



COUNTY GOVERNMENT OF KIAMBU

**LANDS, HOUSING, PHYSICAL PLANNING, MUNICIPAL, ADMINISTRATION
AND URBAN DEVELOPMENT**

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP - 2)

RFB No:

**CONSTRUCTION OF ROADS/FOOTPATHS & DRAINAGE SYSTEMS AND PUBLIC
LIGHTING INFRASTRUCTURE WORKS IN SELECTED
INFORMAL SETTLEMENTS OF UMOJA, KIANG'OMBE AND KIANDUTU IN THIKA TOWN,
GITAMBAYA/FORT JESUS IN RUIRU TOWN, BOSNIA/RIVERSIDE IN GITHURAI
AND MISRI IN LIMURU ALL WITHIN KIAMBU COUNTY.**

VOLUME 2 OF 3

BOOK OF DRAWINGS


DECEMBER, 2023

CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN IN KIAMBU COUNTY UMOJA & KIANG'OMBE (THIKA), FORTJESUS & RIVERSIDE (RUIRU) & MISRI (LIMURU)

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4	PLAN AND PROFILES - Sheet 1 of 4	WMCL/CR214/KYA/PP/01
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CONSTRUCTION WORKS OF ROADS / FOOTPATHS AND DRAINAGE INFORMAL SETTLEMENTS WORKS IN IN KIAMBU COUNTY UMOJA & KIANG'OMBE (THIKA), FORTJESUS & RIVERSIDE (RUIRU) & MISRI (LIMURU)

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EMPLOYER

The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER
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AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)


CONSULTANT

Wanjohi
Mutonyi
Consult Ltd.
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: DRAWING INDEX				REVISIONS			
Drg. No.	WMCL/CR214/DI/01	Sheet No.	1 of 1				
Scale:	1:1	Date:	DECEMBER:2023				
APPROVED BY		ENG.IKWM	DESIGNED BY	LWK			
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS	

PROJECT LOCATION

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The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



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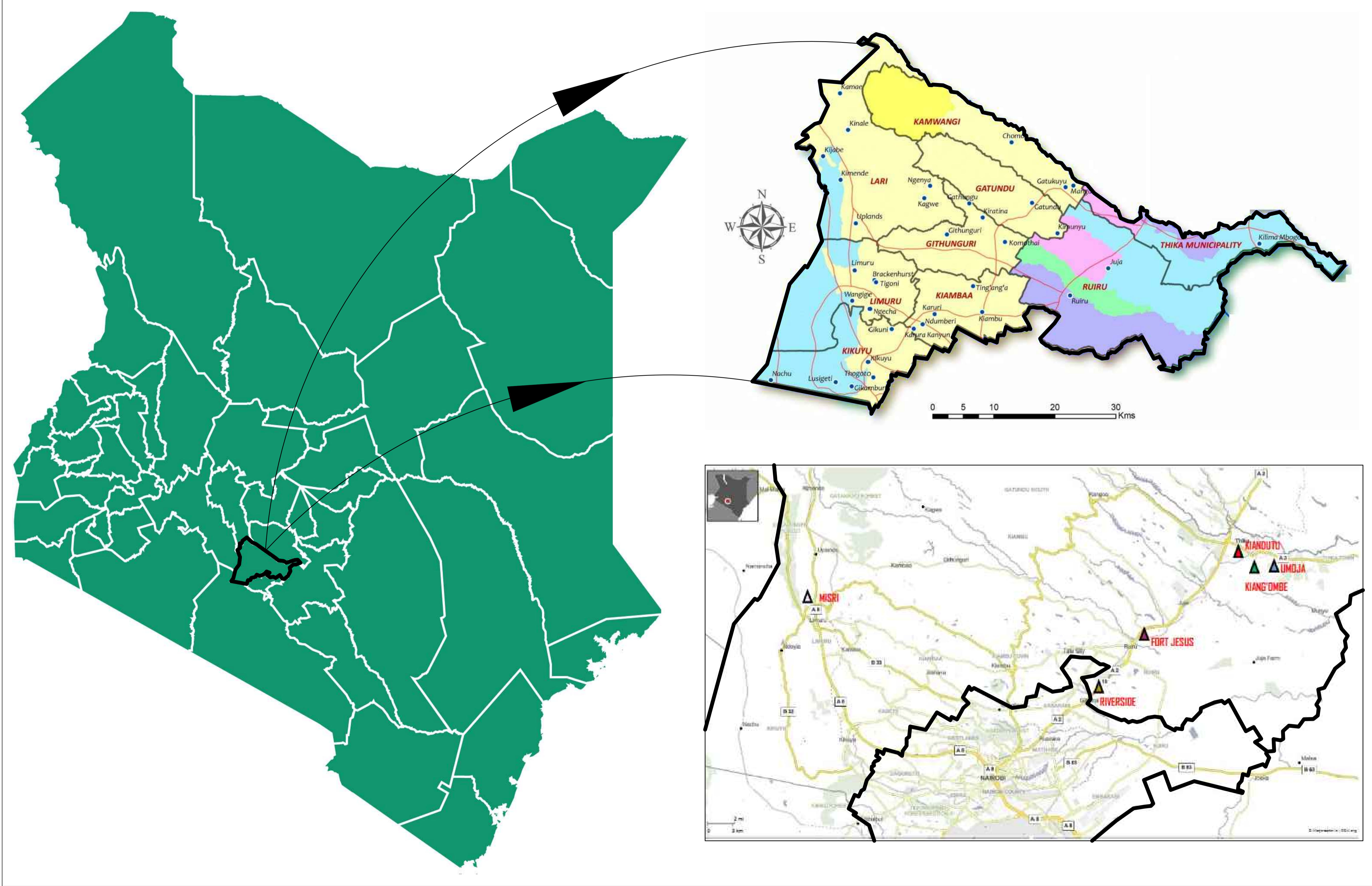


Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

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Drawing Title: PROJECT LOCATION MAP				REVISIONS	
Drg. No.	Date: DECEMBER:2023				
Scale:	Stage: TENDER DRAWINGS				
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date
				AMMENDMENTS	

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P.O. Box 2344-00900, Kiambu

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FRANÇAISE DE DÉVELOPPEMENT (AFD)



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Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

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Drawing Title: **PROJECT LOCATION MAP**

Drg. No. WMCL/CR214/PLP Sheet No. 1 of 1
Scale: 1:1 Date: DECEMBER:2023
Stage: TENDER DRAWINGS


APPROVED BY ENG. IKWM DESIGNED BY LWK

CHECKED BY ENG. PNG DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

KIANG'OMBE SETTLEMENT - THIKA

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 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

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 INTERNATIONAL DEVELOPMENT
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CONSULTANT

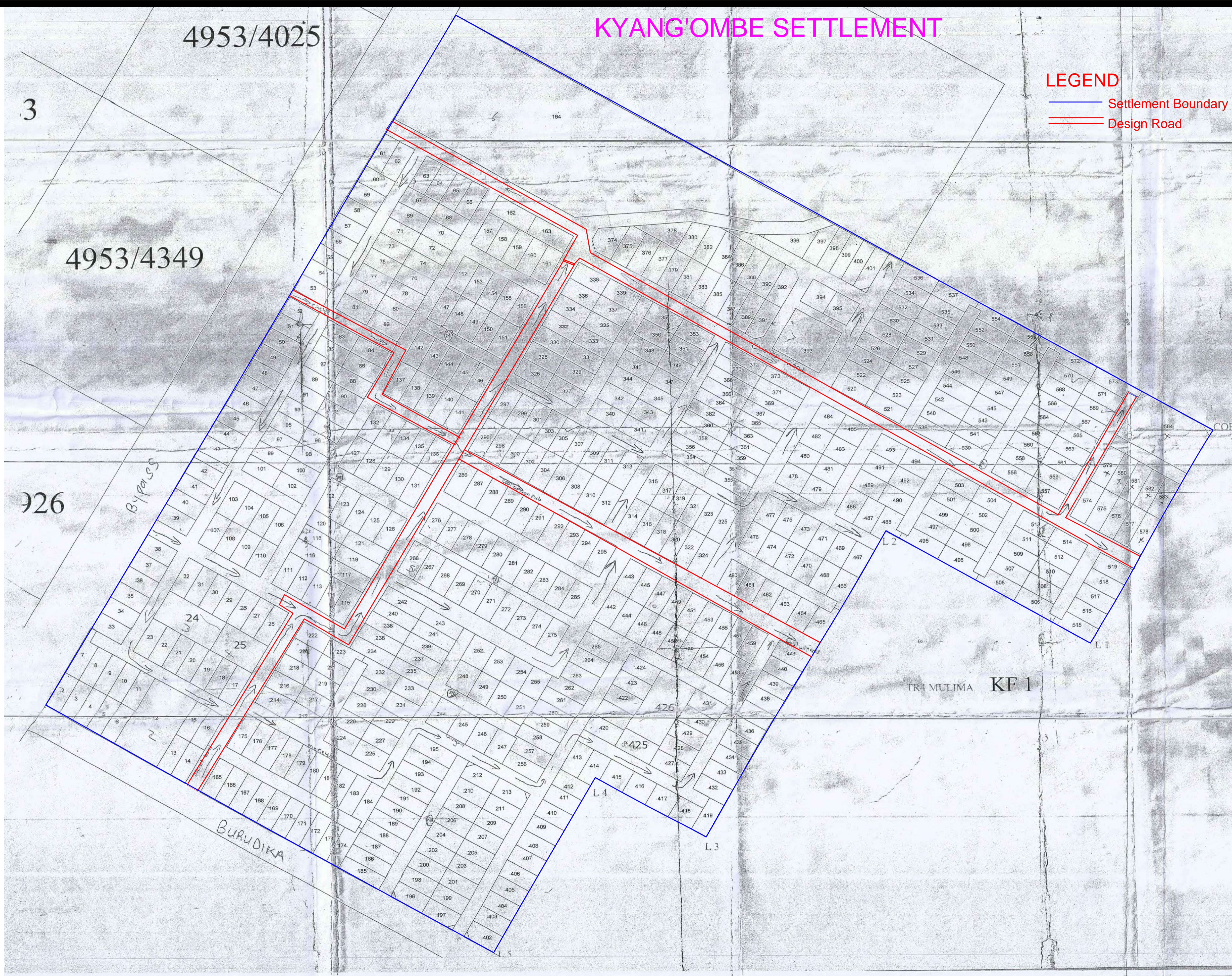
 Wanjohi
 Mutonyi
 Consult Ltd.
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
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Drawing Title: KIANG'OMBE SETTLEMENT				REVISIONS	
KIANG'OMBE SETTLEMENT					
Drg. No.					
Scale:	Date: DECEMBER:2023				
		Stage: TENDER DRAWINGS			
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG.PNG	DRAWN BY	SM	No, Date	AMMENDMENTS

GENERAL LAYOUT

 EMPLOYER The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu	 FINANCIER INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.	Drawing Title: GENERAL LAYOUT		REVISIONS	
				Drg. No.	Date: DECEMBER:2023		
				Scale:	Stage: TENDER DRAWINGS		
				APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS	



KYANG'OMBE SETTLEMENT

LEGEND

- Settlement Boundary
- Design Road



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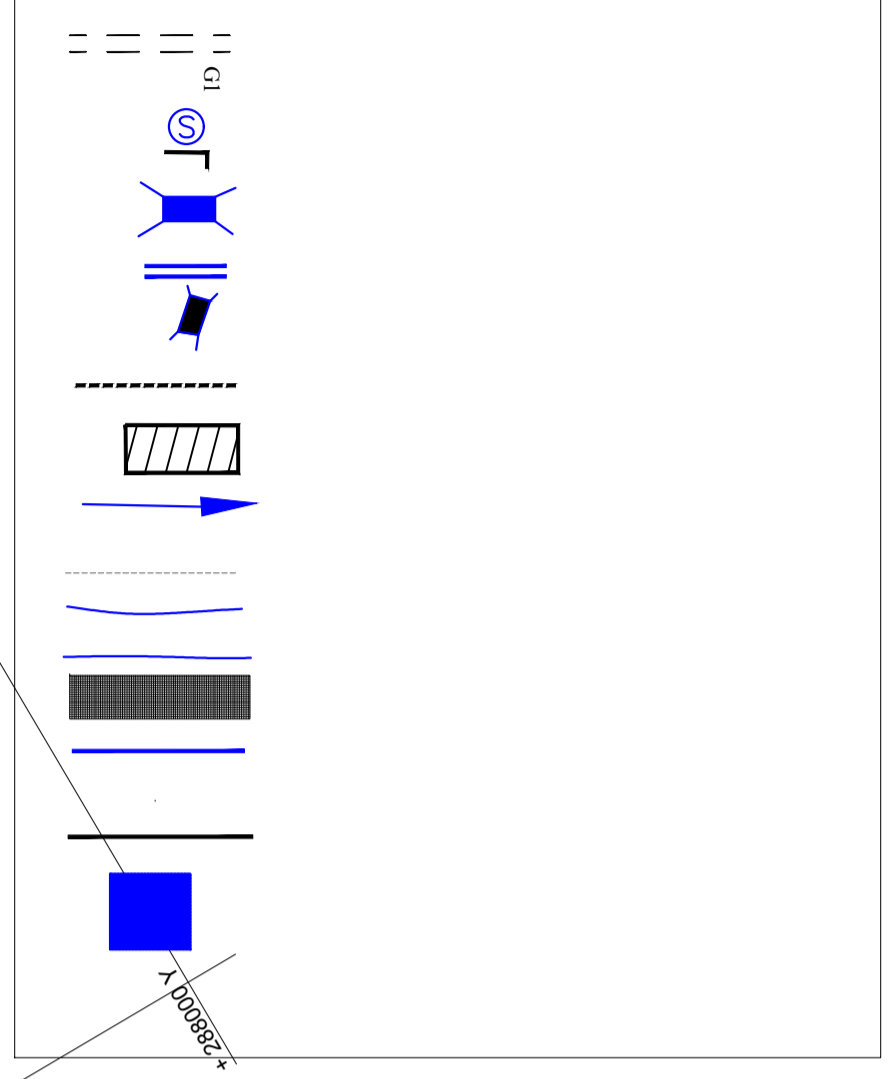
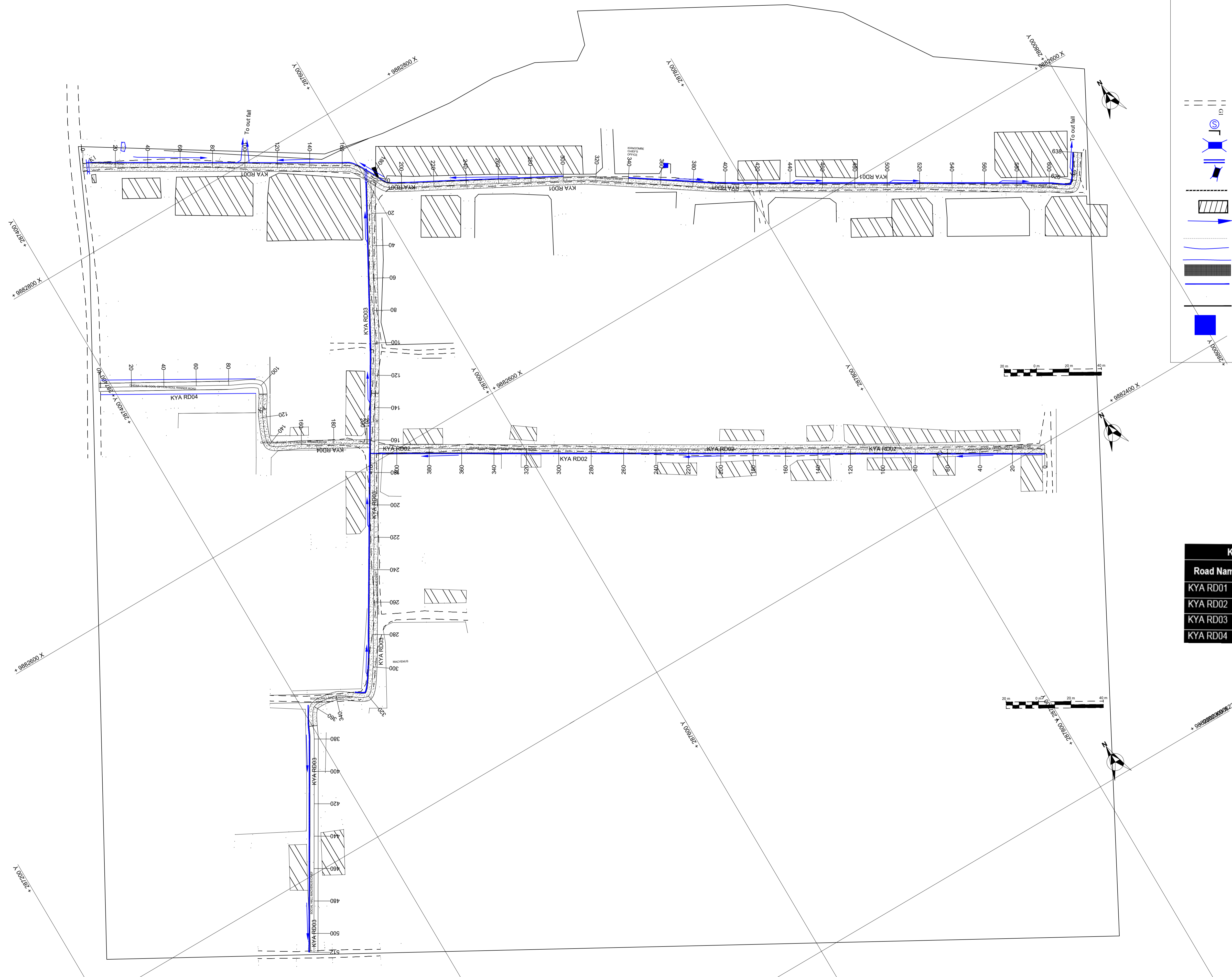


CONSULTANT
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Drawing Title: KIANGOMBE SETTLEMENT GENERAL LAYOUT PLAN		REVISIONS	
Drg. No. WM/CL/CR214/KYA/GLP/01 Sheet No. 1 of 2			
Scale: 1:75	Date: DECEMBER 2023		
1:25	Stage: TENDER DRAWINGS		
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No.	Date	AMMENDMENTS	



KIANG'OMBE SETTLEMENT		
Road Name	Road Length (M)	Width (m)
KYA RD01	637	5
KYA RD02	416	5
KYA RD03	512	5
KYA RD04	207	5

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THE WORLD BANK
AFD

CONSULTANT

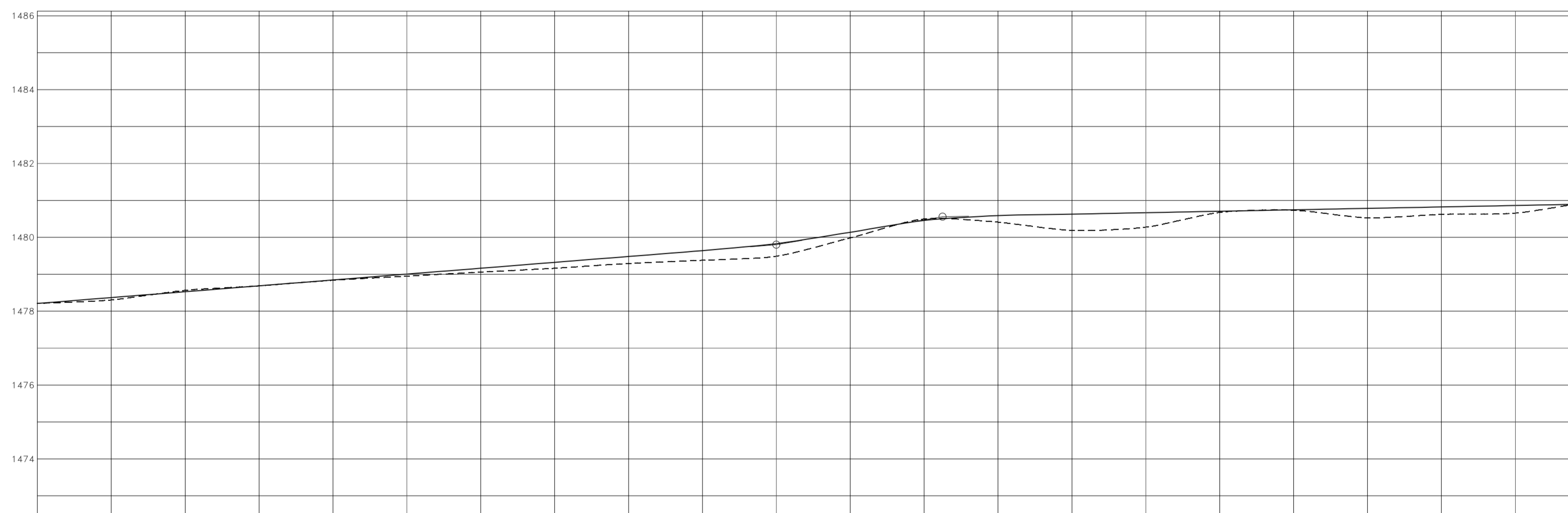
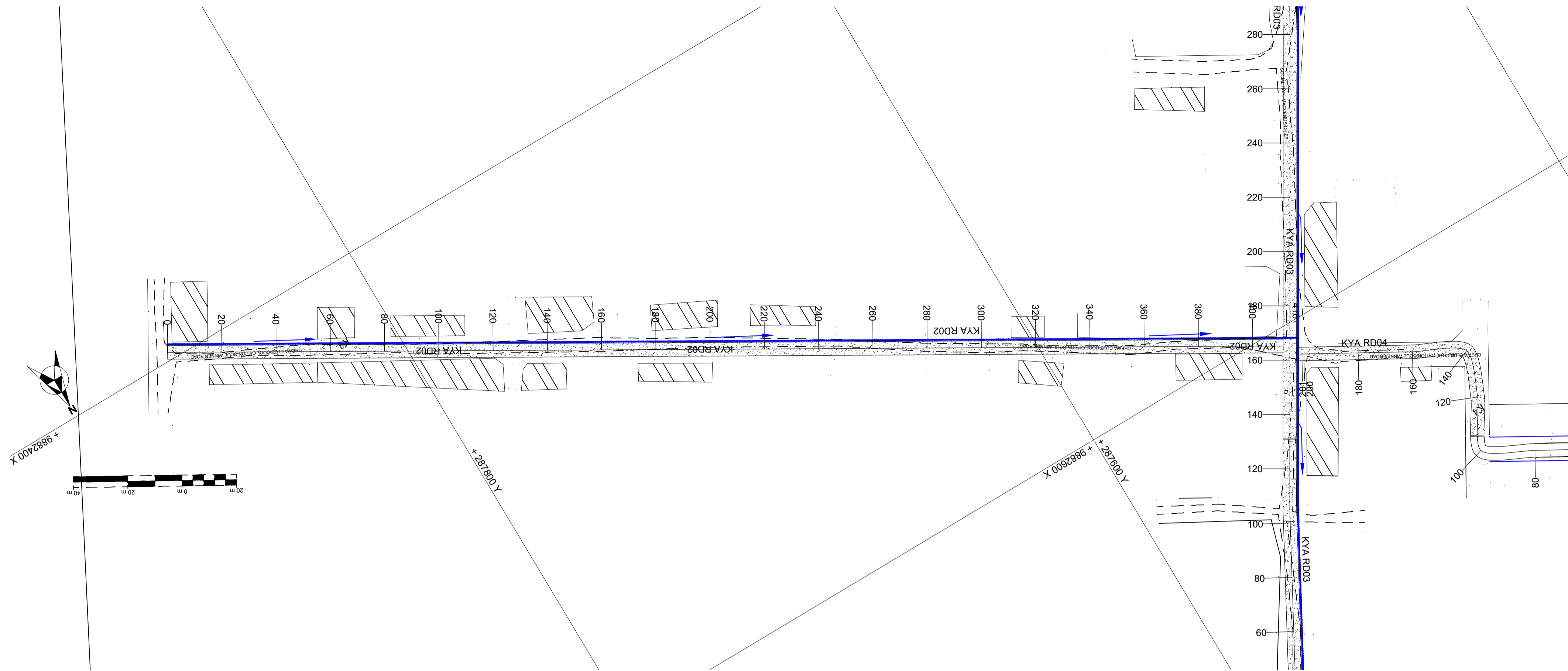
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
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Drawing Title: KIANG'OMBE SETTLEMENT LAYOUT :				REVISIONS	
Drg. No.	WMCL/CR214/KYA/GLP/02	Sheet No.	2 of 2		
Scale:	H:1:2000	Date:	DECEMBER:2023		
	V:1:200	Stage:	TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK		
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				AMMENDMENTS	

