DETAILED IMPROVEMENT PLAN

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 20+000 **To:** 21+000

Chain-age		(kilometres)	20 + 0				20 + 100				20 + 200				20 + 300				20 + 400				20 + 500				20 + 600				20 + 700				20 + 800				20 + 900				21 + 0
		(metres)																																								
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG													RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	Drift				Drift				Drift				A	A	A	A	A	A	A	A	A	A	A	A	A
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
		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
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																								
		Source (quarry No.)																																								
		Longitudinal gradient (in %)	-3.0				-3.0				-3.0				-1.0				0.0				0.0				0.0				0.0				5.0				5.0				
Mitre drains	Total	Number left =		1				1				1				1																1				1				1			
	14	Number right =		1				1				1				1																1				1				1			
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line														20+300																										
	Ex	= Existing line														N																										
	CD	= Cross drainage														CD																										
	AC/D	= Access culvert/ drift																																								
	L/R	= Left/ right																																								
	Length (m)	Ø 450mm																																								
		Ø 600mm																																								
		Ø 900mm														20																										
	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				20			
	20	Spacing right (m) = =Total No. this sheet																																	20				20			
		Additional Instruction as per Reference																																								

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	20+000	To:	21+000	pg	21

Chainage:	20+000	20+200	20+400	20+600	20+800	21+000

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

	Aver. (m)	1 to 4 readings*)					20+000	20+200	20+400	20+600	20+800	Aver. (m)	1 to 4 readings				
Bush Clearing	5	5	0	0	0	m	5	5	5	5	4	4	0	0	0	m	
Grass Cutting						m										m	
Grubbing	5	5	0	0	0	m	5	5	5	5	4	4	0	0	0	m	
Tree and stump removal	0					m	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

	20+000	20+200	20+400	20+600	20+800
	-	-	-	-	-

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

	Aver. (m)	1 to 4 readings*)					20+000	20+200	20+400	20+600	20+800	Aver. (m)	1 to 4 readings*)				
Height of cut < 0.25m	0	0				cm	0		0	0	0	0		0		0	cm
Height of cut > 0.25m	0	0				cm	0		0	0	0	0		0		0	cm

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

Existing Roads	0	0				cm	0	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**

	20+000		20+200		20+400		20+600		20+800	Total this page
Bush Clearing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,800	**8,200**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,400	**6,200**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

Quantities

	20+000		20+200		20+400		20+600		20+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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)		m3 (insitu)	121	m3 (insitu)	242	**845**
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: 22

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 21+000 **To:** 22+000

Chain-age		(kilometres)	21 +				21 +				21 +				21 +				21 +				21 +				21 +				21 +				21 +				21 +				22 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	E	E	E	E	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	G	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E	E	E	E
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 %)	4.0				4.0				2.0				2.0				1.0				3.0				2.0				1.0				1.0				1.0				
Mitre drains	Total	Number left =		1				1				1								1				1				1				1				1				1			
	19	Number right =		1				1				1				1				1				1				1				1				1				1			
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m) = New line																																										
	N																																											
	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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	21+000	To:	22+000	pg	22

Chainage:	21+000						21+200						21+400						21+600						21+800						22+000
Input Measurements:	Aver. (m)	1 to 4 readings*)					**Free Clearance Width for Calculating areas**																		Aver. (m)	1 to 4 readings					
Bush Clearing	4	4	0	0	0	m	4	4	0	0	0	m	4	4	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	4	4	0	0	0	m	4	4	0	0	0	m	4	4	0	0	0	m	5	5	0	0	0	m	5	5	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	0				cm	0	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	1,800	m2	1,800	m2	1,800	m2	1,600	m2	1,600	**8,600**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,400	m2	1,400	m2	1,400	m2	1,200	m2	1,200	**6,600**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	175	m3 (insitu)	108	m3 (insitu)	242	**1,007**
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: 23

