1 to 4 readings*)				
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																													
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm
Sloping						cm						cm						cm						cm						cm

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

Quantities:	**Quantities**									**Total this page**
Bush Clearing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	600	m2	600	m2	600	m2	600	m2	600	**3,000**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									**Total this page**
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN Page: 4

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 3+000 **To:** 4+000

Chain-age		(kilometres)	3 +				3 +				3 +				3 +				3 +				3 +				3 +				3 +				3 +				3 +				3 +			4 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	B	B	B	B	B	B
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	ETL	ETL	ETL	ETL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	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
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
		Longitudinal gradient (in %)	0				-1				-1				-2				-3				-3				-2				-1				-1				-1					
Mitre drains	Total	Number left =																													1								1					
	3	Number right =																																	1									
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts	N	Chainage (m) = New line																																										
	Ex	= Existing line																												3+690 EX														
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																																										
Head-walls		Inlet (Material/Type)																																										
		Outlet (Material/Type)																																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
Additional Instruction as per Reference																																												

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	3+000	To:	4+000	pg	5

Chainage:	3+000	3+200	3+400	3+600	3+800	4+000
Input Measurements:	Aver. (m) 1 to 4 readings*)		**Free Clearance Width for Calculating areas**		Aver. (m) 1 to 4 readings	
Bush Clearing	8 8 0 0 0 m	8 8 0 0 0 m	8 8 0 0 0 m	8 8 0 0 0 m	8 8 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	8 8 0 0 0 m	8 8 0 0 0 m	8 8 0 0 0 m	8 8 0 0 0 m	8 8 0 0 0 m	
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).					
Cross Section Sketch	-	-	-	-	-	
Measurements for small cut to fill:	Aver. (m) 1 to 4 readings*)		**Height of Cut / Differences in Levels for calculating volumes**		Aver. (m) 1 to 4 readings*)	
Height of cut < 0.25m	0 0 cm	0 cm	0 0 0 cm	0 0 0 cm	0 0 0 cm	
Height of cut > 0.25m	0 0 cm	0 cm	0 0 0 cm	0 0 0 cm	0 0 0 cm	
For Reshaping :			**Difference in Level between Exist. Camber and Side Drain for calculating volumes**			
Existing Roads	0 cm	0 cm	0 cm	0 cm	0 cm	
Sloping	cm	cm	cm	cm	cm	
	*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).					

Quantities:	Quantities									Total this page
Bush Clearing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	600	m2	600	m2	600	m2	600	m2	600	**3,000**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 4+000 **To:** 5+000

Chain-age		(kilometres)	4 +				4 +				4 +				4 +				4 +				4 +				4 +				4 +				4 +				4 +				4 +			5 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	ETL	ETL	ETL	ETL	FILL	FILL	FILL	FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
		Longitudinal gradient (in %)	-2				2				1				-1				-1				-2				-2				2				0				2					
Mitre drains	Total	Number left =					1																								1								1					
	5	Number right =	1								1																																	
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m)																						4+550 N																				
	N	= New line																																										
	Ex	= Existing line																																										
	CD	= Cross drainage																						CD																				
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																						24																				
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																						IV																				
Head-walls		Inlet (Material/Type)																						I																				
		Outlet (Material/Type)																						I																				
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
		Additional Instruction as per Reference																																										

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	4+000	To:	5+000	pg	6

Chainage:	4+000						4+200						4+400						4+600						4+800						5+000
Input Measurements:	Aver. (m)	1 to 4 readings*)					**Free Clearance Width for Calculating areas**																		Aver. (m)	1 to 4 readings					
Bush Clearing	8	8	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	8	8	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m	8	8	0	0	0	m	8	8	0	0	0	m	
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).

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)					**Height of Cut / Differences in Levels for calculating volumes**																		Aver. (m)	1 to 4 readings*)					
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm	
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																														
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm	
Sloping						cm						cm						cm						cm						cm	

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

Quantities:	**Quantities**									**Total this page**
Bush Clearing	1,200	m2	1,600	m2	1,600	m2	1,200	m2	1,200	**6,800**
Grass Cutting		m2		m2		m2		m2		
Grubbing	600	m2	1,000	m2	1,000	m2	600	m2	600	**3,800**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									**Total this page**
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	162	m3 (insitu)		**162**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)	189	m3 (insitu)		**189**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 5+000 **To:** 6+000

Chain-age		(kilometres)	5 +				5 +				5 +				5 +				5 +				5 +				5 +				5 +				5 +				5 +				5 +			6 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	B	B	B	B	B	B	B	B	E	E	E	E	E	E	E	E	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works		Method: RES, ETL or FILL	FILL	FILL	FILL	FILL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
		Longitudinal gradient (in %)	2				2				2				1				5				6				0				1				-1				0					
Mitre drains	Total	Number left =													1								1								1								1					
	5	Number right =																																	1									
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m) = New line																5+390 N																										
	N																																											
	Ex	= Existing line																																										
	CD	= Cross drainage																CD																										
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																8																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																IV																										
Head-walls		Inlet (Material/Type)																I																										
		Outlet (Material/Type)																I																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																	20				15																					
	6	Spacing right (m) = =Total No. this sheet																	20				15																					
Additional Instruction as per Reference																																												

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	5+000	To:	6+000	pg	7

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

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)					**Height of Cut / Differences in Levels for calculating volumes**																		Aver. (m)	1 to 4 readings*)				
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																													
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm
Sloping						cm						cm						cm						cm						cm