PLANS AND PROFILES

<p>EMPLOYER</p>  <p>The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu</p>	<p>FINANCIER</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN & PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Date: DECEMBER:2023</td> <td colspan="3"></td> </tr> <tr> <td>Scale:</td> <td colspan="2">Stage: TENDER DRAWINGS</td> <td colspan="3"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td colspan="2"></td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td>No.</td> <td>Date</td> </tr> <tr> <td colspan="6">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN & PROFILES				REVISIONS		Drg. No.	Date: DECEMBER:2023					Scale:	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK			CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS					
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Chainages	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	416.069	
Original Ground Level (OGI)	1478.210	1478.303	1478.566	1478.665	1478.840	1478.948	1479.059	1479.161	1479.292	1479.379	1479.465	1479.584	1480.459	1480.410	1480.166	1480.274	1480.706	1480.745	1480.785	1480.824	1480.863	1480.884	
Road Design Center line levels	1478.210	1478.369	1478.528	1478.667	1478.846	1479.005	1479.164	1479.323	1479.482	1479.641	1479.828	1479.984	1480.138	1480.459	1480.589	1480.628	1480.667	1480.706	1480.745	1480.785	1480.824	1480.863	1480.884
Vertical Curve																							
Gradient	0.8%										25m VC K=28 BVC 188 EVC 213		1.7%		25m VC K=17 BVC 233 EVC 248		0.2%						
Drainage Design Culvert Location																							
Drainage Type	Lined close drain																						

Longsection for 0 to 416

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**The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu**

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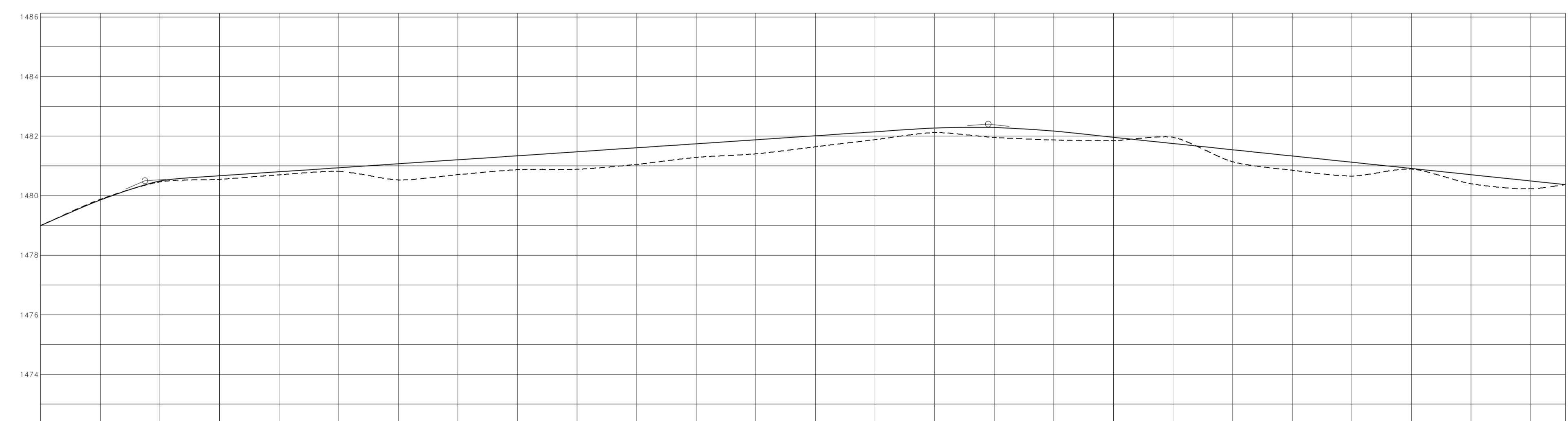
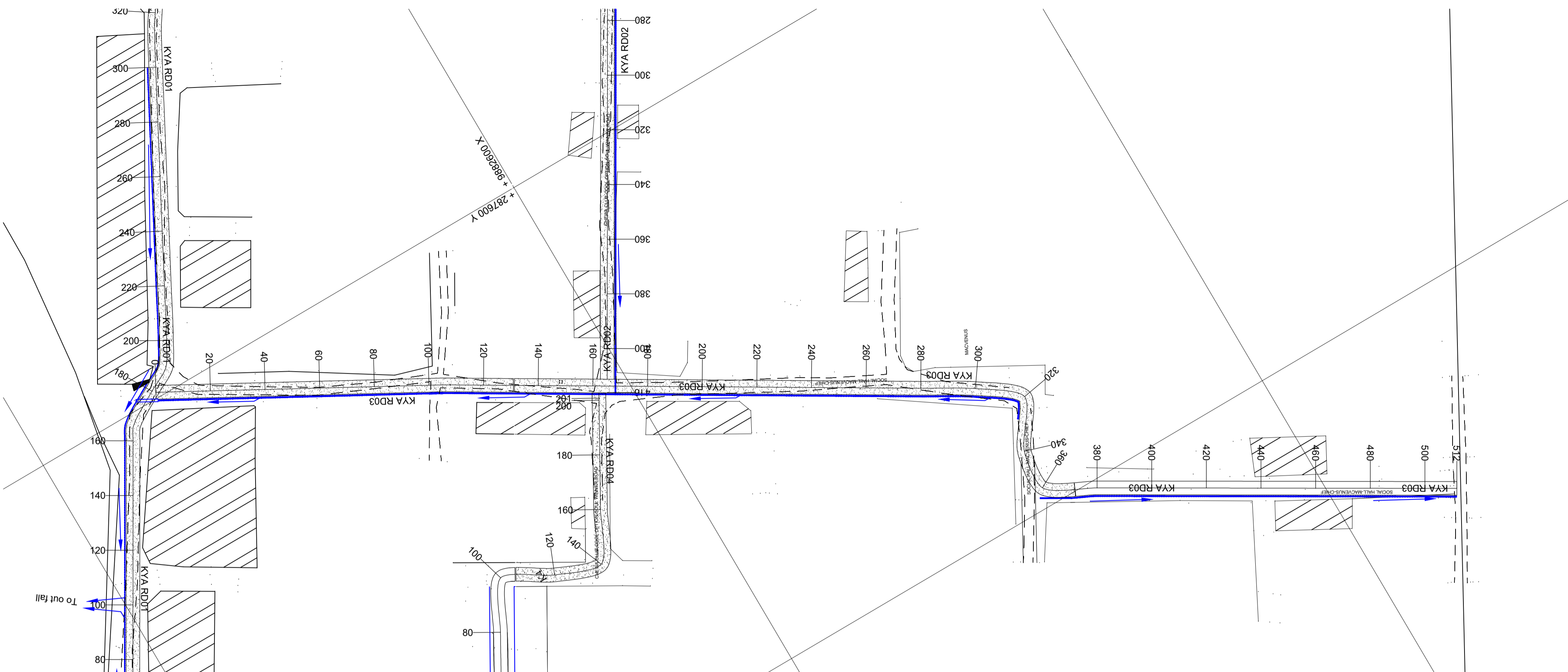
CONSULTANT

**Wanjohi
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Consult Ltd.**

Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
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Drawing Title: KIANG'OMBE SETTLEMENT: PLAN & PROFILES.				REVISIONS	
Drg. No.	WMCL/CR214/KYA/PP/02	Sheet No.	2 of 4		
Scale:	H:1:2000 V:1:200	Date:	DECEMBER:2023		
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				AMMENDMENTS	





Chainages	Original Ground Level (OGL)	Center line levels	Vertical Curve	Gradient	Culvert Location	Drainage Type
0	1478.996	1478.996	25m VC K = 7 BVC 23 EVC 48 1480.5	4.3%		LHS RHS
20	1479.876	1479.855				
40	1480.463	1480.493				
60	1480.549	1480.668				
80	1480.700	1480.802	50m VC K = 29 BVC 283 EVC 343 1482.4	0.7%		Lined drain with slotted cover
100	1480.815	1480.936				
120	1480.926	1481.071				
140	1481.049	1481.205				
160	1481.174	1481.339				
180	1481.284	1481.474				
200	1481.402	1481.608				
220	1481.521	1481.742				
240	1481.641	1481.876				
260	1481.761	1482.011				
280	1481.879	1482.145	-1.0%		Lined drain with slotted cover	
300	1482.000	1482.271				
320	1482.117	1482.388				
340	1482.233	1482.498				
360	1482.348	1482.603				
380	1482.463	1482.713				
400	1482.577	1482.818			Lined drain with slotted cover	
420	1482.690	1482.923				
440	1482.803	1483.028				
460	1482.916	1483.133				
480	1483.029	1483.238				
500	1483.142	1483.343				
511.675	1483.255	1483.448				

Longsection for 0 to 511

EMPLOYER

 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

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 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
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CONSULTANT
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 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

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MISRI SETTLEMENT - LIMURU

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The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.**

Drawing Title: **MISRI SETTLEMENT**

Drg. No.			
Scale:	Date: DECEMBER:2023		
	Stage: TENDER DRAWINGS		
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	SM

REVISIONS

No.	Date	AMMENDMENTS

GENERAL LAYOUT

 EMPLOYER The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu	 FINANCIER INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.	Drawing Title: GENERAL LAYOUT		REVISIONS	
				Drg. No.	Date: DECEMBER:2023		
				Scale:	Stage: TENDER DRAWINGS		
				APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS	

MISRI SETTLEMENT

18 M ROAD

35 M ROAD

LEGEND
 — Settlement Boundary
 — Design Road

LEGEND

Direction

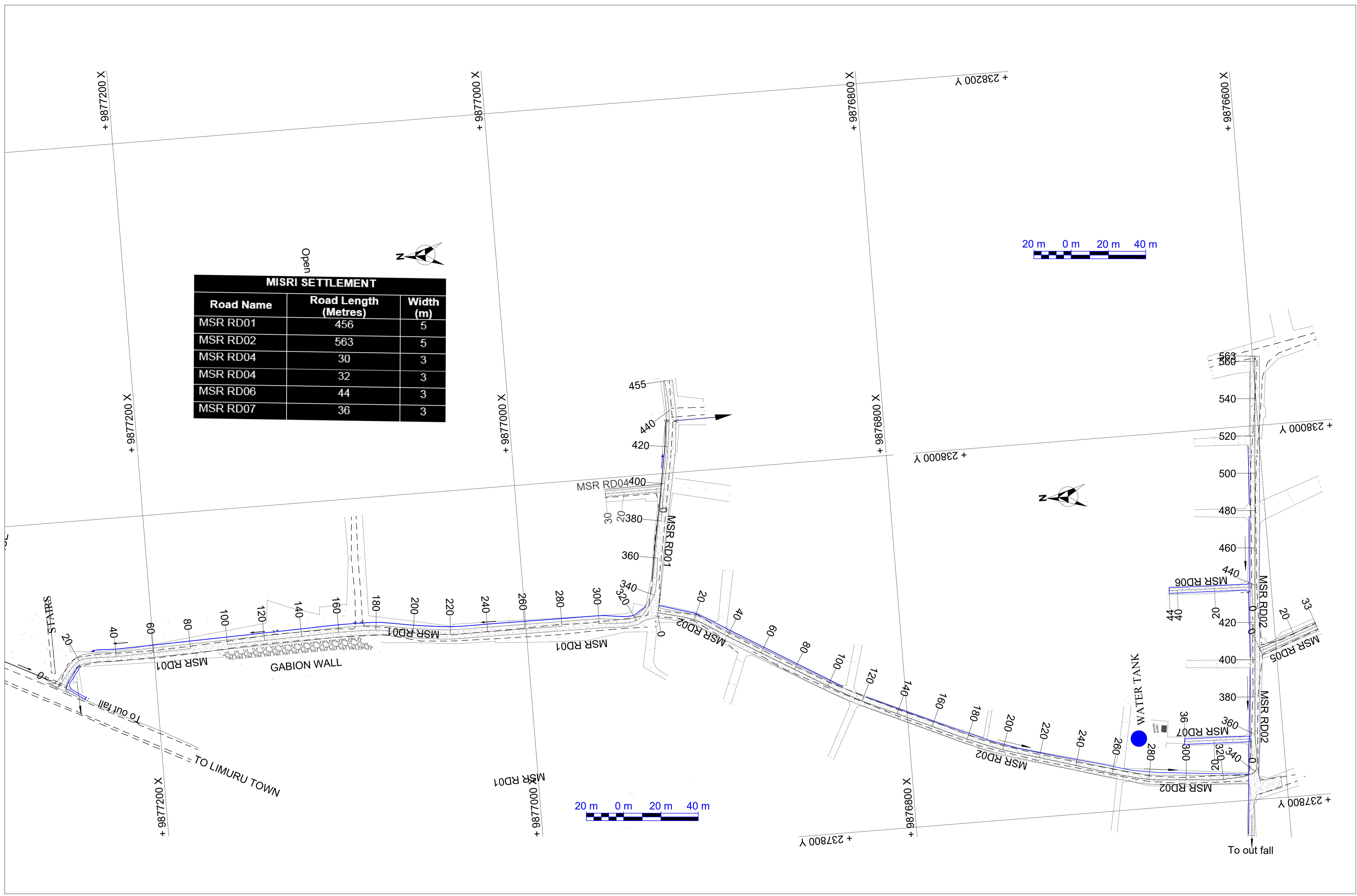
EMPLOYER
 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)
 

CONSULTANT
 **Wanjohi
 Mutonyi
 Consult Ltd.**
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: MISRI SETTLEMENT LAYOUT PLAN		REVISIONS	
Drg. No.: WMCL/CR214/MSR/GLP/01	Sheet No. 1 of 2	Date: DECEMBER:2023	
Scale: H:1:2000	V:1:200	Stage: TENDER DRAWINGS	
APPROVED BY: ENG. IKWM	DESIGNED BY: LWK	CHECKED BY: ENG. PNG	DRAWN BY: IM
No.	Date	AMMENDMENTS	



Open

MISRI SETTLEMENT		
Road Name	Road Length (Metres)	Width (m)
MSR RD01	456	5
MSR RD02	563	5
MSR RD04	30	3
MSR RD04	32	3
MSR RD06	44	3
MSR RD07	36	3

EMPLOYER

The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

THE WORLD BANK

AFD

CONSULTANT

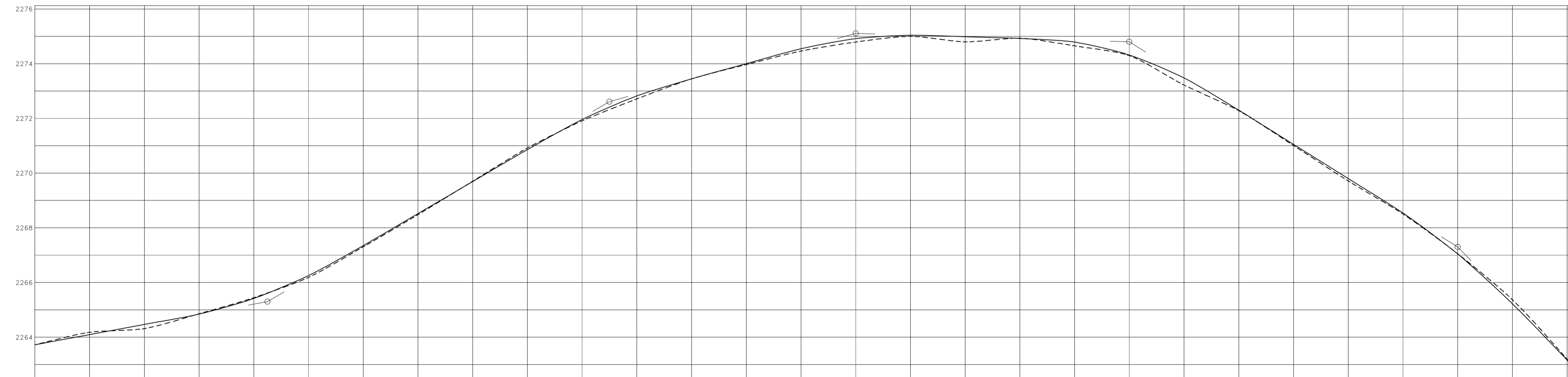
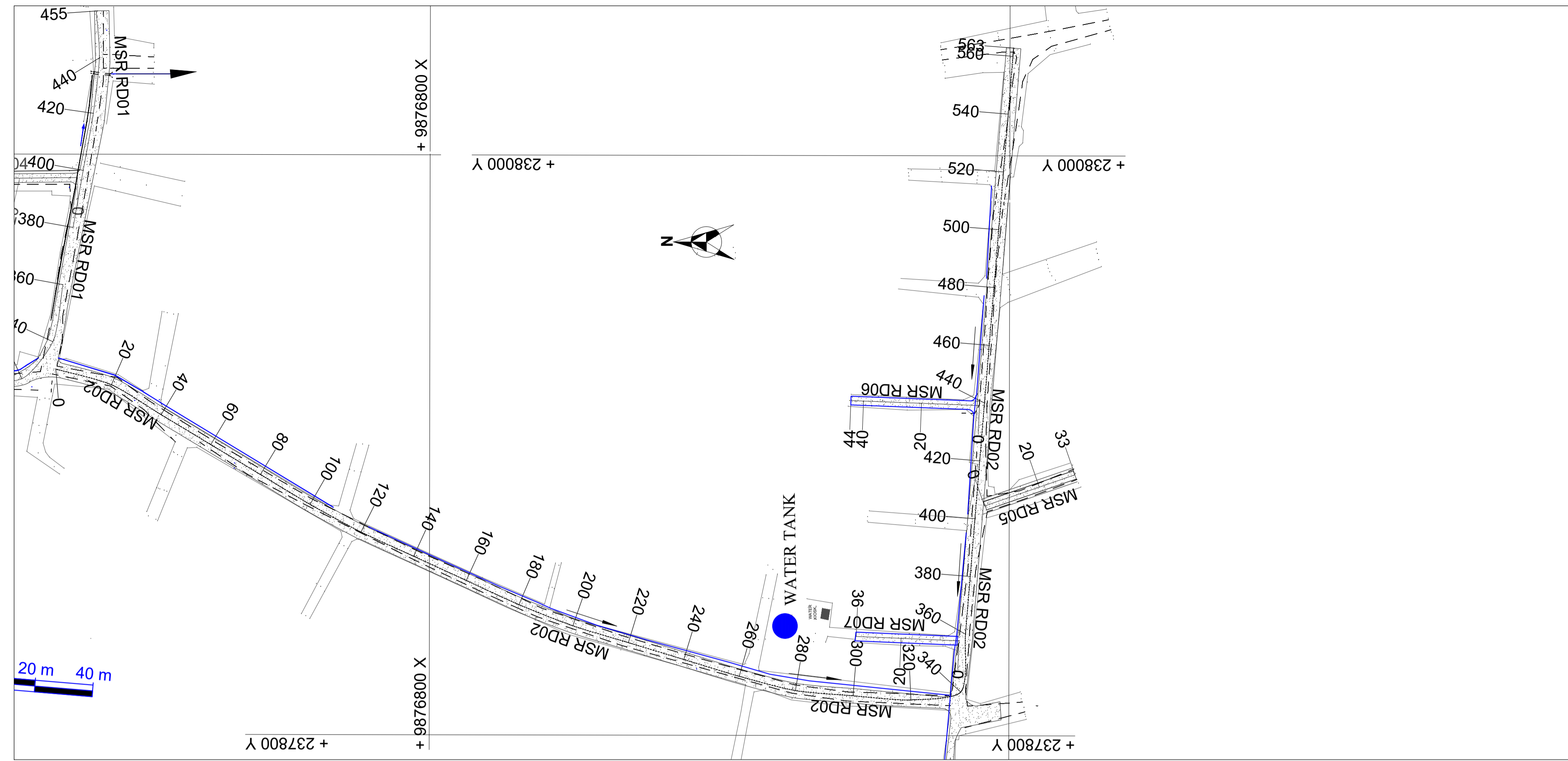
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: MISRI SETTLEMENT GENERAL: LAYOUT PLAN RD 01.				REVISIONS	
Drg. No. WMCL/CR214/MSR/GLP/02	Sheet No. 2 of 2	Date: DECEMBER:2023			
Scale: H:1:2000		V:1:200	Stage: TENDER DRAWINGS		
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	IM	No. Date	AMMENDMENTS

PLANS AND PROFILES

<p>EMPLOYER</p>  <p>The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu</p>	<p>FINANCIER</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN & PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Date: DECEMBER:2023</td> <td colspan="3"></td> </tr> <tr> <td>Scale:</td> <td colspan="2">Stage: TENDER DRAWINGS</td> <td colspan="3"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td colspan="2"></td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td>No.</td> <td>Date</td> </tr> <tr> <td colspan="6">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN & PROFILES				REVISIONS		Drg. No.	Date: DECEMBER:2023					Scale:	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK			CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS					
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APPROVED BY	ENG.IKWM	DESIGNED BY	LWK																																					
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date																																			
AMMENDMENTS																																								



Chainages		Original Ground Level (OGL)		Road Design		Drainage Design	
0	20	2264.723	2264.181	Center line levels	Vertical Curve	Culvert Location	Drainage Type
40	60	2264.465	2264.312	2263.723	1.9% BVC 55	I	LHS
80	100	2264.854	2264.854	2264.094	85.0% K=15 EVC 115	I	RHS
120	140	2265.443	2265.443	2264.465	5.9% BVC 185	I	
160	180	2266.184	2266.184	2264.854	210.0% K=16 EVC 210	I	
200	220	2267.301	2267.301	2265.443	2.8% BVC 275	I	
240	260	2268.478	2268.478	2266.253	300.0% K=16 EVC 300	I	
280	300	2269.702	2269.702	2267.348	-0.3% BVC 388	I	
320	340	2270.917	2270.917	2268.519	400.0% K=11 EVC 400	I	
360	380	2271.910	2271.910	2269.689	-6.3% BVC 495	I	
400	420	2272.711	2272.711	2270.859	520.0% K=12 EVC 520	I	
440	460	2273.447	2273.447	2271.960	-10.3% BVC 545	I	
480	500	2273.446	2273.446	2272.823			
520	540	2273.446	2273.446	2273.447			
560	563	2273.968	2273.968	2274.447			
		2274.462	2274.462	2274.917			
		2274.793	2274.793	2275.040			
		2275.002	2275.002	2275.040			
		2274.797	2274.797	2274.966			
		2274.931	2274.931	2274.924			
		2274.650	2274.650	2274.791			
		2274.295	2274.295	2274.317			
		2273.217	2273.217	2273.479			
		2272.280	2272.280	2272.300			
		2271.006	2271.006	2271.050			
		2269.710	2269.710	2269.800			
		2268.503	2268.503	2268.540			
		2267.051	2267.051	2267.044			
		2265.370	2265.370	2265.222			
		2263.188	2263.188	2263.164			
		2262.836	2262.836	2262.811			