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 22+000 **To:** 23+000

Chain-age		(kilometres)	22 +				22 +				22 +				22 +				22 +				22 +				22 +				22 +				22 +				22 +				23 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	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
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 %)	0.0				0.0				-1.0				0.0				-1.0				-1.0				1.0				-1.0				0.0				1.0				
Mitre drains	Total	Number left =		1								1								1								1								1							
	10	Number right =						1								1								1								1								1			
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m) = New line																																										
	N	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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	22+000	To:	23+000	pg	23

Chainage:	22+000						22+200						22+400						22+600						22+800						23+000
Input Measurements:	Aver. (m)	1 to 4 readings*)					**Free Clearance Width for Calculating areas**																		Aver. (m)	1 to 4 readings					
Bush Clearing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	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	0				cm	0	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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	108	m3 (insitu)	108	m3 (insitu)	108	m3 (insitu)	108	m3 (insitu)	108	**540**
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: 24

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 23+000 **To:** 24+000

Chain-age		(kilometres)	23 + 0				23 + 100				23 + 200				23 + 300				23 + 400				23 + 500				23 + 600				23 + 700				23 + 800				23 + 900				24 + 0
		(metres)																																										
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E	E	E	E	E	E	E
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
		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
		Volume of ETL or Fill (m3/m)																																									
Gra-vel	Total	Thickness (cm,comp.)																																									
		Source (quarry No.)																																									
		Longitudinal gradient (in %)	1.0				1.0				2.0				1.0				0.0				2.0				1.0				0.0				0.0				0.0				
Mitre drains	Total	Number left =		1								1								1								1								1							
	10	Number right =						1								1								1								1								1			
Catch water	Total	Length of drain left =																																									
	0	Length of drain right =																																									
Culverts	N	Chainage (m) = 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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	23+000	To:	24+000	pg	24

Chainage:	23+000	23+200	23+400	23+600	23+800	24+000

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

	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings				
Bush Clearing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	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*)					Aver. (m)	1 to 4 readings*)					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	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	0				cm	0	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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	108	m3 (insitu)	242	m3 (insitu)	175	m3 (insitu)	175	m3 (insitu)	242	**941**
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: 25

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 24+000 **To:** 25+000

Chain-age		(kilometres)	24 + 0				24 + 100				24 + 200				24 + 300				24 + 400				24 + 500				24 + 600				24 + 700				24 + 800				24 + 900				25 + 0
		(metres)																																										
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	A	A	A	A	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G
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
		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
		Volume of ETL or Fill (m3/m)																																									
Gra-vel	Total	Thickness (cm,comp.)																																									
		Source (quarry No.)																																									
		Longitudinal gradient (in %)	3.0				2.0				2.0				1.0				0.0				-2.0				-2.0				-2.0				0.0				-1.0				
Mitre drains	Total	Number left =		1								1				1								1								1				1				1			
	12	Number right =						1																				1				1				1				1			
Catch water	Total	Length of drain left =																																									
	0	Length of drain right =																																									
Culverts	N	Chainage (m) = 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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	24+000	To:	25+000	pg	25

Chainage:	24+000	24+200	24+400	24+600	24+800	25+000

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

	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings				
Bush Clearing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	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*)					Aver. (m)	1 to 4 readings*)					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	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	0				cm	0	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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	175	m3 (insitu)	108	**1,007**
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 SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 25+000 **To:** 26+000

Chain-age		(kilometres)	25 + 0				25 + 100				25 + 200				25 + 300				25 + 400				25 + 500				25 + 600				25 + 700				25 + 800				25 + 900				26 + 0
		(metres)																																										
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
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
		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
		Volume of ETL or Fill (m3/m)																																									
Gra-vel	Total	Thickness (cm,comp.)																																									
		Source (quarry No.)																																									
		Longitudinal gradient (in %)	-1.0				-2.0				-1.0				0.0				-1.0				-1.0				-2.0				-1.0				-2.0				0.0				
Mitre drains	Total	Number left =		1								1								1								1									1						
	10	Number right =						1								1								1								1								1			
Catch water	Total	Length of drain left =																																									
	0	Length of drain right =																																									
Culverts	N	Chainage (m) = 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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	25+000	To:	26+000	pg	26