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

Quantities:	**Quantities**									**Total this page**
Bush Clearing	1,400	m2	1,600	m2	1,800	m2	1,400	m2	1,000	**7,200**
Grass Cutting		m2		m2		m2		m2		
Grubbing	800	m2	1,000	m2	1,200	m2	800	m2	600	**4,400**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									**Total this page**
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	162	m3 (insitu)	162	m3 (insitu)	162	m3 (insitu)	0	m3 (insitu)		**486**
Embankment/Fill	189	m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**189**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 6+000 **To:** 7+000

Chain-age		(kilometres)	6 + 0				6 + 100				6 + 200				6 + 300				6 + 400				6 + 500				6 + 600				6 + 700				6 + 800				6 + 900				7 + 0
		(metres)																																										
Road form.		Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
		Longitudinal gradient (in %)	-2				-2				-1				-1				-2				-1				0				-2				-1				-2				
Mitre drains	Total	Number left =					1																																					
	1	Number right =																																										
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m)																																										
	N	= New line																																										
	Ex	= Existing line																																										
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																																										
Head-walls		Inlet (Material/Type)																																										
		Outlet (Material/Type)																																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
Additional Instruction as per Reference																																												

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	6+000	To:	7+000	pg	8

Chainage:	6+000						6+200						6+400						6+600						6+800						7+000
Input Measurements:	Aver. (m)	1 to 4 readings*)					**Free Clearance Width for Calculating areas**																		Aver. (m)	1 to 4 readings					
Bush Clearing	8	8	0	0	0	m	8	8	0	0	0	m	6	6	0	0	0	m	8	8	0	0	0	m	7	7	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	8	8	0	0	0	m	8	8	0	0	0	m	6	6	0	0	0	m	8	8	0	0	0	m	7	7	0	0	0	m	
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).

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)					**Height of Cut / Differences in Levels for calculating volumes**																		Aver. (m)	1 to 4 readings*)					
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm	
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																														
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm	
Sloping						cm						cm						cm						cm						cm	

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

Quantities:	**Quantities**									**Total this page**
Bush Clearing	1,200	m2	1,200	m2	1,600	m2	1,200	m2	1,400	**6,600**
Grass Cutting		m2		m2		m2		m2		
Grubbing	600	m2	600	m2	1,000	m2	600	m2	800	**3,600**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									**Total this page**
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)	324	**324**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....

DETAILED IMPROVEMENT PLAN

Road Name: KINA-KULA MAWE **County:** ISIOLO **From:** 7+000 **To:** 8+000

Chain-age	(kilometres)		7 + 0				7 + 100				7 + 200				7 + 300				7 + 400				7 + 500				7 + 600				7 + 700				7 + 800				7 + 900				8 + 0
	(metres)																																											
Road form.	Subgrade		BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
	Cross section		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works	Method: RES, ETL or FILL		RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
	Choice of reshaping: L, T or E		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Volume of ETL or Fill (m3/m)																																											
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
Longitudinal gradient (in %)			-2				-2				2				1				2				3				1				-1				-2				-3				
Mitre drains	Total	Number left =									1								1												1								1				
	7	Number right =													1								1												1								
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts	N	Chainage (m) = New line																																										
	Ex	= Existing line					7+100 EX																																					
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift																																										
	L/R	= Left/ right																																										
	Length (m)	Ø 450mm																																										
		Ø 600mm																																										
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)																																										
Head-walls	Inlet (Material/Type)																																											
	Outlet (Material/Type)																																											
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
Additional Instruction as per Reference																																												

Quantity Assessment	KINA-KULA MAWE	#	#	County:	ISIOLO	From:	7+000	To:	8+000	pg	9

Chainage:	7+000	7+200	7+400	7+600	7+800	8+000
Input Measurements:	**Free Clearance Width for Calculating areas**					
	Aver. (m) / 1 to 4 readings*)				Aver. (m) / 1 to 4 readings	
Bush Clearing	7 / 7 0 0 0 m	7 / 7 0 0 0 m	7 / 7 0 0 0 m	8 / 8 0 0 0 m	8 / 8 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	7 / 7 0 0 0 m	7 / 7 0 0 0 m	7 / 7 0 0 0 m	8 / 8 0 0 0 m	8 / 8 0 0 0 m	
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).

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill:	Height of Cut / Differences in Levels for calculating volumes				
	Aver. (m) / 1 to 4 readings*)				Aver. (m) / 1 to 4 readings*)
Height of cut < 0.25m	0 / 0 cm	0 / cm	0 / 0 0 0 cm	0 / 0 0 0 cm	0 / 0 0 0 cm
Height of cut > 0.25m	0 / 0 cm	0 / cm	0 / 0 0 0 cm	0 / 0 0 0 cm	0 / 0 0 0 cm
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**				
Existing Roads	0 / cm	0 / cm	0 / cm	0 / cm	0 / cm
Sloping	cm	cm	cm	cm	cm

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

Quantities:	Quantities									Total this page
Bush Clearing	1,400	m2	1,400	m2	1,400	m2	1,200	m2	1,200	**6,600**
Grass Cutting		m2		m2		m2		m2		
Grubbing	800	m2	800	m2	800	m2	600	m2	600	**3,600**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	m3 (insitu)	315	**1,575**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** ……..... **Date:** …….....**Signature:** …….....