Longsection for MISRI RD02 Km 0+000 to 0+563



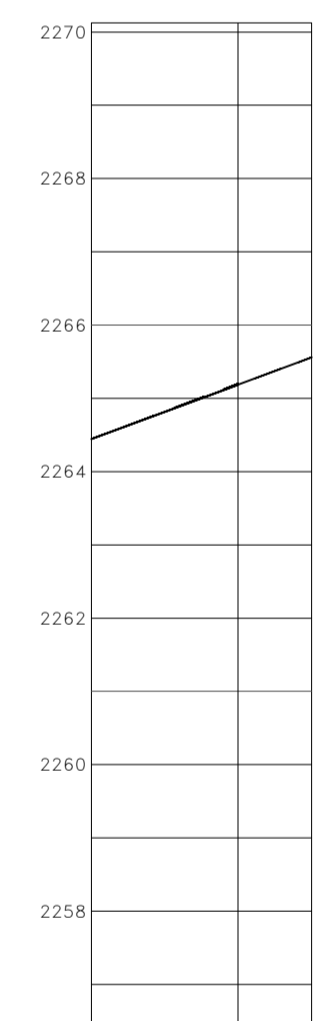
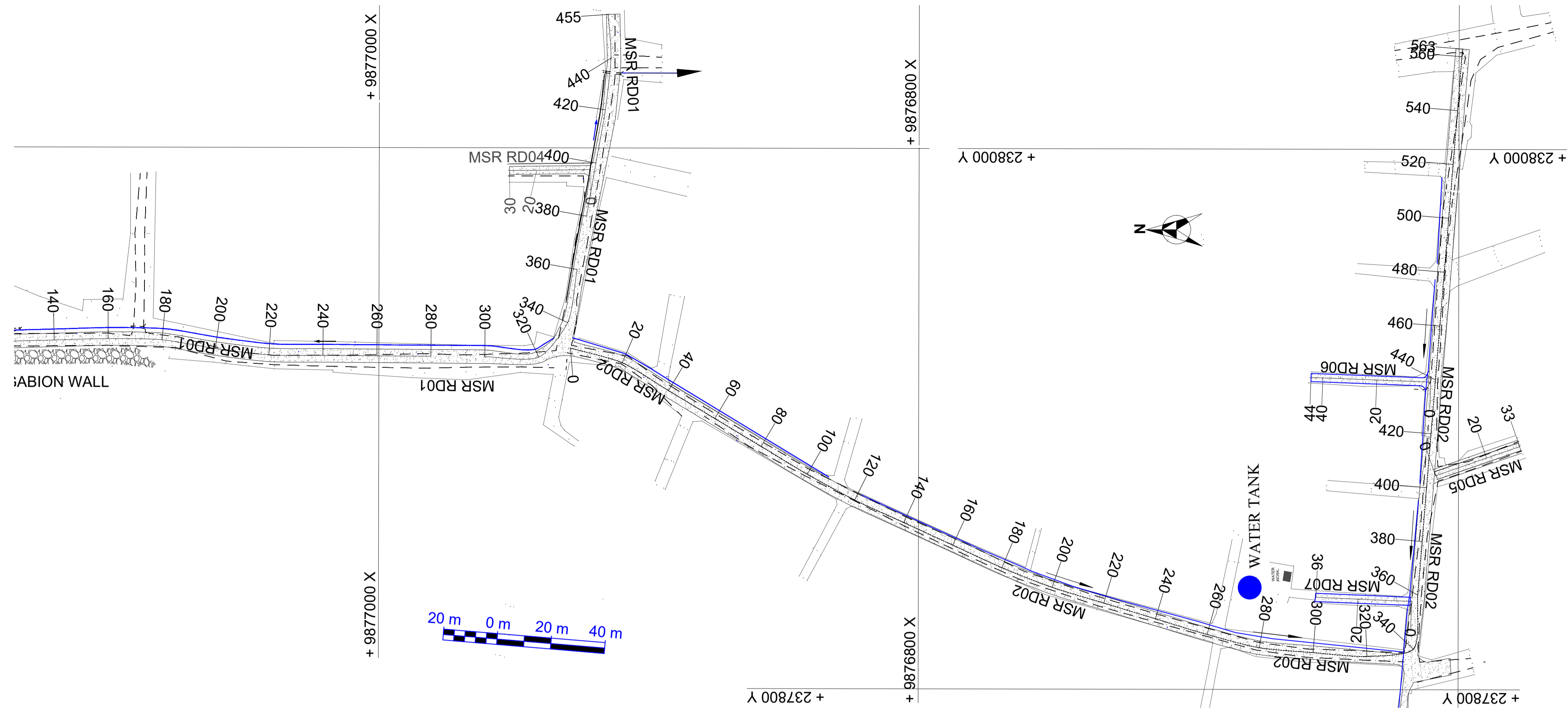
EMPLOYER
 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)
 THE WORLD BANK

CONSULTANT
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

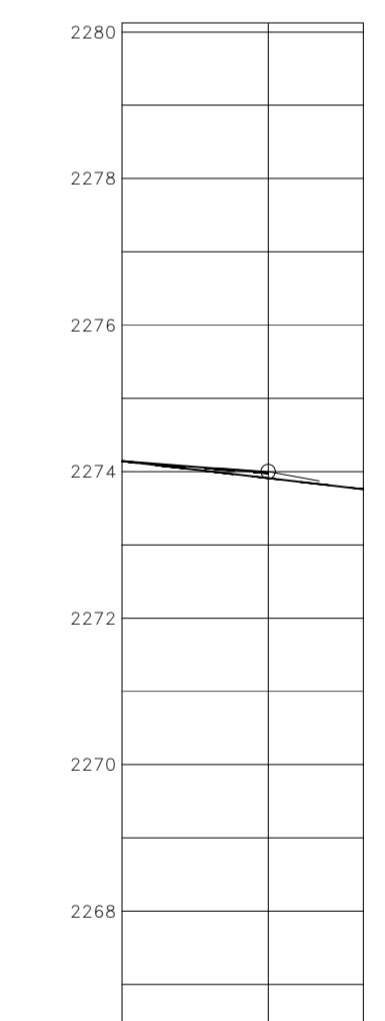
PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: MISRI SETTLEMENT : PLAN & PROFILES RD 02.				REVISIONS	
Drg. No.	WMCL/CR214/MSR/PP/02	Sheet No.	2 of 3		
Scale:	H:1:2000	Date:	DECEMBER:2023		
	V:1:200	Stage:	TENDER DRAWINGS		
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	IM	No.	Date
				AMMENDMENTS	



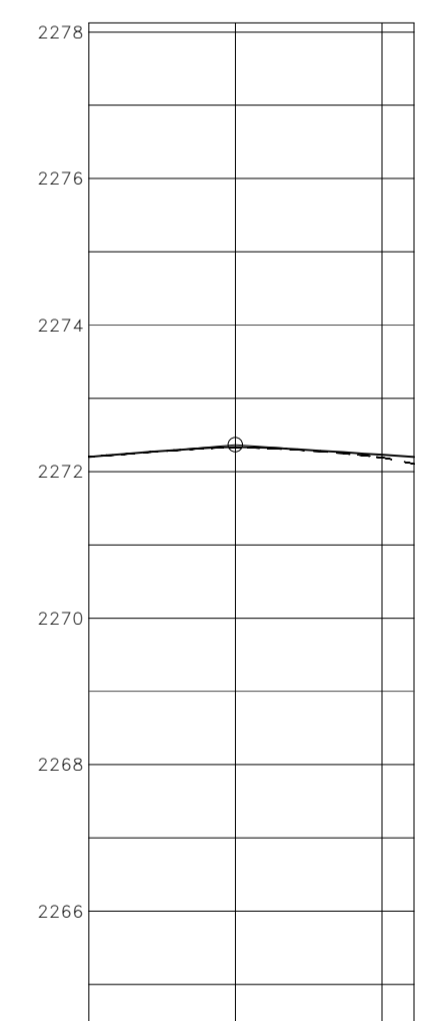
Chainages		0	20	30.072
Original Ground Level (OGL)		2264.445	2265.201	2265.557
Center line levels		2264.445	2265.185	2265.557
Vertical Curve		$BVC = 20.0$ $K = 15$ $VC = 20.0$ $K = 10$ $EVC = 20.0$		
Gradient		3.7 %		
Culvert Location				
Drainage Design	Drainage Type	LHS	RHS	

Longsection for MISRI RD04 Km 0+000 to 0+030



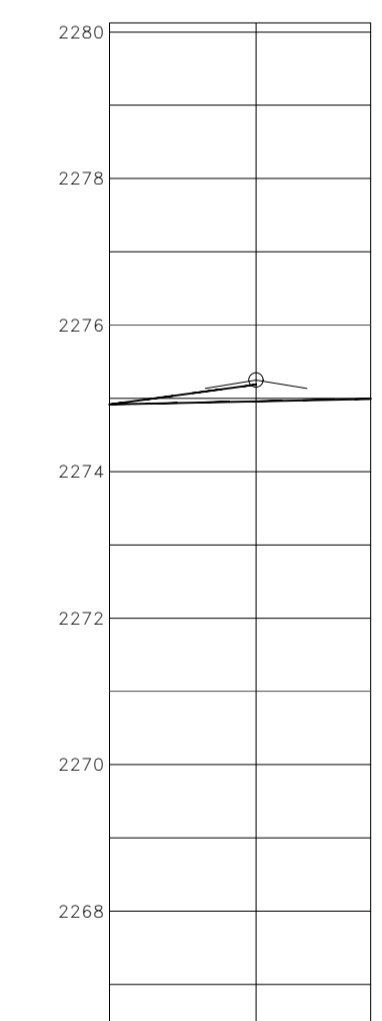
Chainages		0	20	32.982
Original Ground Level (OGL)		2274.141	2273.971	2273.760
Center line levels		2274.141	2273.986	2273.760
Vertical Curve		$BVC = 20.0$ $K = 15$ $VC = 20.0$ $K = 10$ $EVC = 20.0$		
Gradient		-0.7 %		
Culvert Location				
Drainage Design	Drainage Type	LHS	RHS	

Longsection for MISRI RD05 Km 0+000 to 0+032



Chainages		0	20	40	44.362
Original Ground Level (OGL)		2272.202	2272.328	2272.191	2272.103
Center line levels		2272.202	2272.336	2272.229	2272.200
Vertical Curve		$BVC = 20.0$ $K = 13$ $VC = 20.0$ $K = 10$ $EVC = 20.0$			
Gradient		0.8 %			
Culvert Location					
Drainage Design	Drainage Type	LHS	RHS		

Longsection for MISRI RD06 Km 0+000 to 0+044



Chainages		0	20	35.641
Original Ground Level (OGL)		2274.915	2275.186	2274.993
Center line levels		2274.915	2275.188	2274.993
Vertical Curve		$BVC = 20.0$ $K = 15$ $VC = 20.0$ $K = 5$ $EVC = 20.0$		
Gradient		1.7 %		
Culvert Location				
Drainage Design	Drainage Type	LHS	RHS	

Longsection for MISRI RD07 Km 0+000 to 0+036

EMPLOYER

The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

THE WORLD BANK
AFD

CONSULTANT

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title:		MISRI SETTLEMENT : PLAN & PROFILES RD04, RD05, RD06 & RD07.		
Drg. No.	WMCL/CR214/MSR/PP/03	Sheet	No. 3 of 3	
Scale:	H: 1:2000 V: 1:200	Date:	DECEMBER: 2023	
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK	
CHECKED BY	ENG. PNG	DRAWN BY	IM	
REVISIONS		No.	Date	AMMENDMENTS

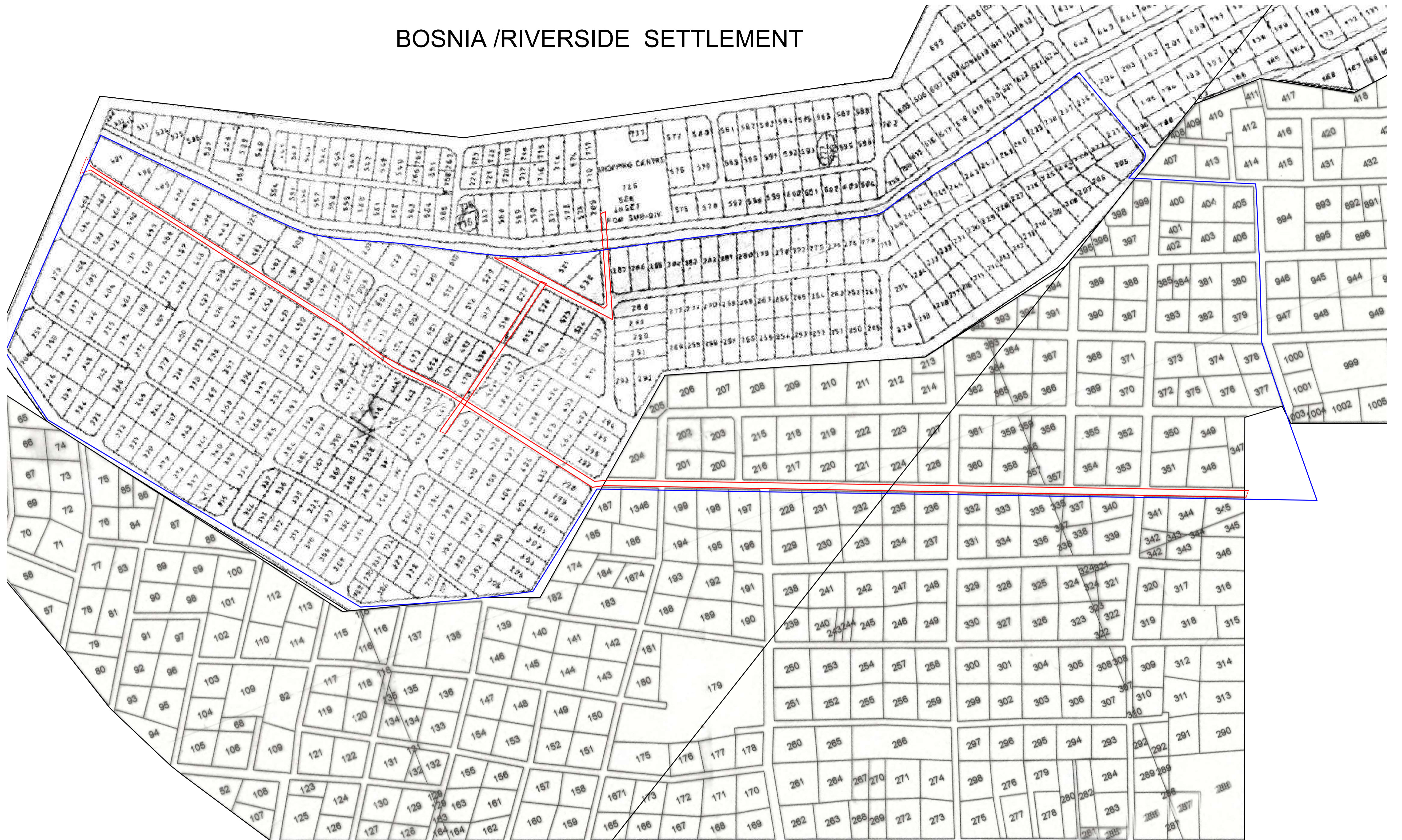
RIVERSIDE SETTLEMENT - RUIRU

<p>EMPLOYER</p>  <p>The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu</p>	<p>FINANCIER</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT</p> <p>Wanjohi Mutonyi Consult Ltd.</p> <p>Engineers, Environmentalists . Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p> 	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.</p>	<p>Drawing Title: RIVERSIDE SETTLEMENT</p> <table border="1"> <tr> <td>Drg. No.</td> <td>Date: DECEMBER:2023</td> </tr> <tr> <td>Scale:</td> <td>Stage: TENDER DRAWINGS</td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> </tr> </table>	Drg. No.	Date: DECEMBER:2023	Scale:	Stage: TENDER DRAWINGS	APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	CHECKED BY	ENG.PNG	DRAWN BY	SM	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>AMMENDMENTS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Date	AMMENDMENTS						
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GENERAL LAYOUT

 EMPLOYER The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu	 FINANCIER INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.	Drawing Title: GENERAL LAYOUT		REVISIONS	
				Drg. No.	Date: DECEMBER:2023		
				Scale:	Stage: TENDER DRAWINGS		
				APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS	

BOSNIA /RIVERSIDE SETTLEMENT



EMPLOYER

The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT

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Engineers, Environmentalists - Project Managers
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P.O. Box 21714-00505, Nairobi.

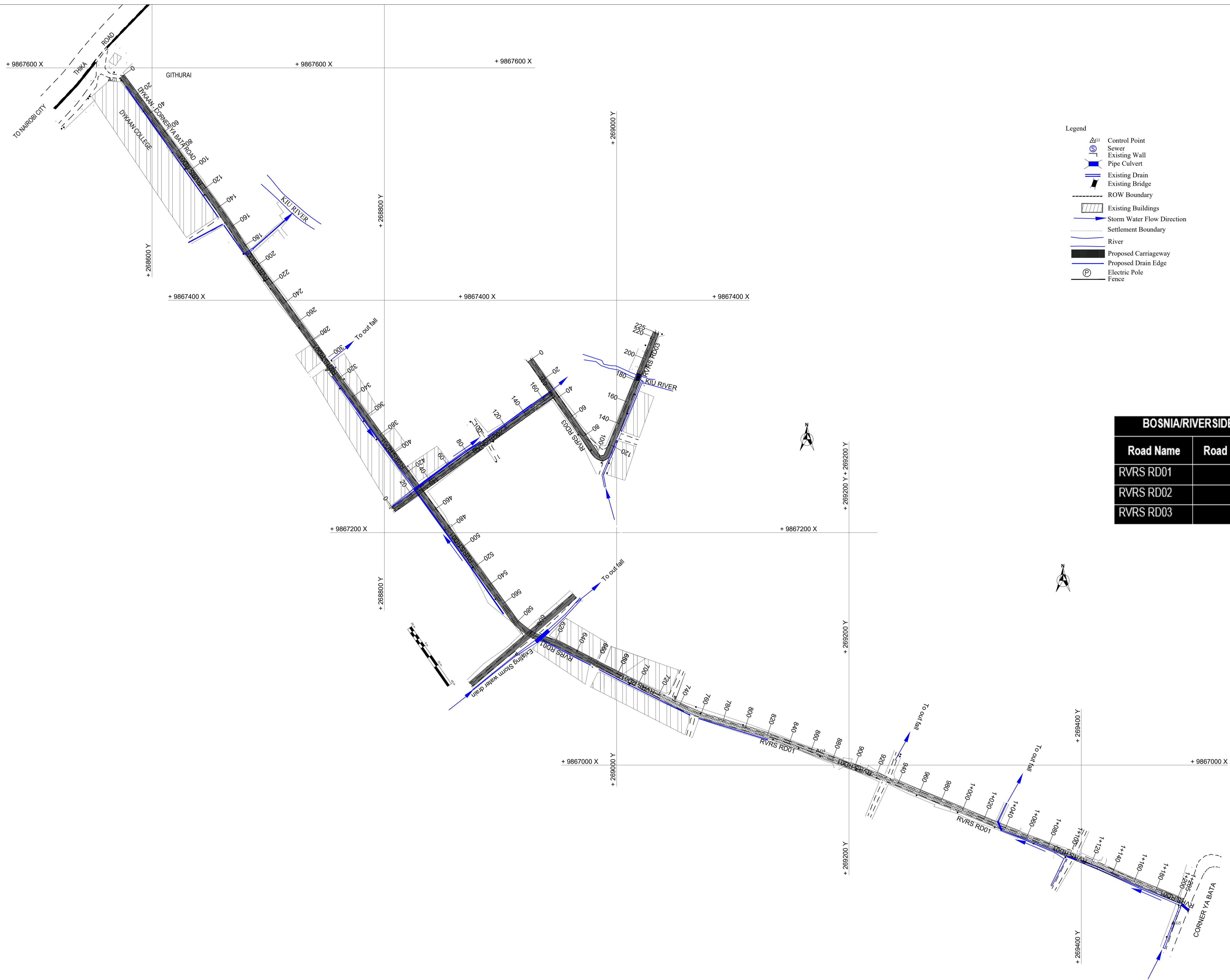
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: **RIVERSIDE SETTLEMENT: LAYOUT PLAN.**

Drq. No. WMCL/CR214/RVRS/GLP/01 | Sheet No. 1 of 2
Scale: H:1:2000 | Date: DECEMBER:2023
V:1:200 | Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM | DESIGNED BY: LWK
CHECKED BY: ENG. PNG | DRAWN BY: IM

REVISIONS

No.	Date	AMMENDMENTS



- Legend**
- Control Point
 - Sewer
 - Existing Wall
 - Pipe Culvert
 - Existing Drain
 - Existing Bridge
 - ROW Boundary
 - Existing Buildings
 - Storm Water Flow Direction
 - Settlement Boundary
 - River
 - Proposed Carriageway
 - Proposed Drain Edge
 - Electric Pole
 - Fence

BOSNIA/RIVERSIDE SETTLEMENT		
Road Name	Road Length (M)	Width (m)
RVRS RD01	1206	5
RVRS RD02	169	5
RVRS RD03	224	5

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: RIVERSIDE SETTLEMENT GENERAL:
LAYOUT PLAN

Drg. No. WMCL/CR214/RVRS/GLP/02 Sheet No. 2 of 2

Scale: H:1:2000 Date: DECEMBER, 2023

V:1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK

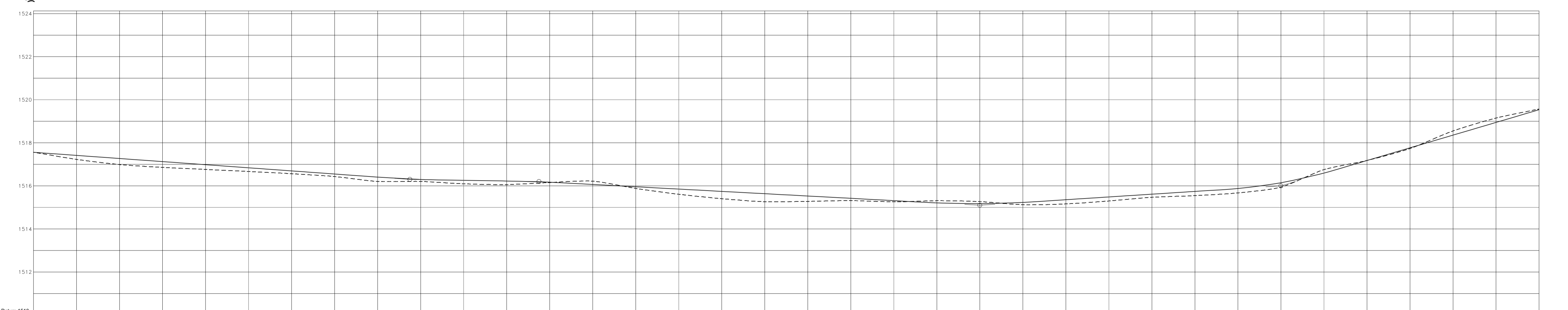
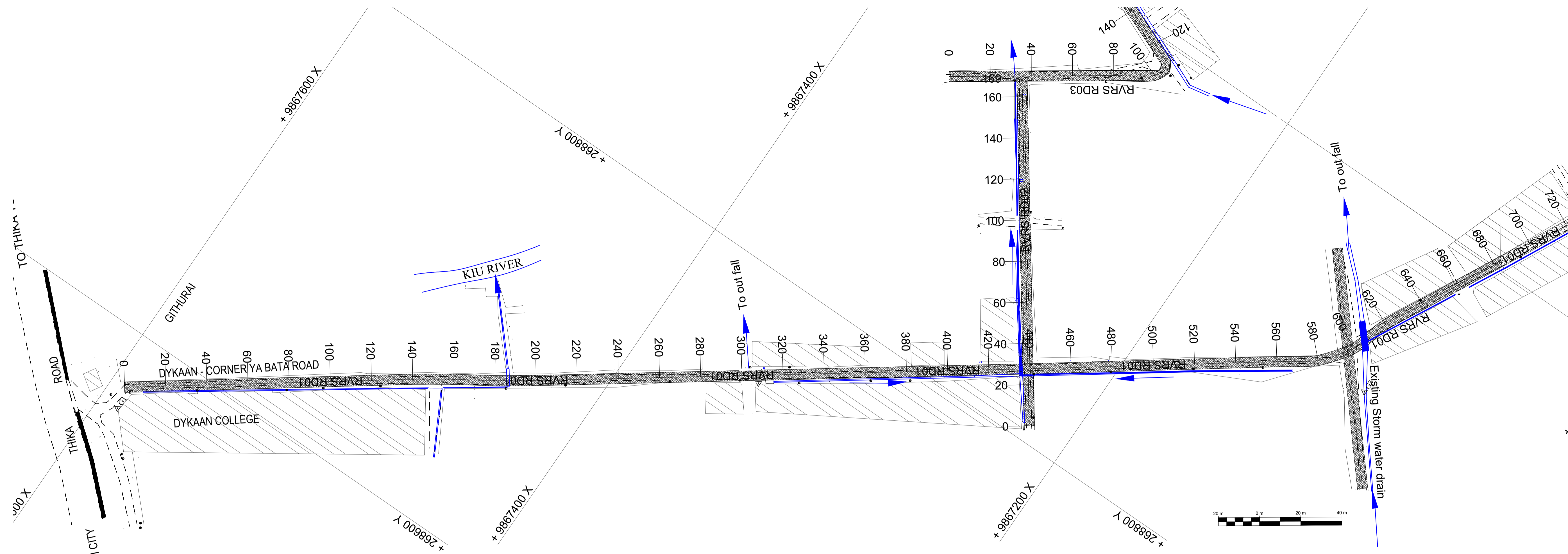
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REVISIONS