Chainage:	25+000	25+200	25+400	25+600	25+800	26+000
Input Measurements:	Aver. (m) 1 to 4 readings*)	**Free Clearance Width for Calculating areas**			Aver. (m) 1 to 4 readings	
Bush Clearing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 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 0 cm	0 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	1,600 m2	1,600 m2	1,600 m2	1,600 m2	1,600	**8,000**
Grass Cutting	m2	m2	m2	m2	m2	
Grubbing	1,200 m2	1,200 m2	1,200 m2	1,200 m2	1,200	**6,000**
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	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)		
Drains full re-construction	242 m3 (insitu)	242 m3 (insitu)	242 m3 (insitu)	108 m3 (insitu)	108	**941**
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 SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 26+000 **To:** 27+000

Chain-age		(kilometres)	26 + 0				26 + 100				26 + 200				26 + 300				26 + 400				26 + 500				26 + 600				26 + 700				26 + 800				26 + 900				27 + 0
		(metres)																																										
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	G	G	G	G	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
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
		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
		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				-3.0				4.0				2.0				1.0				0.0				1.0				0.0				
Mitre drains	Total	Number left =		1				1				1				1				1				1																			
	12	Number right =		1				1				1				1				1				1																			
Catch water	Total	Length of drain left =																																									
	0	Length of drain right =																																									
Culverts	N	Chainage (m) = New line																													26+700 N				26+860 N				26+920 N	26+960 N		
	Ex	= Existing line																																									
	CD	= Cross drainage																													CD				CD							
	AC/D	= Access culvert/ drift																																					AC	AC		
	L/R	= Left/ right																																									
	Length (m)	Ø 450mm																																									
		Ø 600mm																																					6	8			
		Ø 900mm																													10				10							
	Ramp	Earth fill (m3)																																									
		H. Concrete (m3)																													IV				IV				IV	IV		
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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	26+000	To:	27+000	pg	27

Chainage:	26+000	26+200	26+400	26+600	26+800	27+000
Input Measurements:	Aver. (m) 1 to 4 readings*)	**Free Clearance Width for Calculating areas**			Aver. (m) 1 to 4 readings	
Bush Clearing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 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 0 cm	0 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	1,600 m2	1,600 m2	1,600 m2	1,600 m2	1,600	**8,000**
Grass Cutting	m2	m2	m2	m2	m2	
Grubbing	1,200 m2	1,200 m2	1,200 m2	1,200 m2	1,200	**6,000**
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	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)		
Drains full re-construction	175 m3 (insitu)	242 m3 (insitu)	242 m3 (insitu)	108 m3 (insitu)	108	**874**
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 SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 27+000 **To:** 28+000

Chain-age		(kilometres)	27 + 0				27 + 100				27 + 200				27 + 300				27 + 400				27 + 500				27 + 600				27 + 700				27 + 800				27 + 900			28 + 0
		(metres)																																								
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS	SS
		Cross section	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	A	A	A	A	A	A	A	A	F	F	F	F	F	F	F	F	A	A	A	A	A	A	A	A
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	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 %)	3.0				-1.0				0.0				2.0				2.0				2.0				-1.0				-3.0				-2.0				-4.0			
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		27+020	27+090															27+400				27+550				27+600				27+710										
	Ex	= Existing line		N	N															N				EX				N				N										
	CD	= Cross drainage		CD																CD				EX CD				CD				CD										
	AC/D	= Access culvert/ drift			AC																																					
	L/R	= Left/ right			L																																					
	Length (m)	Ø 450mm																																								
		Ø 600mm			8																																					
		Ø 900mm		8																8				"8"				8				8										
	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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	27+000	To:	28+000	pg	28

Chainage:	27+000	27+200	27+400	27+600	27+800	28+000
Input Measurements:	Aver. (m) 1 to 4 readings*)	**Free Clearance Width for Calculating areas**			Aver. (m) 1 to 4 readings	
Bush Clearing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 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 0 cm	0 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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	175	m3 (insitu)	175	m3 (insitu)	242	m3 (insitu)	175	m3 (insitu)	242	**1,007**
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)		