No.	Date	AMMENDMENTS


PLANS AND PROFILES



<p>EMPLOYER</p>  <p>The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu</p>	<p>FINANCIER</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN & PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Date: DECEMBER:2023</td> <td colspan="3"></td> </tr> <tr> <td>Scale:</td> <td colspan="2">Stage: TENDER DRAWINGS</td> <td colspan="3"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td colspan="2"></td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td>No.</td> <td>Date</td> </tr> <tr> <td colspan="6">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN & PROFILES				REVISIONS		Drg. No.	Date: DECEMBER:2023					Scale:	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK			CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS					
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AMMENDMENTS																																								



Chainages	Original Ground Level (OGI)	Center line levels	Vertical Curve	Gradient	Culvert Location	Drainage Type	
						LHS	RHS
0	1517.51	1517.51					
20	1517.15	1517.15					
40	1516.95	1516.95					
60	1516.85	1516.85					
80	1516.91	1516.91		-0.7%			
100	1516.91	1516.91					
120	1516.91	1516.91					
140	1516.91	1516.91					
160	1516.91	1516.91					
180	1516.91	1516.91					
200	1516.91	1516.91					
220	1516.91	1516.91					
240	1516.91	1516.91					
260	1516.91	1516.91					
280	1516.91	1516.91					
300	1516.91	1516.91					
320	1516.91	1516.91					
340	1516.91	1516.91					
360	1516.91	1516.91					
380	1516.91	1516.91					
400	1516.91	1516.91					
420	1516.91	1516.91					
440	1516.91	1516.91					
460	1516.91	1516.91					
480	1516.91	1516.91					
500	1516.91	1516.91					
520	1516.91	1516.91					
540	1516.91	1516.91					
560	1516.91	1516.91					
580	1516.91	1516.91					
600	1516.91	1516.91					
620	1516.91	1516.91					
640	1516.91	1516.91					
660	1516.91	1516.91					
680	1516.91	1516.91					
700	1516.91	1516.91					

Longsection for RVRSD01 Km 0+000 to 0+700

EMPLOYER

 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu

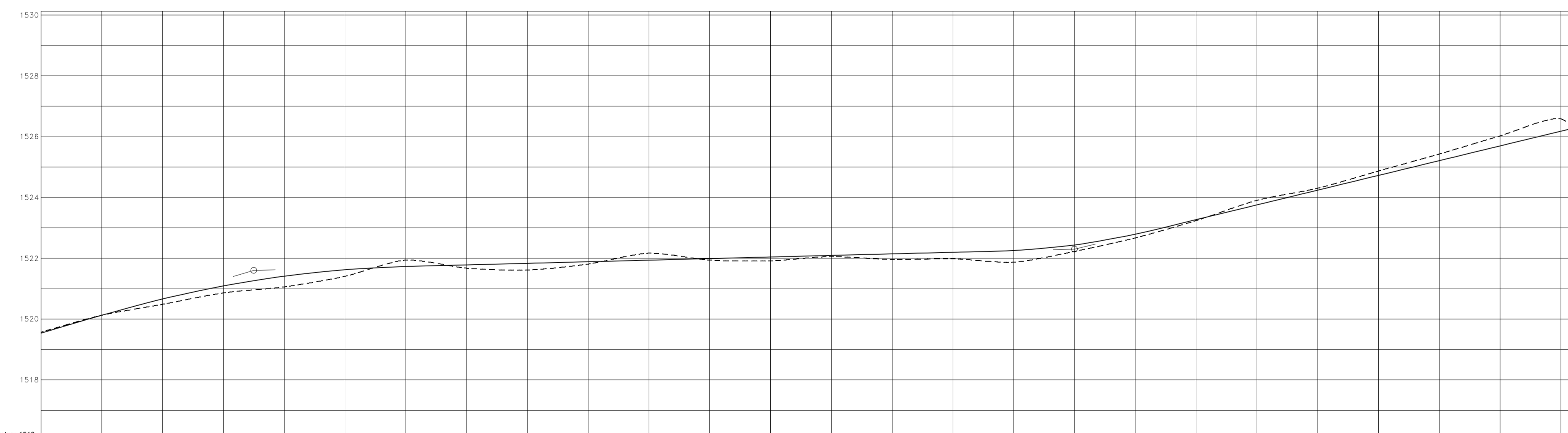
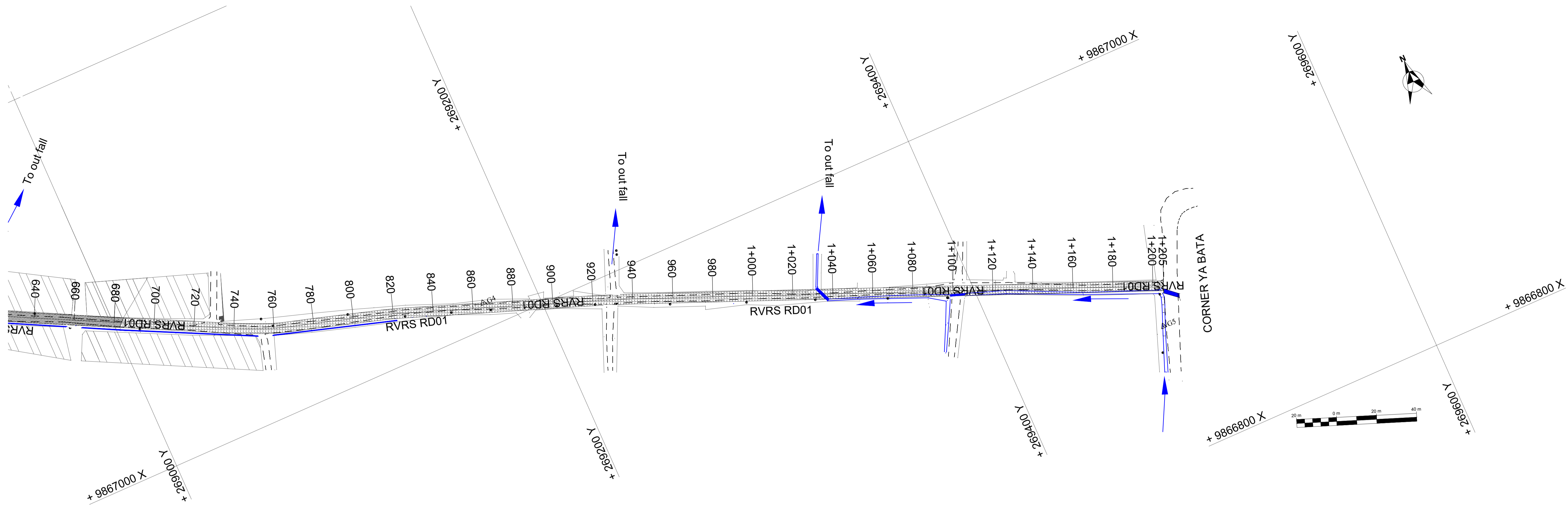
FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)
 

CONSULTANT

Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: RIVERSIDE SETTLEMENT: PLAN & PROFILES RD 01a.				REVISIONS	
Drg. No.	WMCL/CR214/RVRS/PP/01	Sheet No.	1 of 3		
Scale:	H:1:2000	Date:	DECEMBER:2023		
	V:1:200	Stage:	TENDER DRAWINGS		
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	IM	No.	Date
					AMMENDMENTS



Chainages	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+205.356	
Original Ground Level (OGL)	1519.569	1520.126	1520.483	1520.861	1521.057	1521.404	1521.939	1521.672	1521.609	1521.807	1522.166	1521.937	1521.912	1522.054	1521.952	1521.981	1522.254	1522.223	1522.667	1523.270	1523.905	1524.240	1524.689	1525.209	1525.694	1526.022	1526.591	1526.309
Center line levels	1519.536	1520.126	1520.661	1521.089	1521.410	1521.623	1521.729	1521.781	1521.833	1521.885	1521.937	1521.988	1522.040	1522.092	1522.144	1522.196	1522.254	1522.435	1522.790	1523.270	1523.755	1524.240	1524.724	1525.209	1525.694	1526.179	1526.309	1526.356
Vertical Curve	BVC 720		100m VC K=37										EVC 820		BVC 1015		50m VC K=23										EVC 1085	
Gradient	2.9%			770.0 1521.6										0.3%		1040.0 1522.3		2.4%										
Culvert Location	I										I																	
Drainage Type	LHS		RHS																									
	Drain with slotted cover																											

Longsection for RIVERS RD01 Km 0+700 to 1+205

EMPLOYER

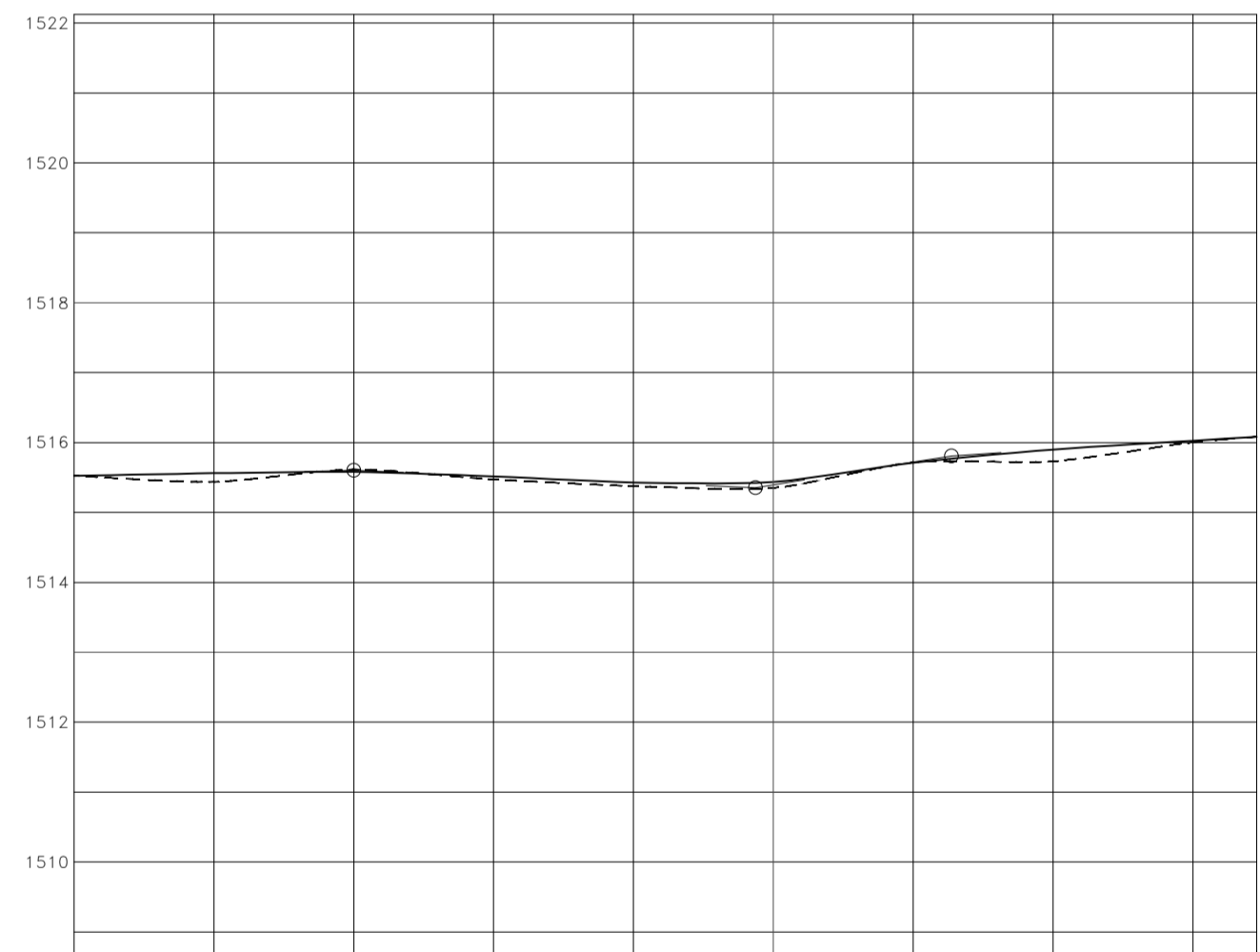
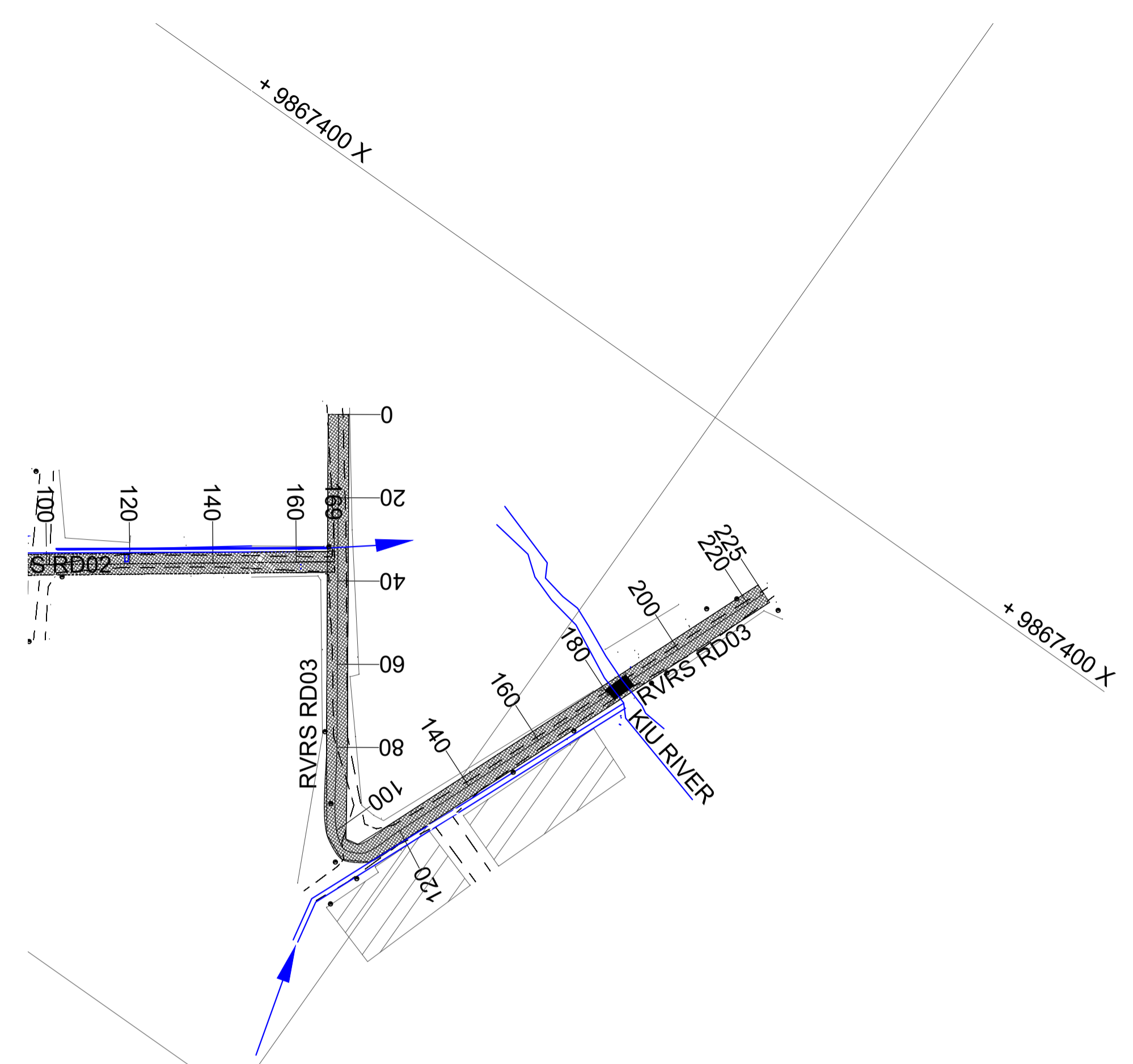
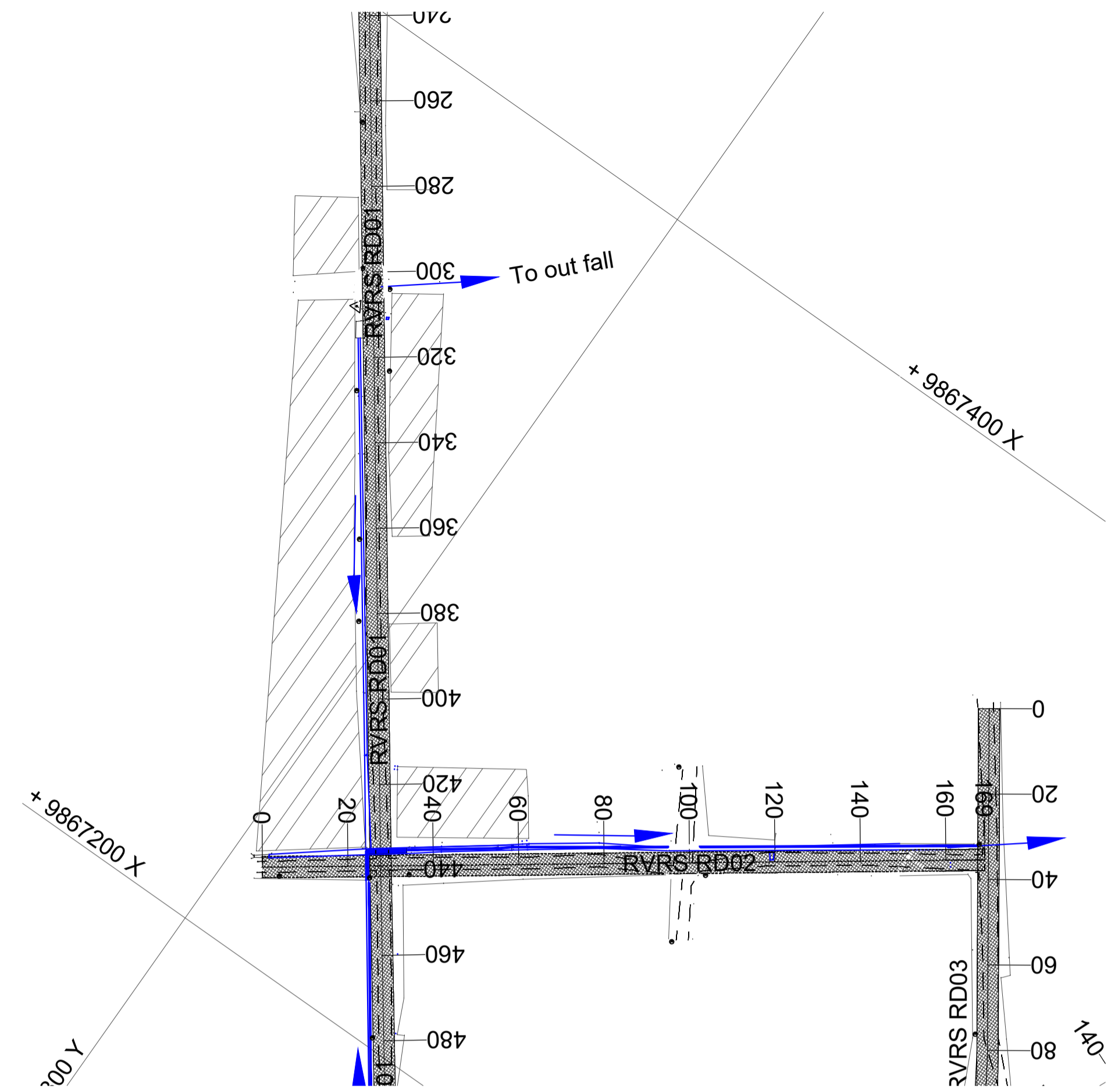
The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

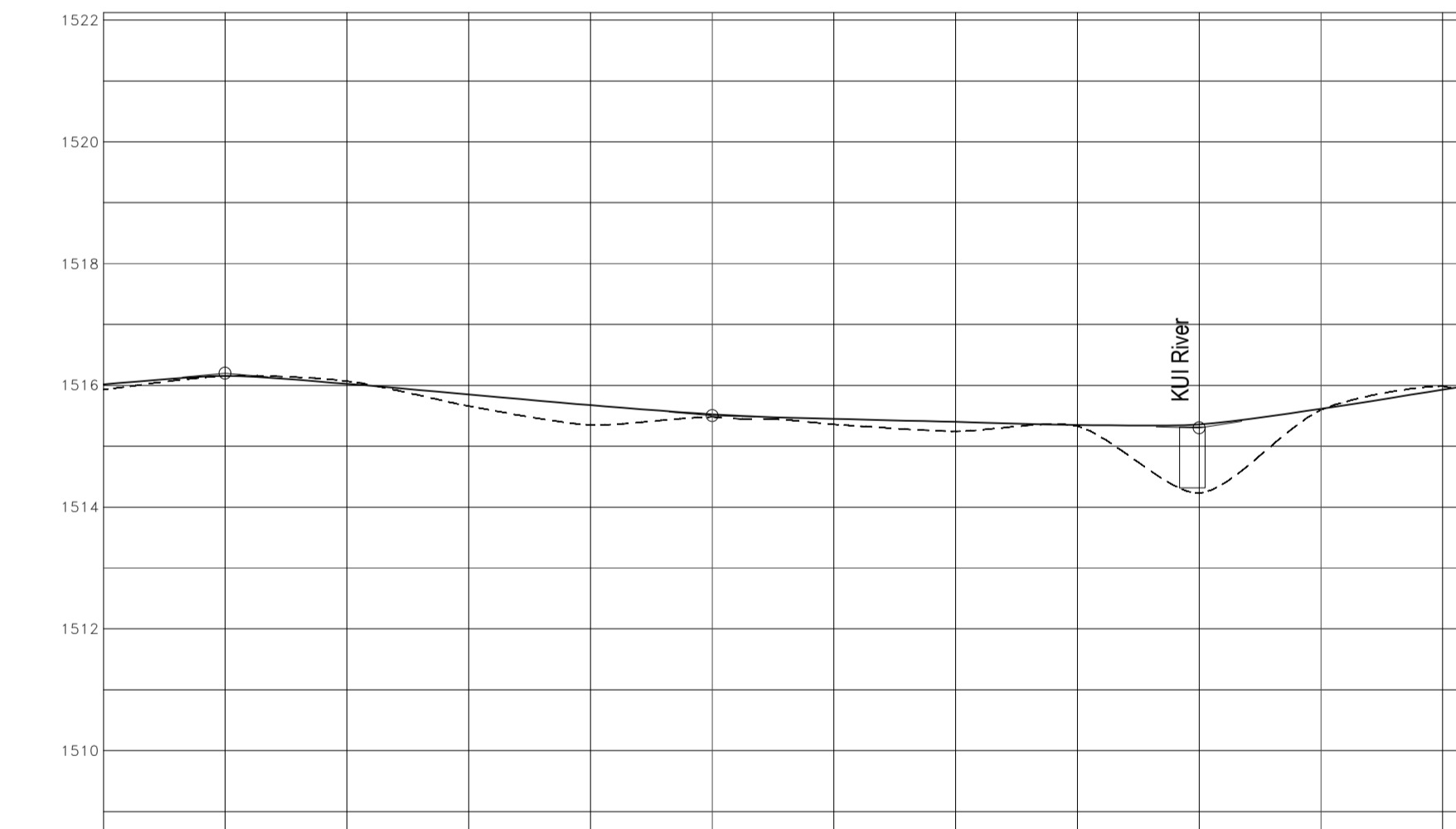
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: RIVERSIDE SETTLEMENT: PLAN & PROFILES RD 01b.				REVISIONS	
Drg. No. WMCL/CR214/RVRS/PP/02 Sheet No. 2 of 3		Date: DECEMBER:2023			
Scale: H:1:2000		Stage: TENDER DRAWINGS			
V:1:200					
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	IM	No.	Date
				AMMENDMENTS	



Chainages	0	20	40	60	80	100	120	140	160	169	
Original Ground Level (OGL)	1515.522	1515.436	1515.613	1515.471	1515.377	1515.349	1515.715	1515.729	1516.003	1516.083	
Center line levels	1515.522	1515.561	1515.581	1515.515	1515.429	1515.437	1515.710	1515.900	1516.026	1516.083	
Vertical Curve	BVC 28		25m VC K=40		EVC	BVC 85		25m VC K=12		EVC	
Gradient	0.2%		40.0		1515.6	-0.4%		97.5		1515.4	
Gradient						1.6%				0.6%	
Culvert Location	I										
Drainage Type	LHS	Drain with slotted cover									RHS

Longsection for RVRS RD02 Km0+000 to 0+169



Chainages	0	20	40	60	80	100	110	120	140	160	180	200	220	224				
Original Ground Level (OGL)	1516.029	1516.154	1516.069	1515.661	1515.348	1515.480	1515.445	1515.444	1515.243	1515.331	1514.225	1515.597	1515.985	1516.000				
Center line levels	1516.018	1516.155	1516.025	1515.850	1515.675	1515.523	1515.498	1515.476	1515.400	1515.350	1515.357	1515.614	1515.928	1516.000				
Vertical Curve	BVC 10		20m VC K=11		EVC	BVC 85			30m VC K=48			EVC	BVC 168		25m VC K=14		EVC	
Gradient	0.9%		20.0		1516.2	-0.9%			100.0			1515.5	-0.3%		180.0		1515.3	1.6%
Culvert Location	I										Y							
Drainage Type	LHS	Drain with slotted cover												RHS				

Longsection for RVRS RD03 0+000 to 0+224

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK
AFD

CONSULTANT



Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: **RIVERSIDE SETTLEMENT: PLAN & PROFILES RD 03.**

Drg. No.	WMCL/CR214/RVRS/PP/03	Sheet No.	3 of 3
Scale:	H:1:2000	Date:	DECEMBER:2023
	V:1:200	Stage:	TENDER DRAWINGS
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	IM

REVISIONS

No.	Date	AMMENDMENTS

UMOJA SETTLEMENT - THIKA

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)




CONSULTANT



Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: **UMOJA SETTLEMENT**

Drg. No.	Date: DECEMBER:2023		
Scale:	Stage: TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM

REVISIONS

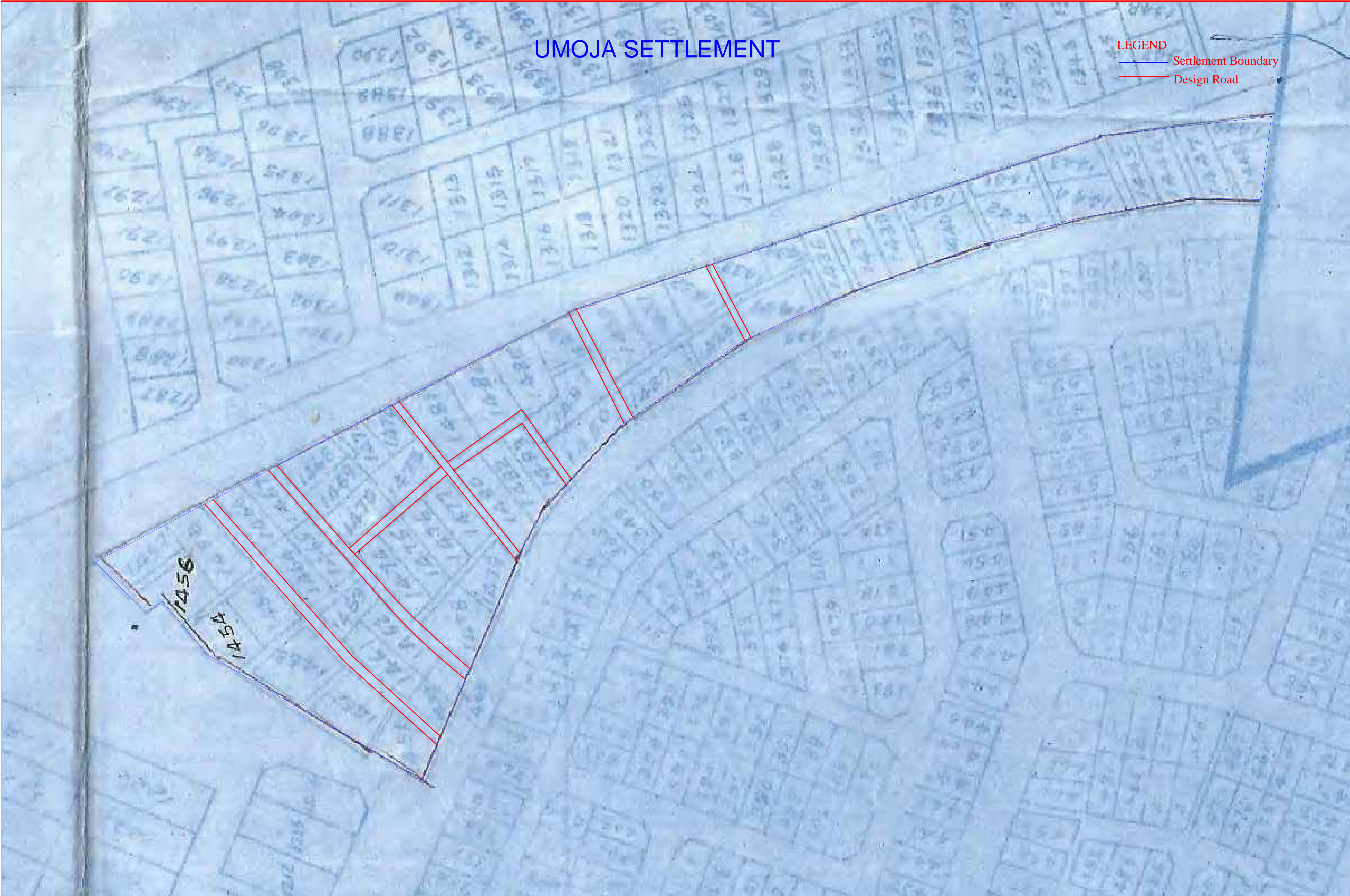
No.	Date	AMMENDMENTS

GENERAL LAYOUT

 EMPLOYER The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu	FINANCIER INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)		CONSULTANT  Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.		PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.				Drawing Title: GENERAL LAYOUT		REVISIONS	
					Drg. No. _____ Date: DECEMBER:2023				Scale: _____ Stage: TENDER DRAWINGS			
					APPROVED BY: ENG.IKWM		DESIGNED BY: LWK		No. _____ Date _____ AMMENDMENTS			
					CHECKED BY: ENG.PNG		DRAWN BY: SM		No. _____ Date _____ AMMENDMENTS			

UMOJA SETTLEMENT

LEGEND
 — Settlement Boundary
 — Design Road



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 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu

FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

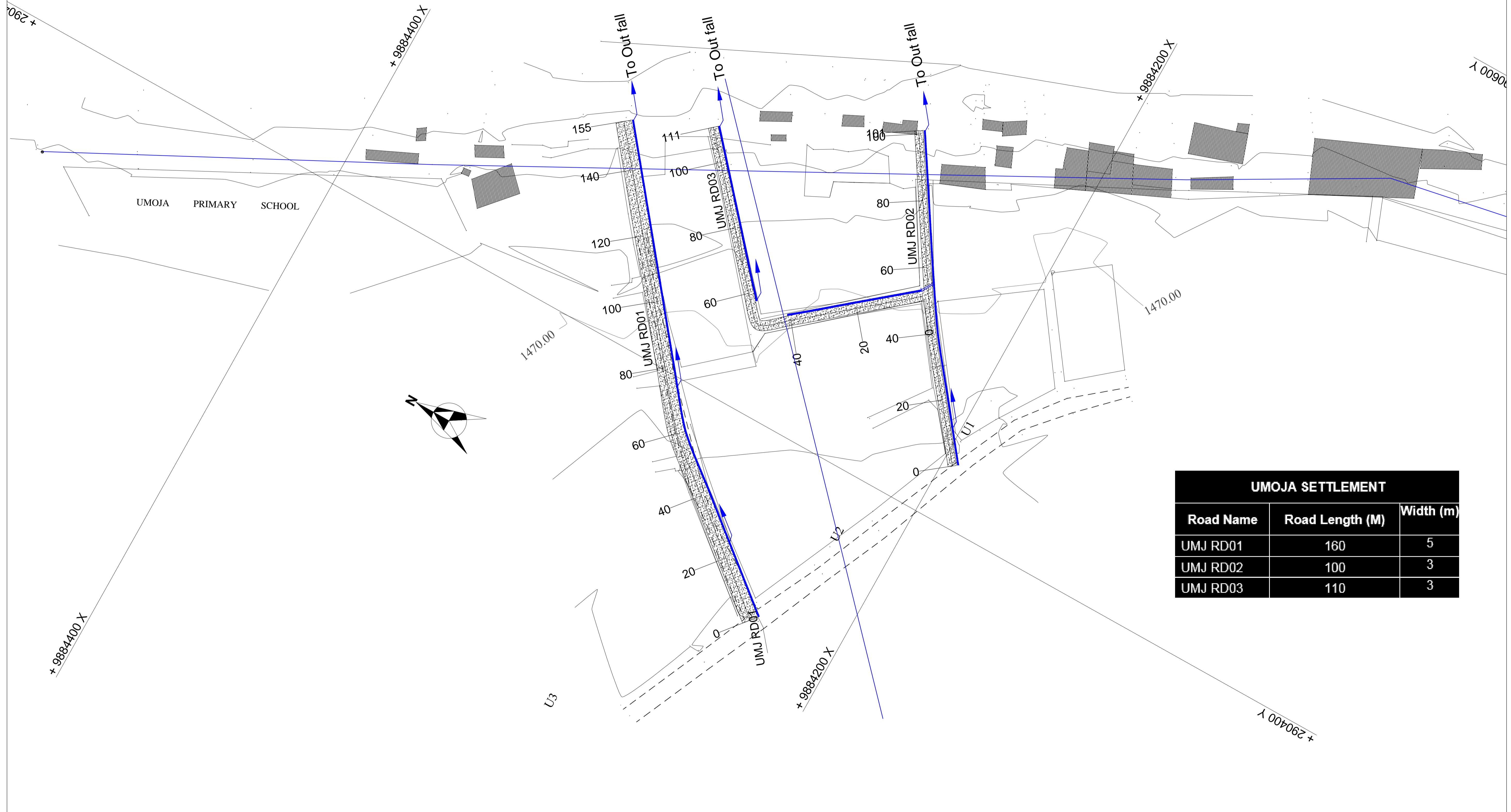


CONSULTANT

 Wanjohi
 Mutonyi
 Consult Ltd.
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: UMOJA SETTLEMENT: LAYOUT PLAN.				REVISIONS	
Drg. No. WMCL/CR214/UMJ/GLP/01	Sheet No. 1 of 3				
Scale: 1:100	Date: DECEMBER:2023				
APPROVED BY		ENG.IKWM	DESIGNED BY	LWK	
CHECKED BY	ENG.PNG	DRAWN BY	IM	No.	Date
AMMENDMENTS					



UMOJA SETTLEMENT		
Road Name	Road Length (M)	Width (m)
UMJ RD01	160	5
UMJ RD02	100	3
UMJ RD03	110	3

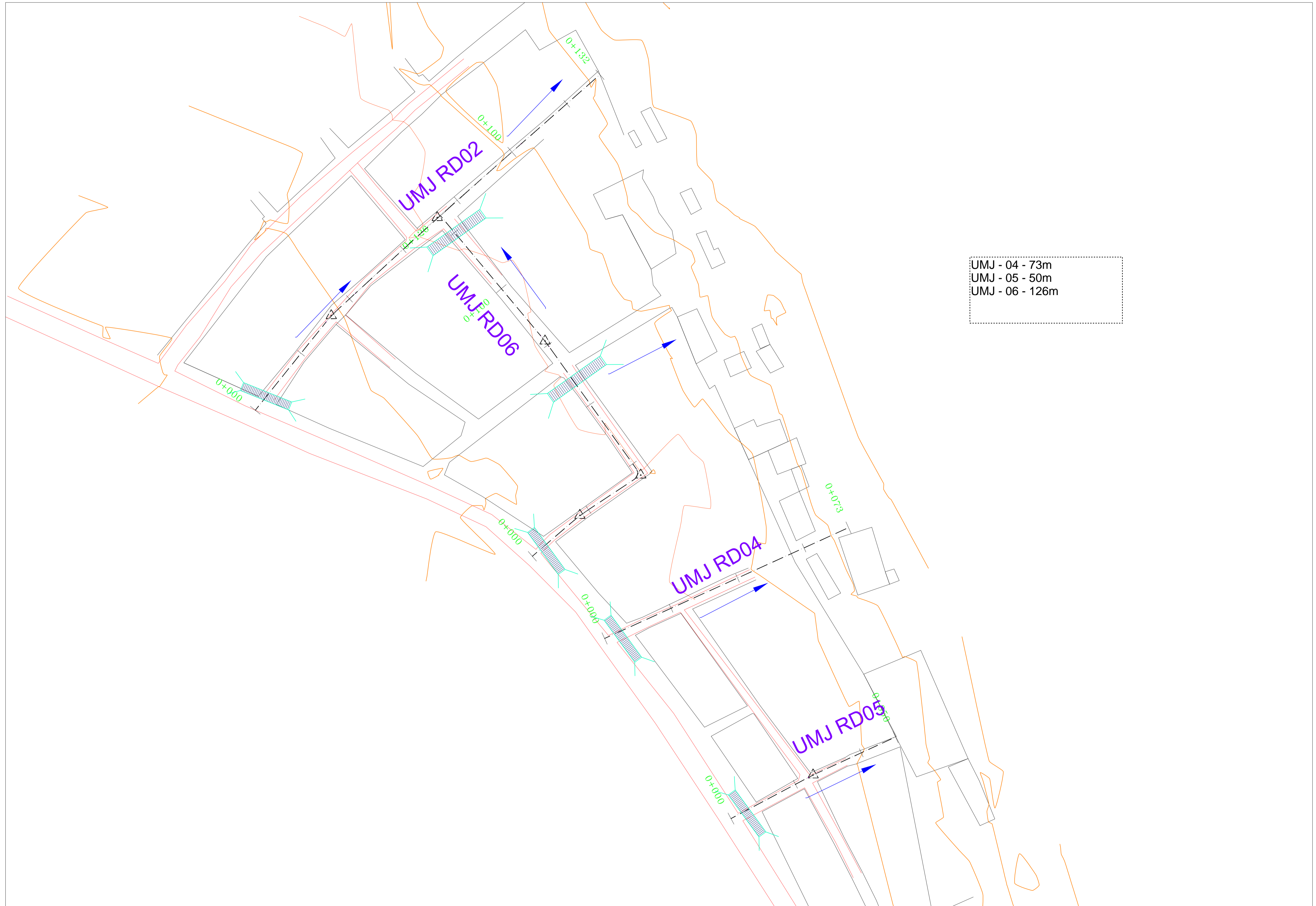
EMPLOYER
 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu

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 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT
 Wanjohi
 Mutonyi
 Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: UMOJA SETTLEMENT: LAYOUT PLAN.				REVISIONS	
Drg. No.	WMCL/CR214/UMJ/GLP/02	Sheet No.	2 of 3		
Scale:	H:1:2000	Date:	DECEMBER:2023		
	V:1:200	Stage:	TENDER DRAWINGS		
APPROVED BY	ENG. JKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	IM	No.	Date
					AMMENDMENTS



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County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: **UMOJA THIKA SETTLEMENT : GENERAL LAYOUT PLAN**

Drg. No: WMCL/CR214/GLP/03 Sheet No: 3 of 3

Scale: H: 1:2000 Date: DECEMBER, 2023

V: 1:200 Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK

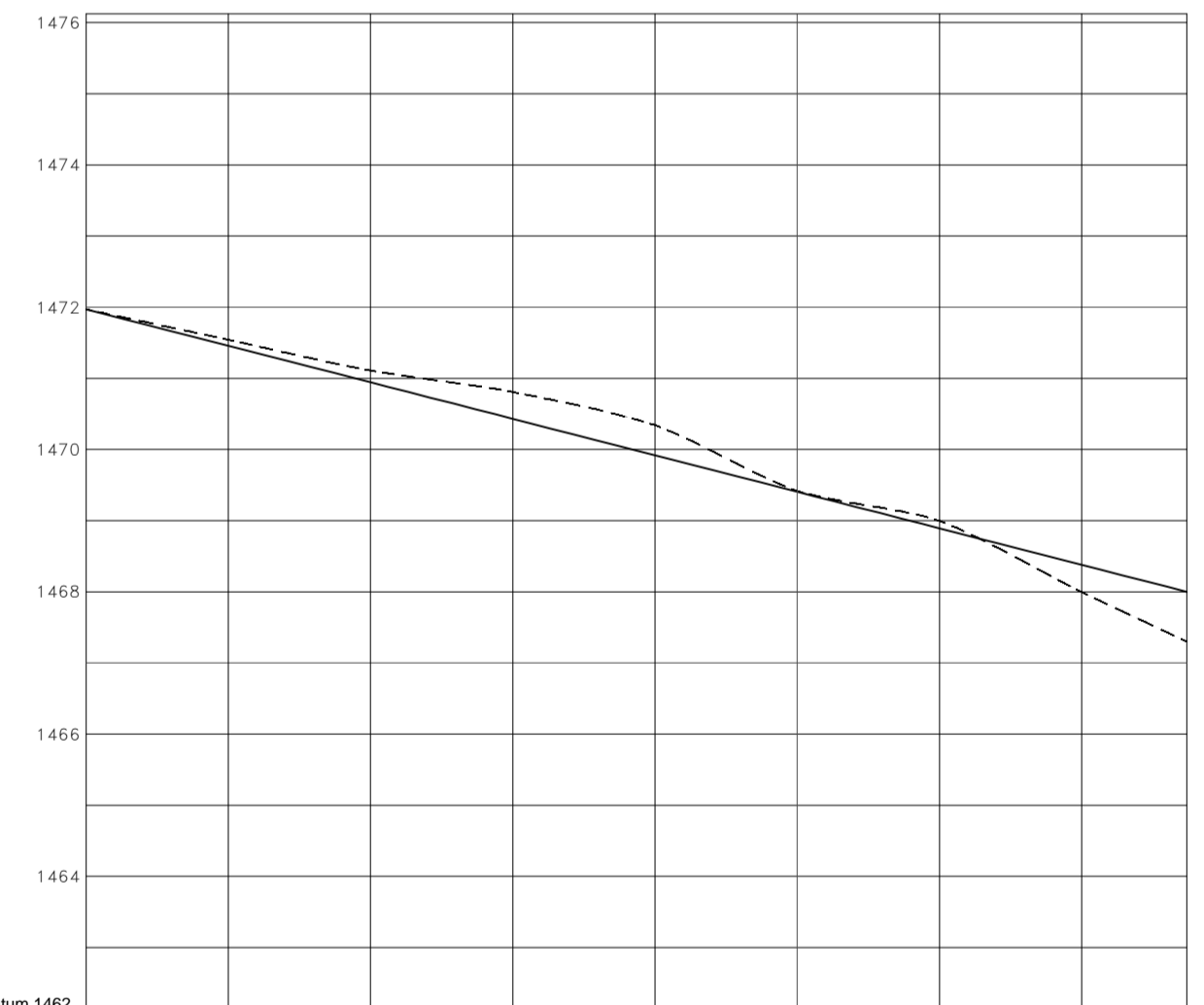
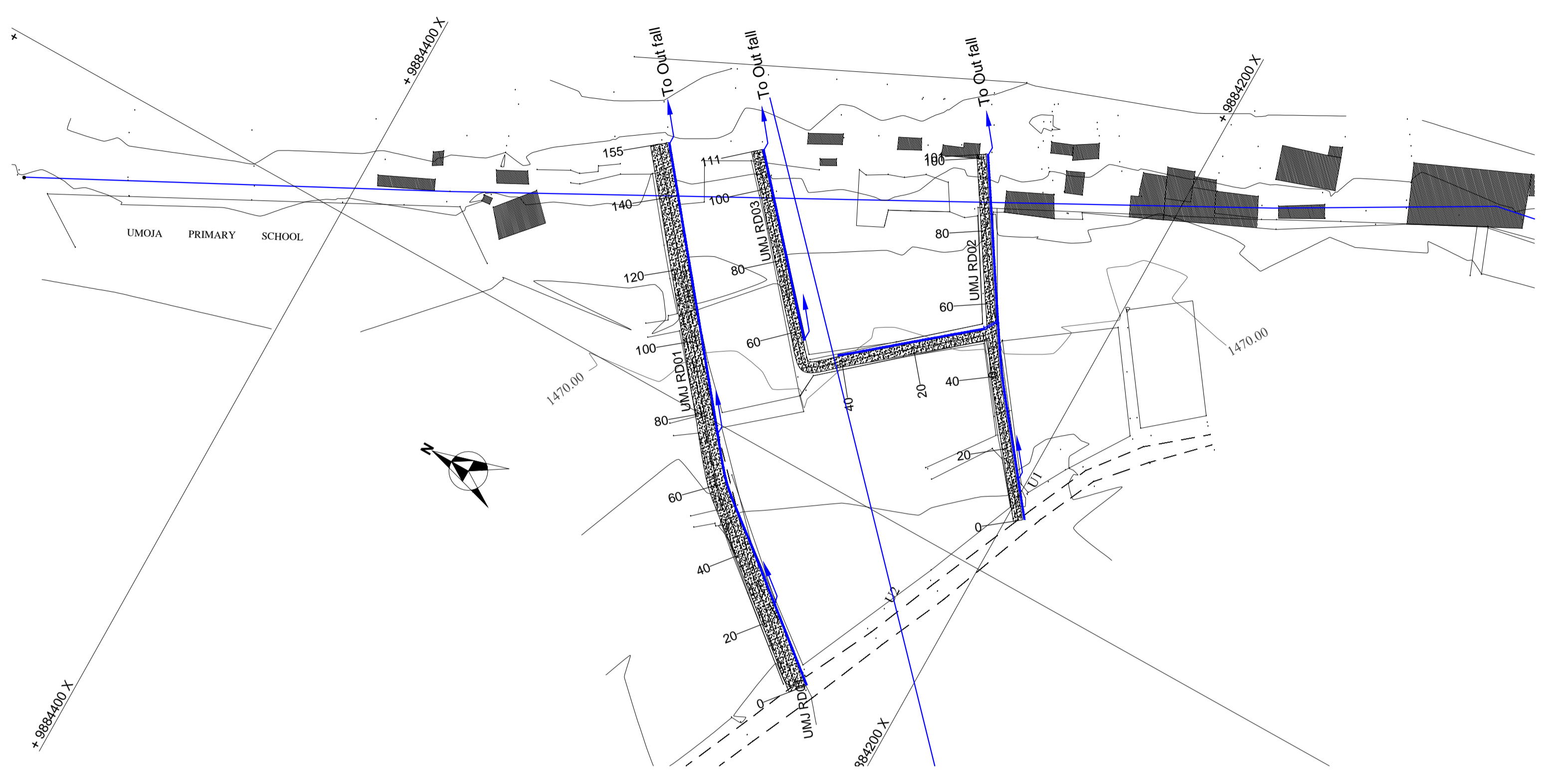
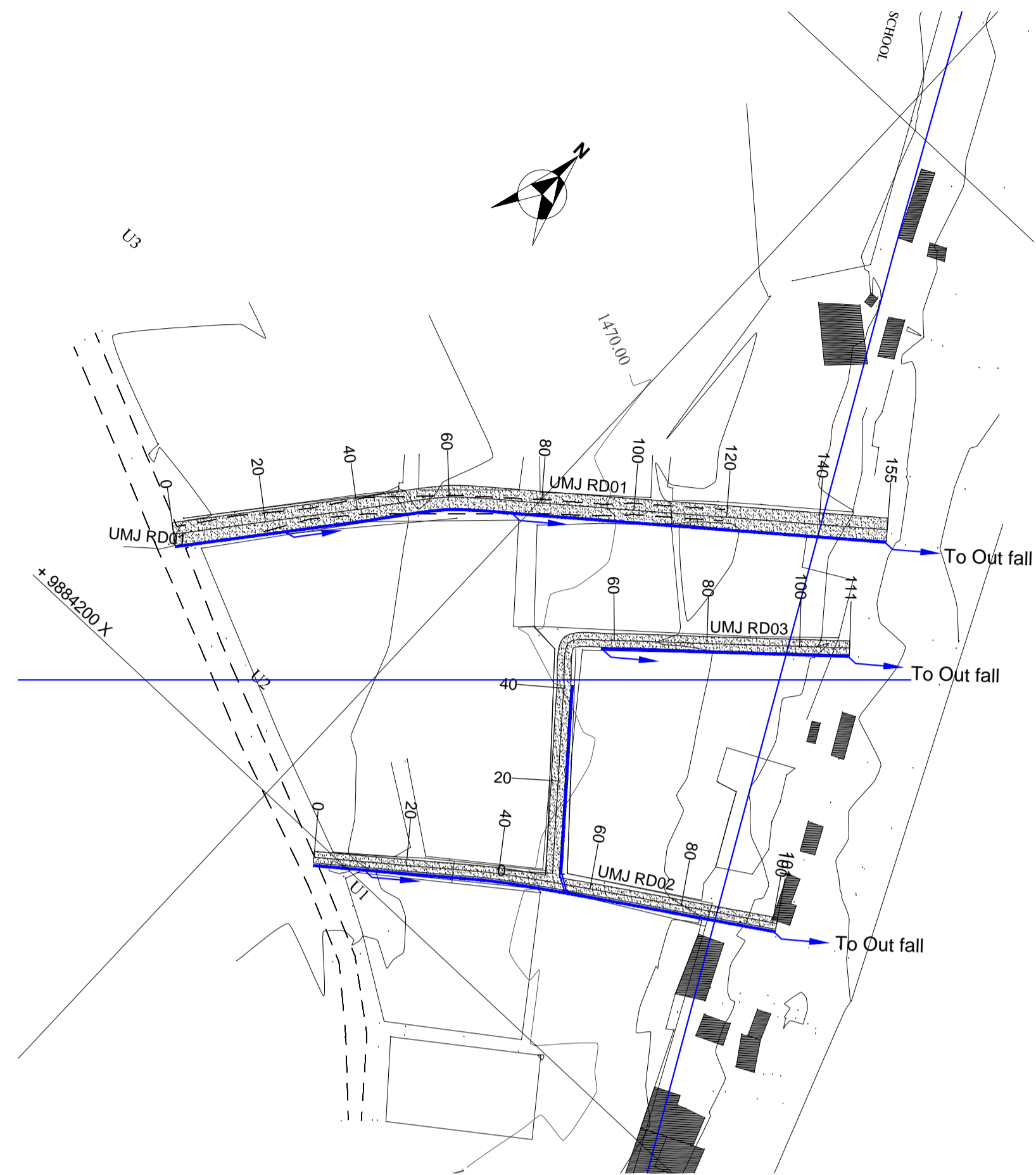
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REVISIONS