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DETAILED IMPROVEMENT PLAN

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 28+000 **To:** 29+000

Chain-age		(kilometres)	28 + 0				28 + 100				28 + 200				28 + 300				28 + 400				28 + 500				28 + 600				28 + 700				28 + 800				28 + 900			29 + 0
		(metres)																																								
Road form.		Subgrade	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	SS	SS	SS	SS	SS	SS	SS	SS	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG				
		Cross section	F	F	F	F	A	A	A	A	A	A	A	A	G	G	G	G	G	G	G	G	A	A	A	A	E	E	E	E	A	A	A	A	D	D	D	D	DRIFT			
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	ETL	ETL	ETL	ETL	FILL	FILL	FILL	FILL				
		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				
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																								
		Source (quarry No.)																																								
		Longitudinal gradient (in %)	-5.0				-2.0				-4.0				-3.0				-1.0				-4.0				-5.0				-9.0				-2.0							
Mitre drains	Total	Number left =		1				1				1				1				1				1																		
	10	Number right =										1				1				1				1																		
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line		28+090																																28+810						
	Ex	= Existing line		N																																Ex						
	CD	= Cross drainage		CD																																EX-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)		II																																						
		Outlet (Material/Type)		I																																						
Scour Checks	HC	= Material this sheet/ Spacing left (m) =	20																								20				7.5											
	47	Spacing right (m) = =Total No. this sheet	20																								20				7.5											
		Additional Instruction as per Reference																																								

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	28+000	To:	29+000	pg	29

Chainage:	28+000	28+200	28+400	28+600	28+800	29+000
Input Measurements:	Aver. (m) 1 to 4 readings*)	**Free Clearance Width for Calculating areas**			Aver. (m) 1 to 4 readings	
Bush Clearing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 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	-	-	-	5.40	-	
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	0.25 0.5 0 cm	0 0 0 cm	
Height of cut > 0.25m	0 0 cm	0 cm	0 0 0 cm	0.5 1 0 cm	0 0 0 cm	
For Reshaping :		**Difference in Level between Exist. Camber and Side Drain for calculating volumes**				
Existing Roads	0 0 cm	0 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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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)	3	m3 (insitu)	0	**3**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	3	m3 (insitu)	0	**3**
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)	81	**81**
Drains full re-construction	208	m3 (insitu)	175	m3 (insitu)	175	m3 (insitu)	242	m3 (insitu)	67	**866**
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)		

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DETAILED IMPROVEMENT PLAN Page: 30

Road Name SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 29+000 **To:** 30+000

Chain-age		(kilometres)	29 + 0				29 + 100				29 + 200				29 + 300				29 + 400				29 + 500				29 + 600				29 + 700				29 + 800				29 + 900			30 + 0
		(metres)																																								
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		Cross section	F	F	F	F	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	F	F	F	F	E	E	E	E	E	E	E	E
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	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 %)	0.0				1.0				0.0				-1.0				-1.0				0.0				6.0				7.0				4.0				4.0			
Mitre drains	Total	Number left =																																			1					
	6	Number right =						1				1				1				1																				1		
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N Ex	Chainage (m) = New line = Existing line																						29+550 N				29+600 N														
	CD	= Cross drainage																						CD				CD														
	AC/D	= Access culvert/ drift																																								
	L/R	= Left/ right																																								
	Length (m)	Ø 450mm																																								
		Ø 600mm																																								
		Ø 900mm																						8				16														
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)																						IV				IV														
Head-walls		Inlet (Material/Type)																						–				–														
		Outlet (Material/Type)																						–				–														
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																									15				15											
	27	Spacing right (m) = =Total No. this sheet																									15				15											
		Additional Instruction as per Reference																																								

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	29+000	To:	30+000	pg	30

Chainage:	29+000	29+200	29+400	29+600	29+800	30+000
Input Measurements:	Aver. (m) 1 to 4 readings*)	**Free Clearance Width for Calculating areas**			Aver. (m) 1 to 4 readings	
Bush Clearing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 0 0 0 m	5 5 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 0 cm	0 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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	141	m3 (insitu)	108	m3 (insitu)	108	m3 (insitu)	141	m3 (insitu)	242	**740**
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:** .....