No.	Date	AMMENDMENTS

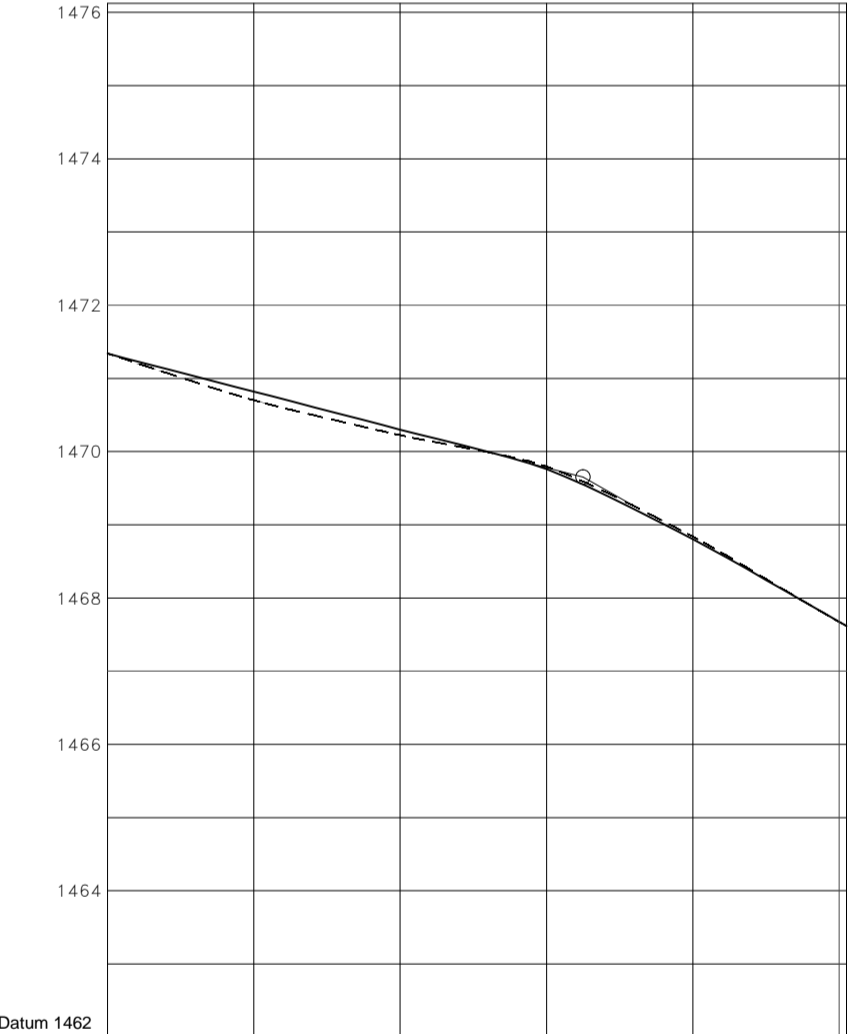
PLANS AND PROFILES

<p>EMPLOYER</p>  <p>The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu</p>	<p>FINANCIER</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN & PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Date: DECEMBER:2023</td> <td colspan="3"></td> </tr> <tr> <td>Scale:</td> <td colspan="2">Stage: TENDER DRAWINGS</td> <td colspan="3"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td colspan="2"></td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td>No.</td> <td>Date</td> </tr> <tr> <td colspan="6">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN & PROFILES				REVISIONS		Drg. No.	Date: DECEMBER:2023					Scale:	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK			CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS					
Drawing Title: PLAN & PROFILES				REVISIONS																																				
Drg. No.	Date: DECEMBER:2023																																							
Scale:	Stage: TENDER DRAWINGS																																							
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK																																					
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date																																			
AMMENDMENTS																																								



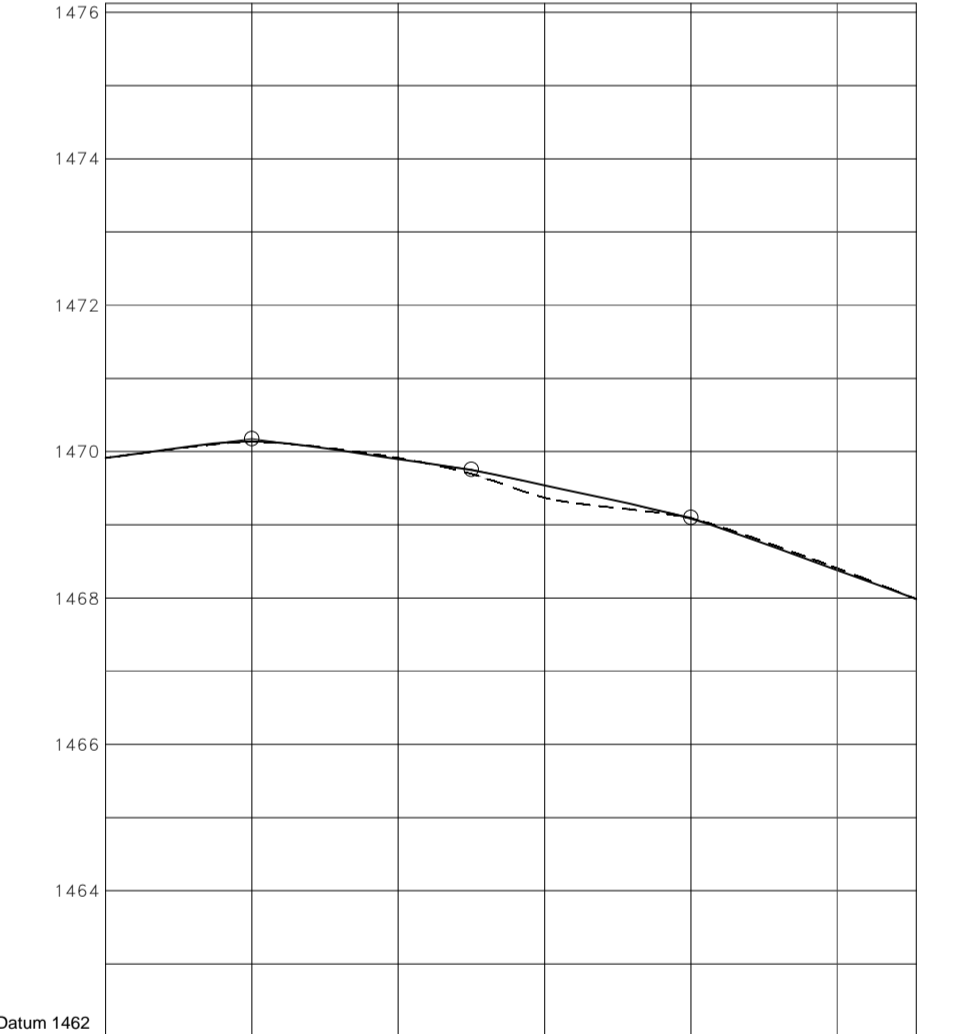
Chainages		0	20	40	60	80	100	120	140	154.774
Original Ground Level (OGI)		1471.971	1471.541	1471.107	1470.807	1470.341	1469.417	1468.997	1467.995	1468.000
Road Design	Center line levels	1471.971	1471.458	1470.945	1470.432	1469.918	1469.405	1468.892	1468.379	1468.000
	Vertical Curve									
Drainage Design	Gradient	-2.6 %								
	Culvert Location									
Drainage Design	Drainage Type	LHS	Lined Drain with slotted cover							
		RHS	Lined Drain with slotted cover							

Longsection for 0 to 154



Chainages		0	20	40	60	80	100										
Original Ground Level (OGI)		1471.338	1470.699	1470.223	1469.796	1468.835	1467.614										
Road Design	Center line levels	1471.338	1470.819	1470.299	1469.761	1468.803	1467.614										
	Vertical Curve	<table border="1"> <tr> <td>BVC</td> <td>95</td> <td>20m VC</td> <td>75</td> <td>EVC</td> </tr> <tr> <td>K</td> <td>7</td> <td></td> <td></td> <td></td> </tr> </table>						BVC	95	20m VC	75	EVC	K	7			
BVC	95	20m VC	75	EVC													
K	7																
Drainage Design	Gradient	-2.6 %						-5.6 %									
	Culvert Location																
Drainage Design	Drainage Type	LHS	Lined Drain with slotted cover														
		RHS	Lined Drain with slotted cover														

Longsection for UMJ RD02 0+000 to 0+100



Chainages		0	20	40	50	60	80	100	110.791										
Original Ground Level (OGI)		1469.913	1470.132	1469.913	1469.696	1469.365	1469.087	1468.406	1467.987										
Road Design	Center line levels	1469.913	1470.143	1469.896	1469.746	1469.537	1469.082	1468.377	1467.987										
	Vertical Curve	<table border="1"> <tr> <td>BVC</td> <td>15</td> <td>10m VC</td> <td>75</td> <td>EVC</td> </tr> <tr> <td>K</td> <td>4</td> <td></td> <td></td> <td></td> </tr> </table>									BVC	15	10m VC	75	EVC	K	4		
BVC	15	10m VC	75	EVC															
K	4																		
Drainage Design	Gradient	1.3 %																	
	Culvert Location																		
Drainage Design	Drainage Type	LHS	Lined Drain with slotted cover																
		RHS	Lined Drain with slotted cover																

Longsection for UMJ RD03 0+000 to 0+110

EMPLOYER

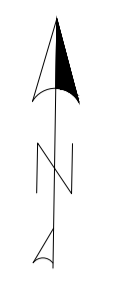
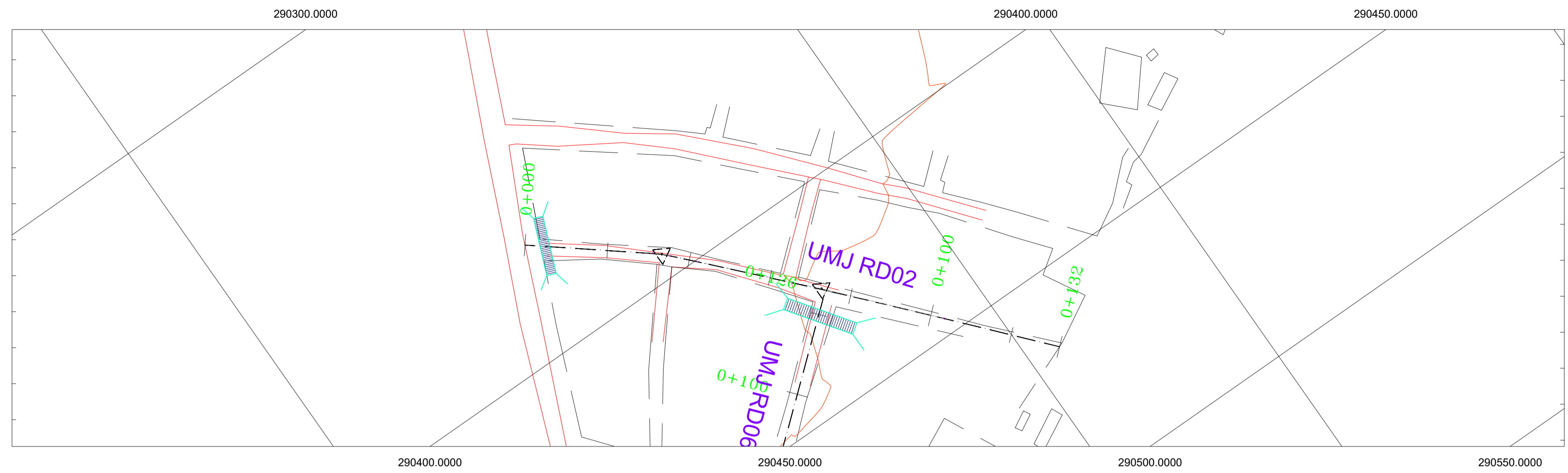
The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

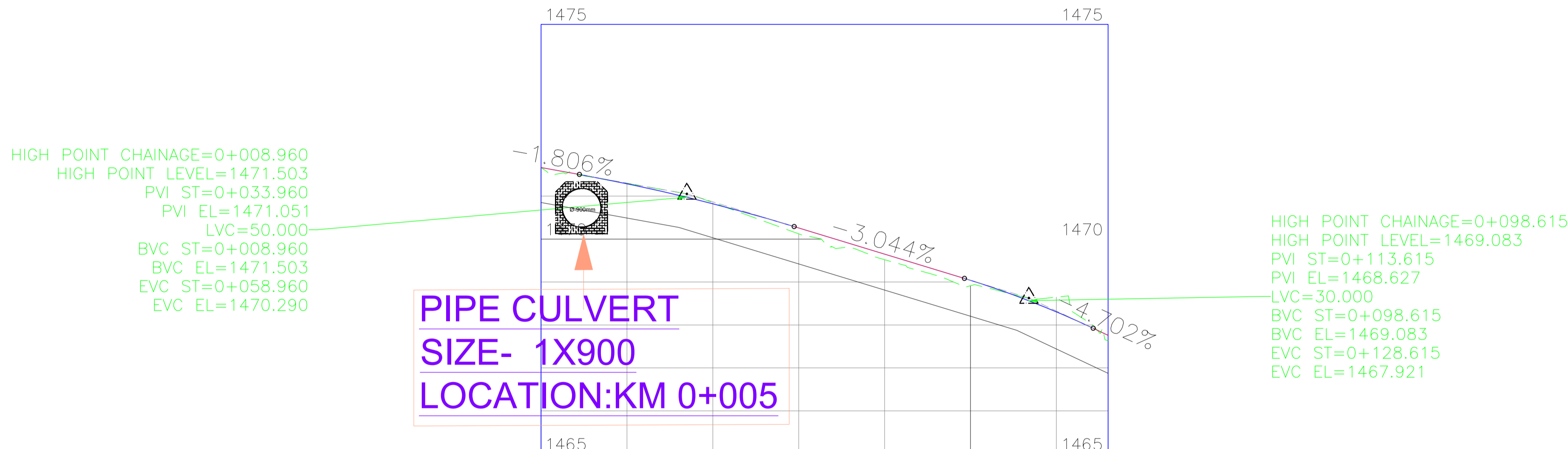
CONSULTANT
Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: UMOJA SETTLEMENT: PLAN & PROFILES RD01, RD02, RD03				REVISIONS	
Dr. No.	WMCL/CR214/UMJ/PP/01	Sheet No.	1 of 1		
Scale:	H: 1:2000	Date:	DECEMBER: 2023		
	V: 1:200	Stage:	TENDER DRAWINGS		
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	IM	No.	Date
				AMMENDMENTS	



UMJ RD02 PROFILE



STATION	0+000	0+100	0+132
FRL	1471.664	1471.288	1467.759
OGI	1471.664	1471.297	1467.632
Drain	1470.851	1470.030	1466.875
VERTICAL ALIGNMENT	L=39.961m -1.806%	LVC=50m K=40.404	L=39.673m -3.044%
HORIZONTAL ALIGNMENT	L=31.016m R=30.00m	L=61.175m R=2312.34m	L=28.708m K=18.094

EMPLOYER

The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER

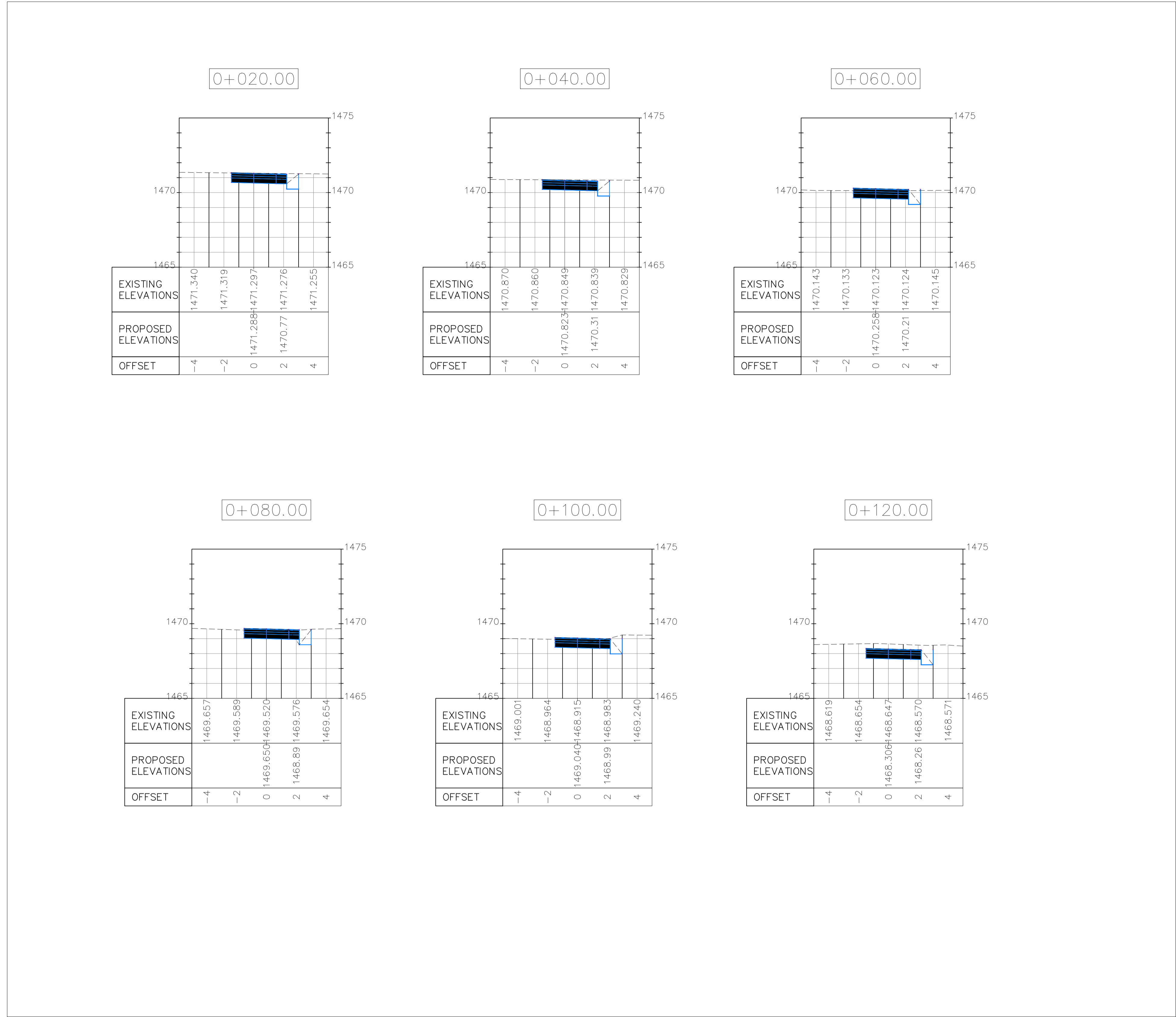
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: UMOJA THIKA SETTLEMENT : UMJ RD02 PLAN & PROFILES				REVISIONS	
Drg. No:	WMCL/CR214/PP/02	Sheet No:	2 of 6		
Scale:	H:1:2000 V:1:200	Date:	DECEMBER: 2023		
APPROVED BY:	ENG. IKWM	DESIGNED BY:	LWK		
CHECKED BY:	ENG. PNG	DRAWN BY:	LWK	No. Date	AMMENDMENTS



0+020.00

EXISTING ELEVATIONS	1471.340	1471.319	1471.288	1471.276	1471.255
PROPOSED ELEVATIONS			1471.288	1470.77	
OFFSET	-4	-2	0	2	4

0+040.00

EXISTING ELEVATIONS	1470.870	1470.860	1470.849	1470.839	1470.829
PROPOSED ELEVATIONS			1470.823	1470.31	
OFFSET	-4	-2	0	2	4

0+060.00

EXISTING ELEVATIONS	1470.143	1470.133	1470.123	1470.124	1470.145
PROPOSED ELEVATIONS			1470.258	1470.21	
OFFSET	-4	-2	0	2	4

0+080.00

EXISTING ELEVATIONS	1469.657	1469.589	1469.520	1469.576	1469.654
PROPOSED ELEVATIONS			1469.650	1468.89	
OFFSET	-4	-2	0	2	4

0+100.00

EXISTING ELEVATIONS	1469.001	1468.964	1468.915	1468.983	1469.240
PROPOSED ELEVATIONS			1469.040	1468.983	
OFFSET	-4	-2	0	2	4

0+120.00

EXISTING ELEVATIONS	1468.619	1468.654	1468.647	1468.570	1468.571
PROPOSED ELEVATIONS			1468.306	1468.26	
OFFSET	-4	-2	0	2	4

EMPLOYER

 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

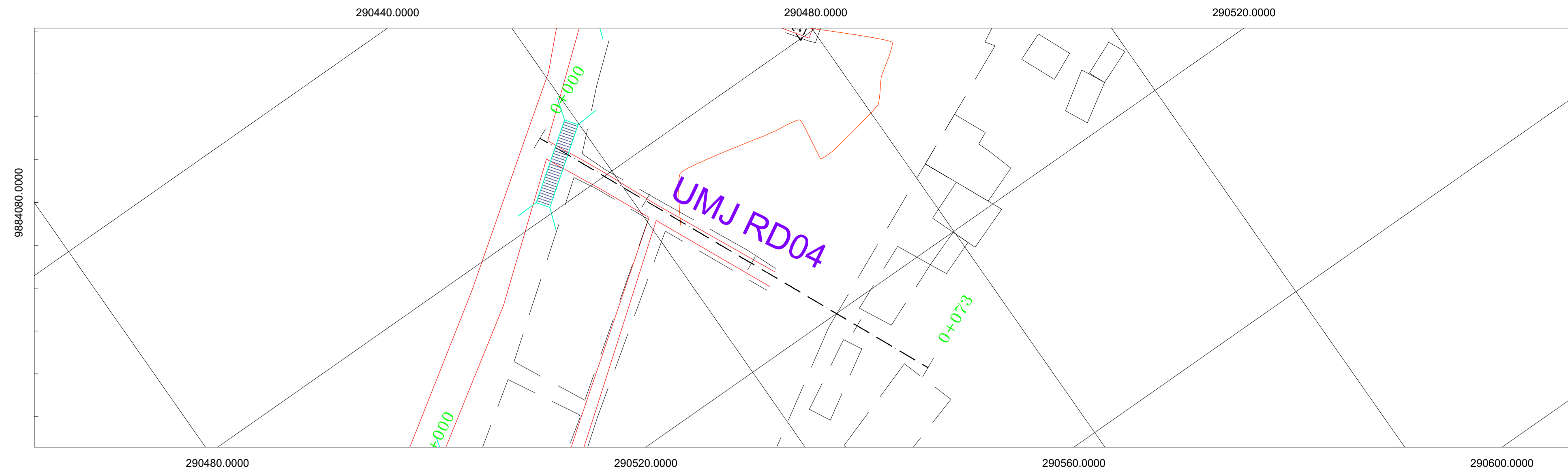


CONSULTANT

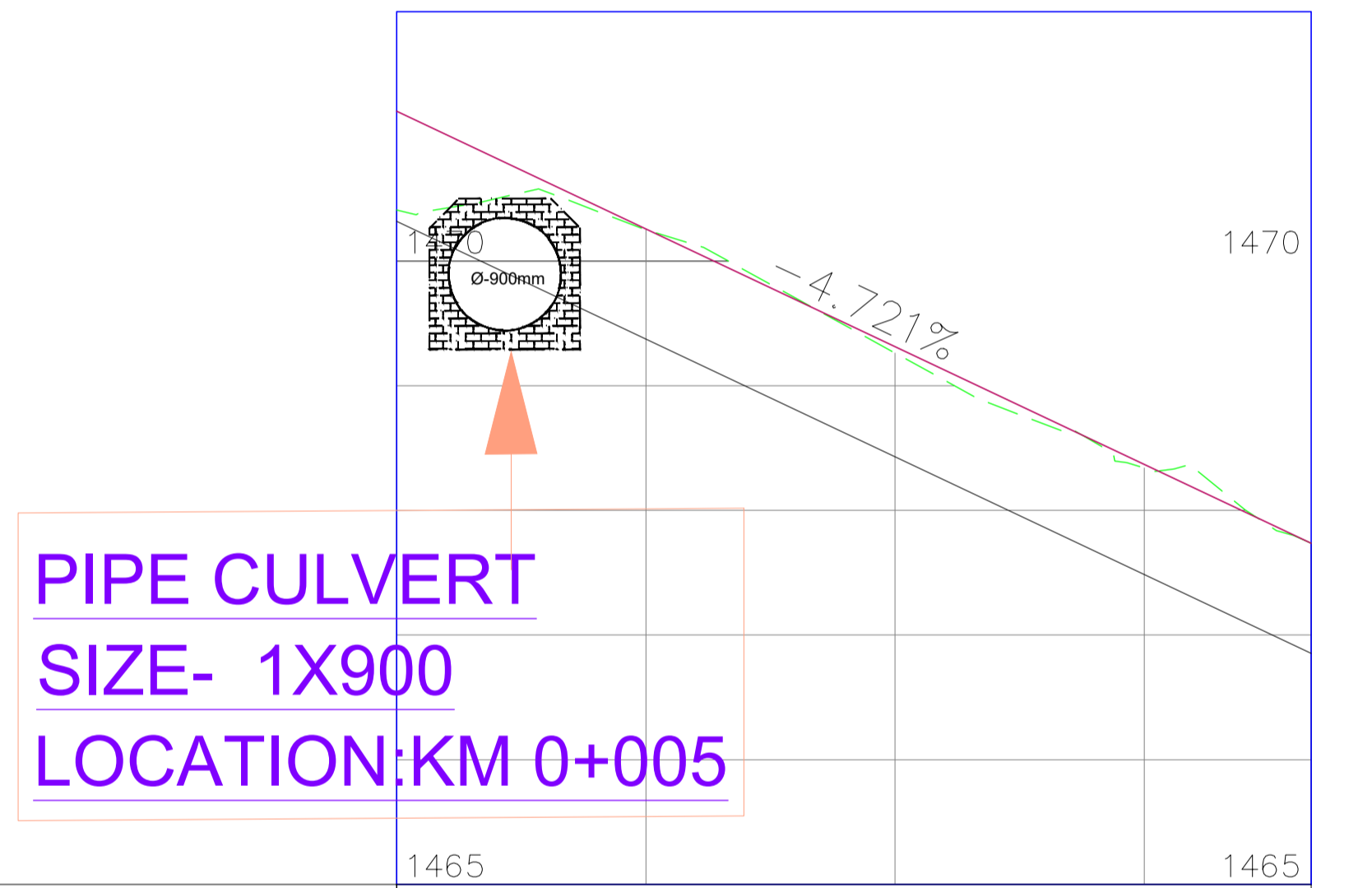
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: UMOJA THIKA SETTLEMENT : UMJ RD02 CROSS SECTIONS				REVISIONS	
Org. NcwMCL/CR214/DCS/02		Sheet No. 2of6			
Scale: H: 1: 2000		Date: DECEMBER: 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	



UMJ RD04 PROFILE



STATION	0+000				0+073
FRL	1471.202	1470.258	1469.314	1468.369	1467.737
OGI	1470.408	1470.252	1469.262	1468.340	1467.737
Drain	1470.318	1469.374	1468.430	1467.486	1466.854
VERTICAL ALIGNMENT	L=73.478m -4.721%				
HORIZONTAL ALIGNMENT	L=73.397m				



EMPLOYER
The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

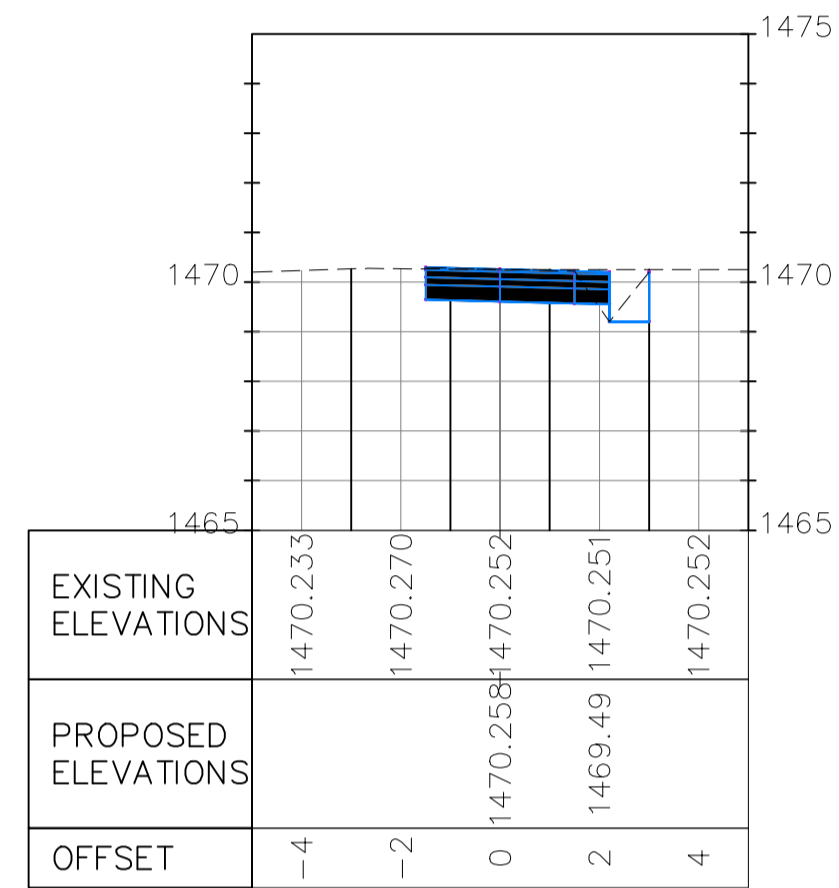
CONSULTANT

**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

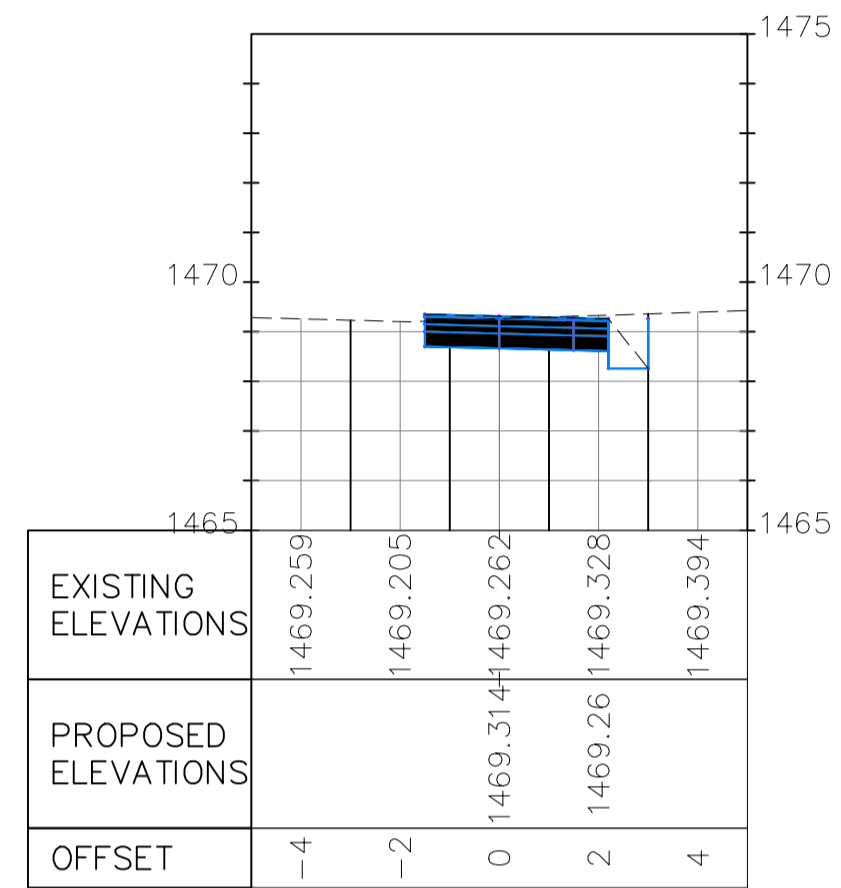
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: UMOJA THIKA SETTLEMENT : UMJ RD04 PLAN & PROFILES				REVISIONS	
Drg. No:	WMCL/CR214/PP/04	Sheet No:	4 of 6		
Scale:	H:1:2000 V:1:200	Date:	DECEMBER: 2023		
APPROVED BY:	ENG. IKWM	DESIGNED BY:	LWK		
CHECKED BY:	ENG. PNG	DRAWN BY:	LWK	No. Date	AMMENDMENTS

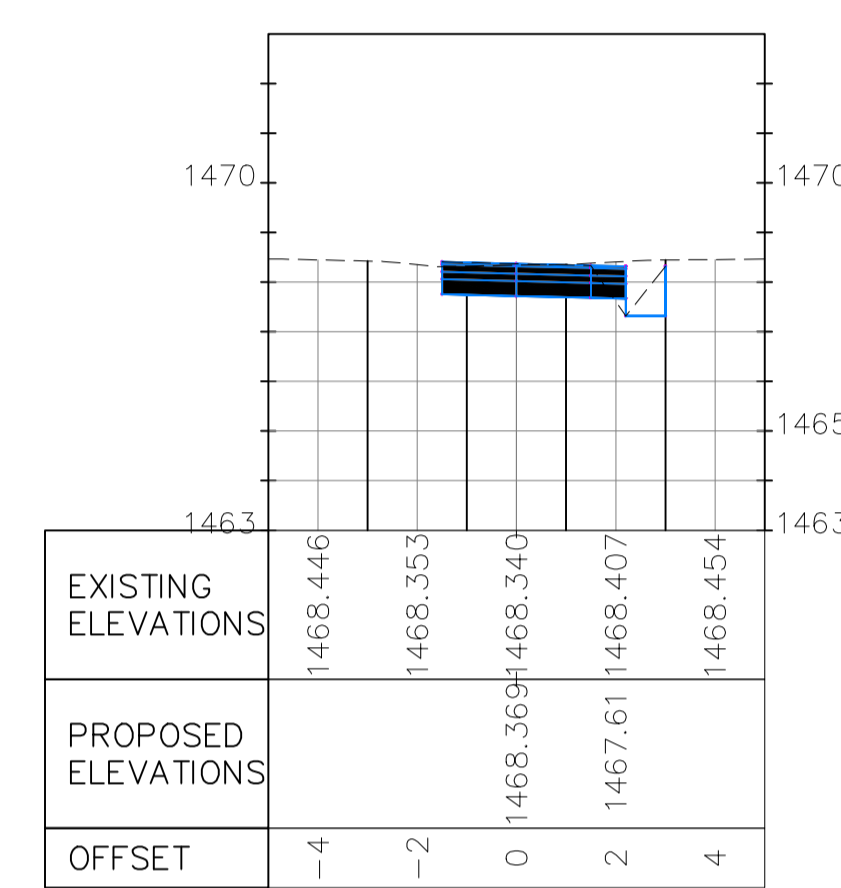
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0+040.00



0+060.00



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Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

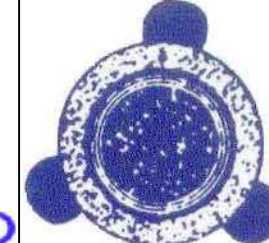


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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: **UMOJA THIKA SETTLEMENT :
UMJ RD04 CROSS SECTIONS**

Drg. No: WMCL/CR214/DCS/04 Sheet No: 4 of 6

Scale: H: 1: 2000 Date: DECEMBER: 2023

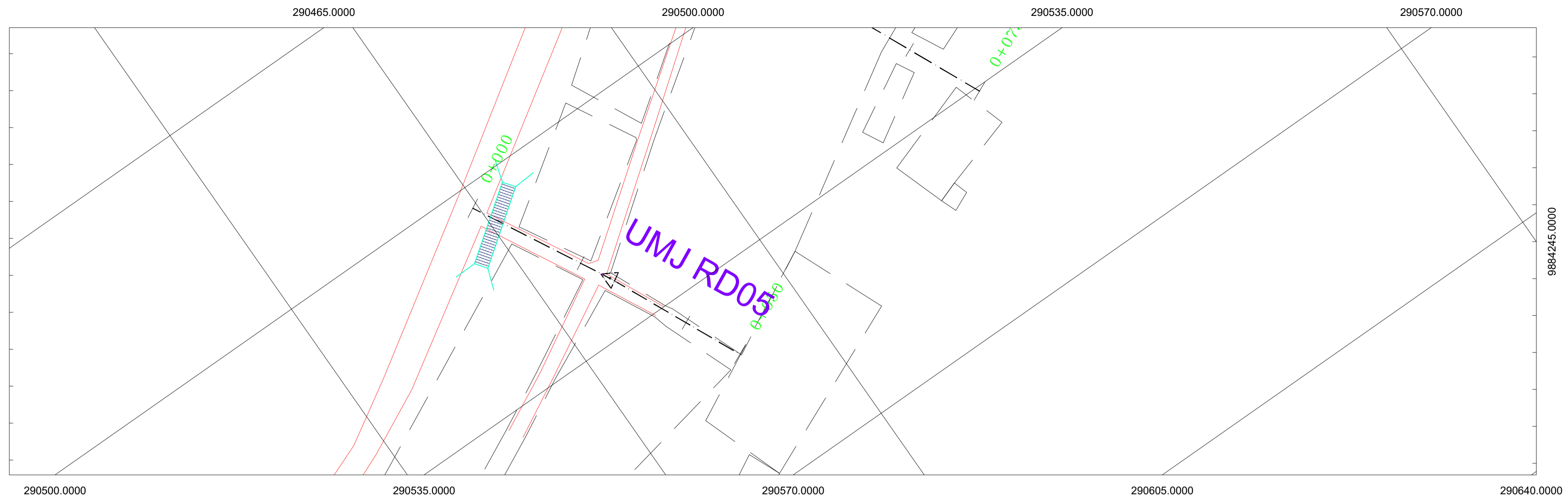
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APPROVED BY: ENG. IKWM DESIGNED BY: LWK

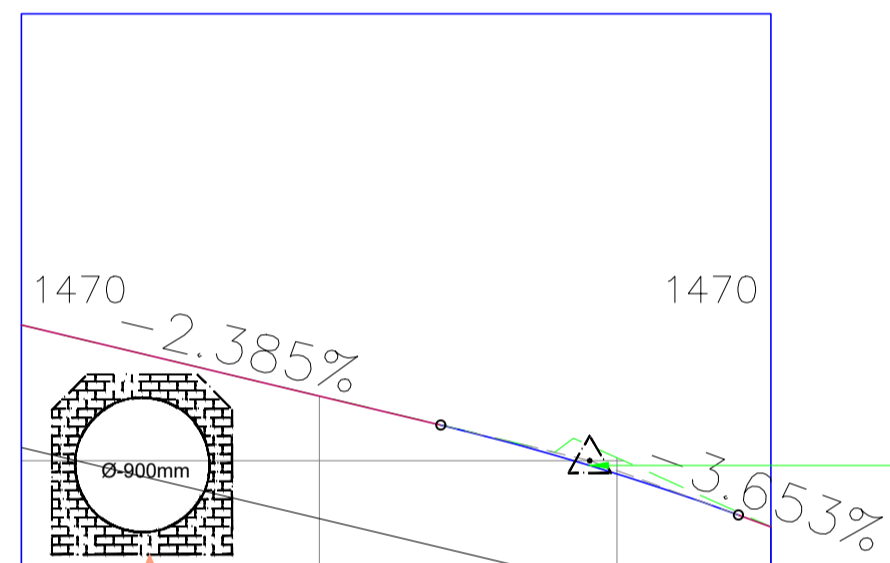
CHECKED BY: ENG. PNG DRAWN BY: LWK

REVISIONS

No.	Date	AMMENDMENTS



UMJ RD05 PROFILE



HIGH POINT CHAINAGE=0+028.172
 HIGH POINT LEVEL=1469.238
 PVI ST=0+038.172
 PVI EL=1469.000
 LVC=20.000
 BVC ST=0+028.172
 BVC EL=1469.238
 EVC ST=0+048.172
 EVC EL=1468.635

PIPE CULVERT
SIZE- 1X900
LOCATION: KM 0+005

STATION	0+000			0+050
FRL	1469.910	1469.910	1469.433	1468.555
OGI	1469.910	1469.435	1469.020	1468.555
Drain	1469.088	1468.611	1468.079	1467.695
VERTICAL ALIGNMENT	L=28.180m -2.385%		LVC=20.00m K=15.766 3.653%	
HORIZONTAL ALIGNMENT	R=50.00m L=24.021m		R=50.00m L=23.414m	



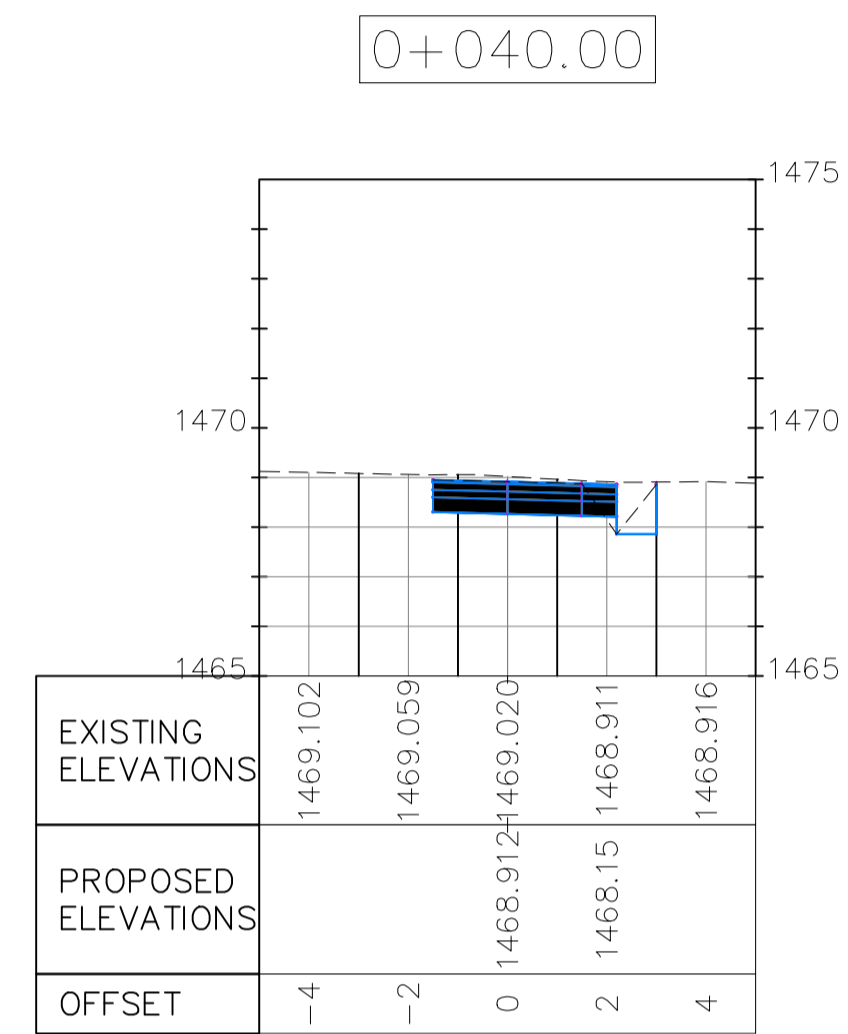
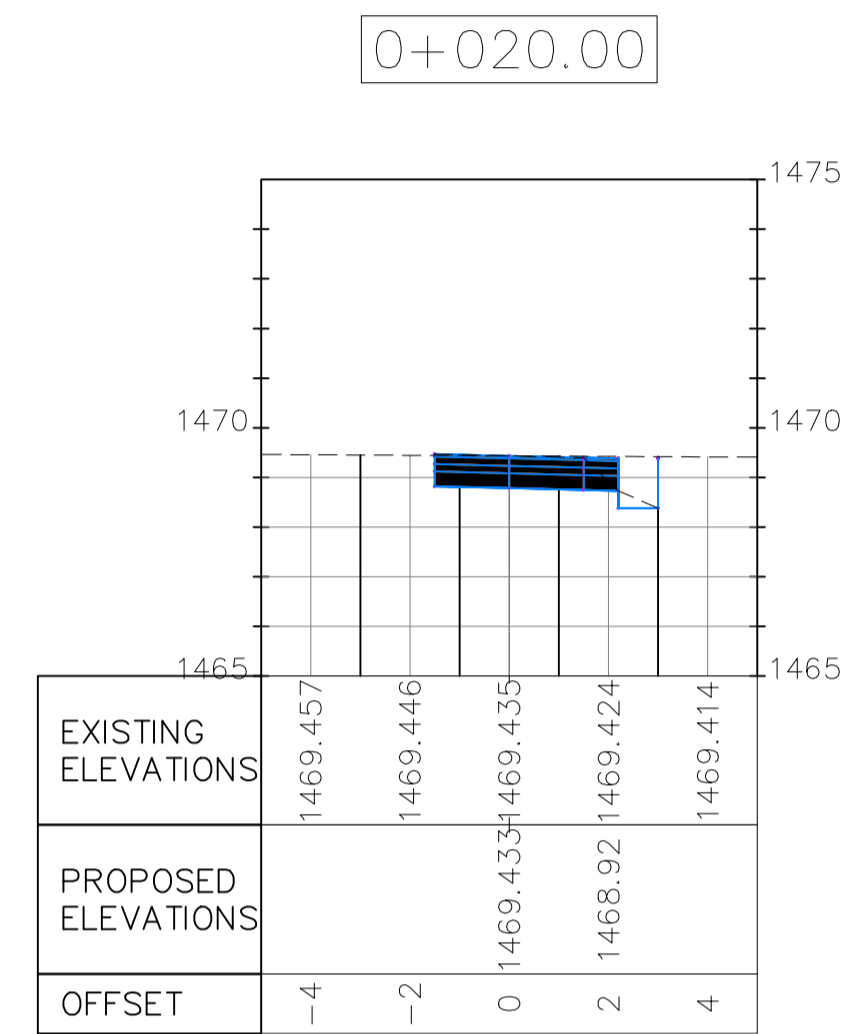
EMPLOYER
 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: UMOJA THIKA SETTLEMENT : UMJ RD05 PLAN & PROFILES				REVISIONS	
Drg. No:	WMCL/CR214/PP/05	Sheet No:	5 of 6		
Scale:	H: 1:2000 V: 1:200	Date:	DECEMBER: 2023		
APPROVED BY:	ENG. IKWM	DESIGNED BY:	LWK		
CHECKED BY:	ENG. PNG	DRAWN BY:	LWK	No.	Date
					AMMENDMENTS



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P.O Box 2344-00900, Kiambu

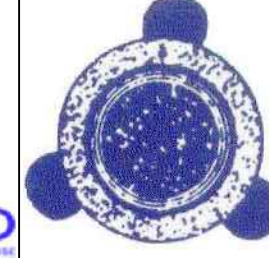
FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

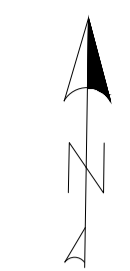
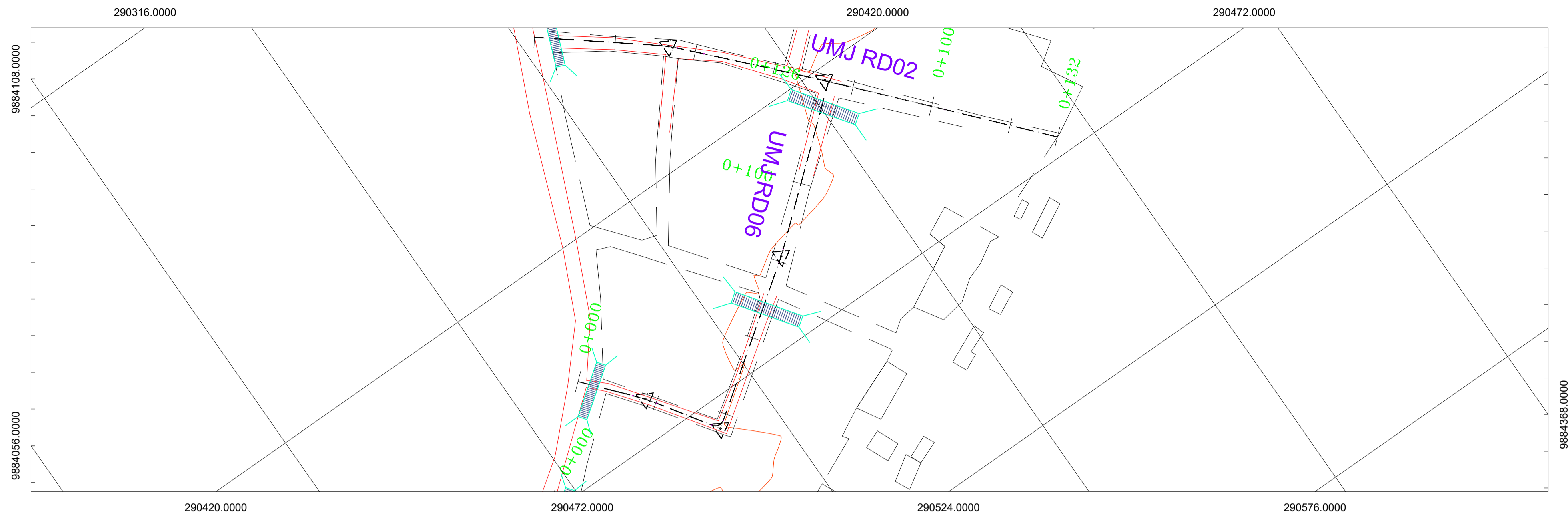
Drawing Title: **UMOJA THIKA SETTLEMENT : UMJ RD05 CROSS SECTIONS**

Org. No: WMCL/CR214/DCS/05 Sheet No: 5of6
Scale: H: 1: 2000 Date: DECEMBER: 2023
V: 1: 200 Stage: TENDER DRAWINGS

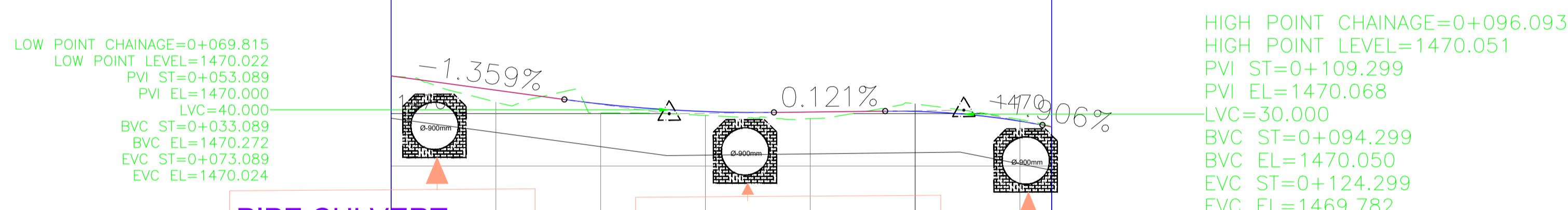
APPROVED BY: ENG. IKWM DESIGNED BY: LWK
CHECKED BY: ENG. PNG DRAWN BY: LWK

REVISIONS

No.	Date	AMMENDMENTS



UMJ RD06 PROFILE



STATION	0+000	0+100				0+126
FRL	1470.722	1470.450	1470.187	1470.040	1470.033	1470.046
OGL	1470.722	1470.221	1470.015	1469.965	1469.907	1470.046
Drain	1469.914	1469.642	1469.371	1469.208	1469.232	1469.257
VERTICAL ALIGNMENT	L=33.092m -1.359%	LVC=40m K=27.017	L=21.210m 0.121%	LVC=30m K=14.798	L=1.756m 1.906%	
HORIZONTAL ALIGNMENT	R=50.00m	R=2.08m	R=50.00m	R=50.00m		

EMPLOYER

 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)
 

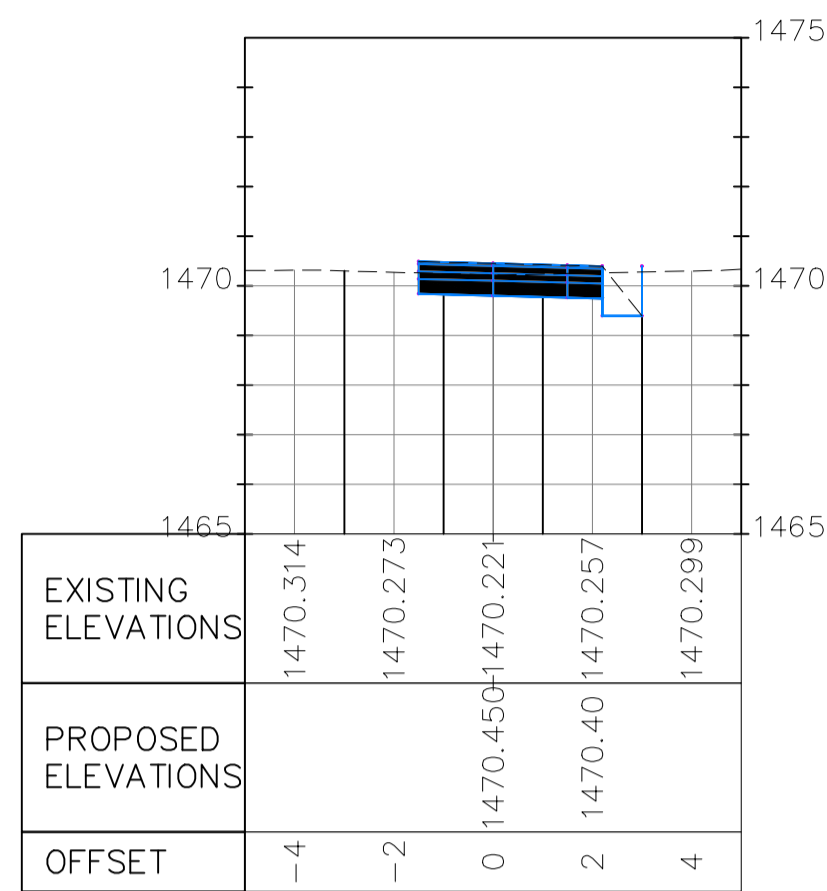
CONSULTANT

Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

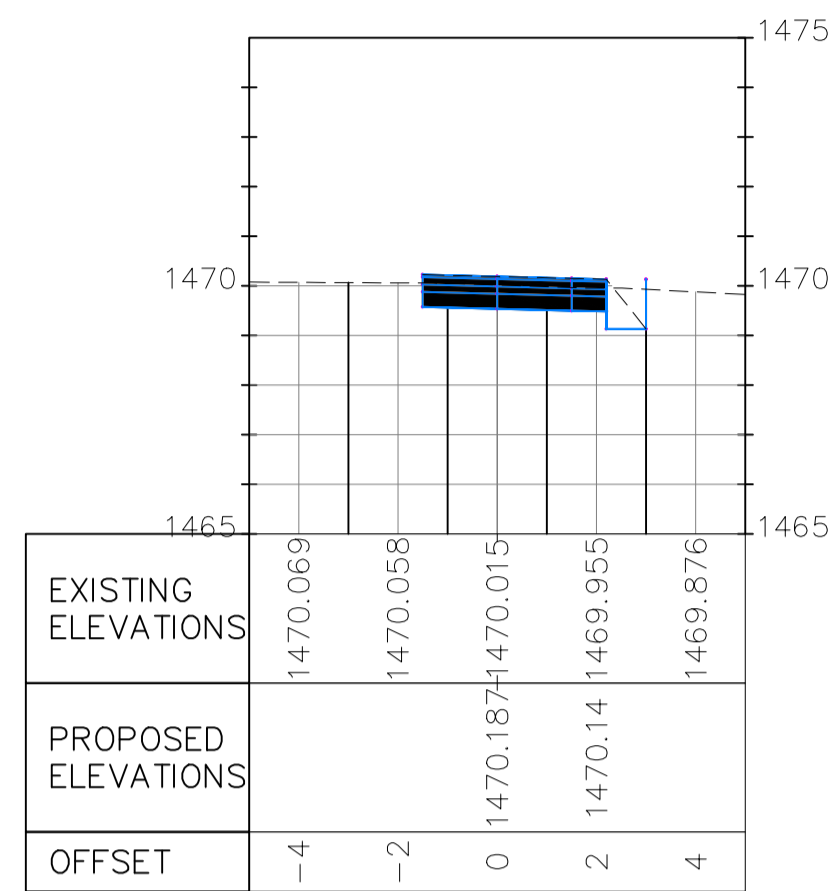
PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: UMOJA THIKA SETTLEMENT : UMJ RD06 PLAN & PROFILES				REVISIONS	
Drg. No:	WMCL/CR214/PP/06	Sheet No:	6 of 6		
Scale:	H:1:2000 V:1:200	Date:	DECEMBER: 2023		
APPROVED BY:	ENG. IKWM	DESIGNED BY:	LWK		
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					AMMENDMENTS

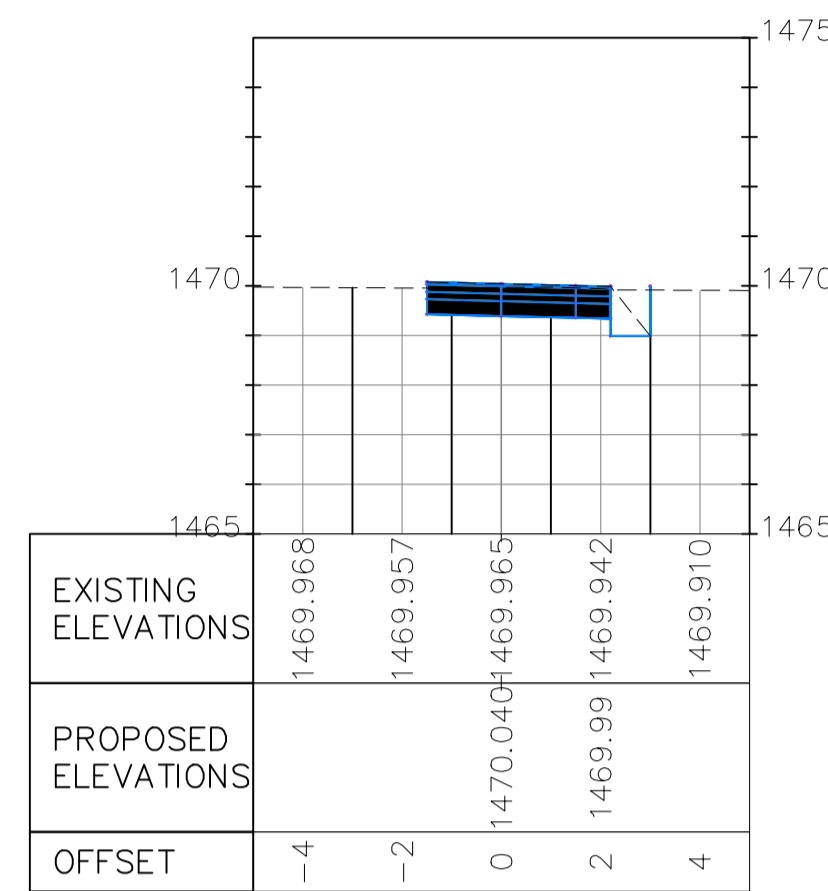
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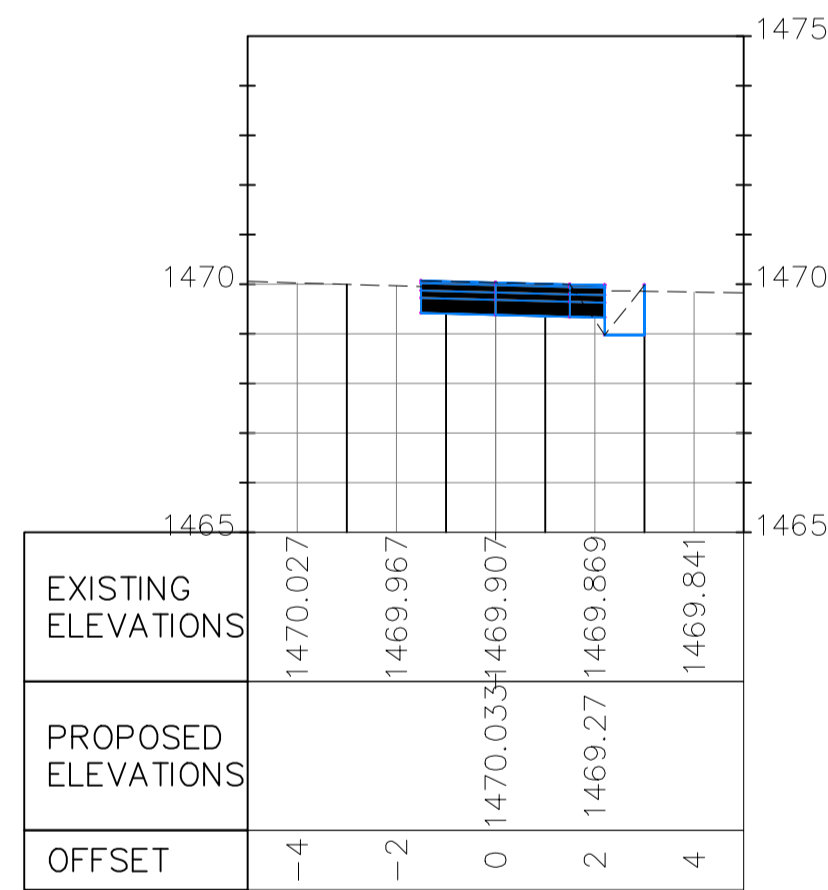
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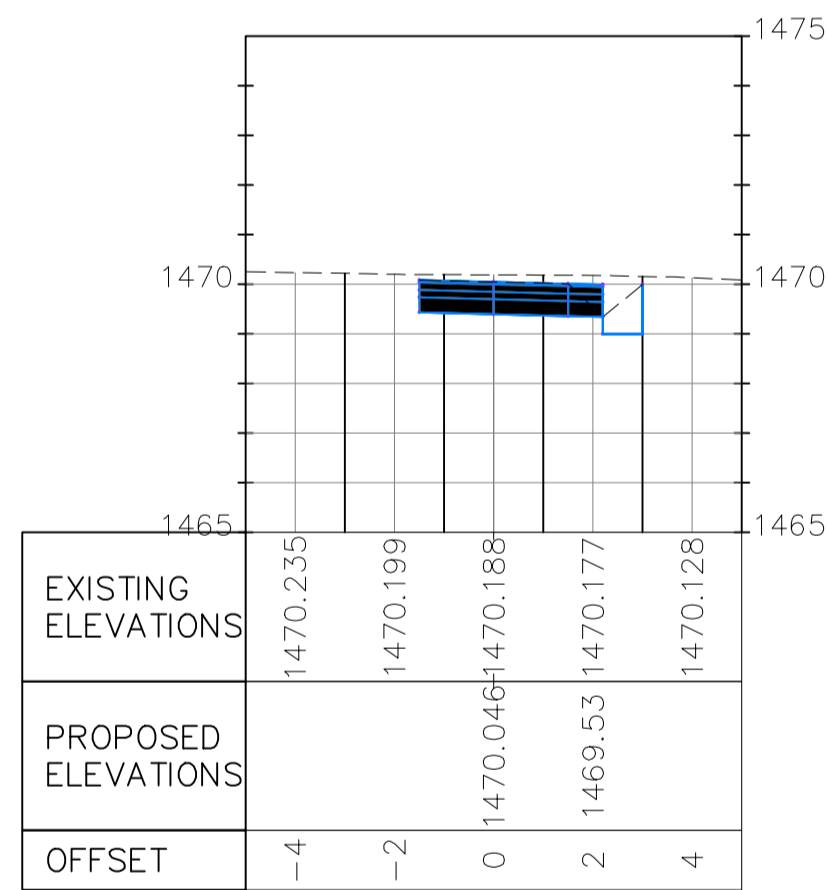
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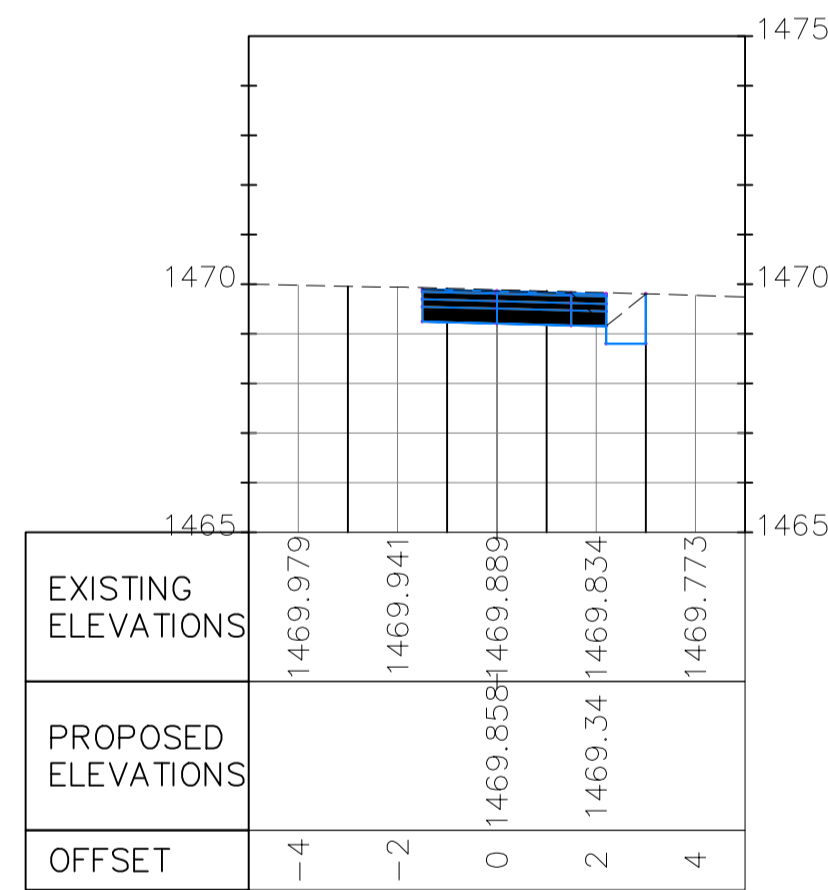
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0+100.00



0+120.00



EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK
AFD

CONSULTANT

Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (UMOJA THIKA) IN KIAMBU COUNTY

Drawing Title: UMOJA THIKA SETTLEMENT : UMJ RD06 CROSS SECTIONS

Drg. No: WMCL/CR214/DCS/06 Sheet No: 6 of 6
Scale: H: 1:2000 Date: DECEMBER: 2023
V: 1: 200 Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM DESIGNED BY: LWK
CHECKED BY: ENG. PNG DRAWN BY: LWK

REVISIONS

No	Date	AMMENDMENTS

FORT JESUS SETTLEMENT - RUIRU

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
 

CONSULTANT



Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.**

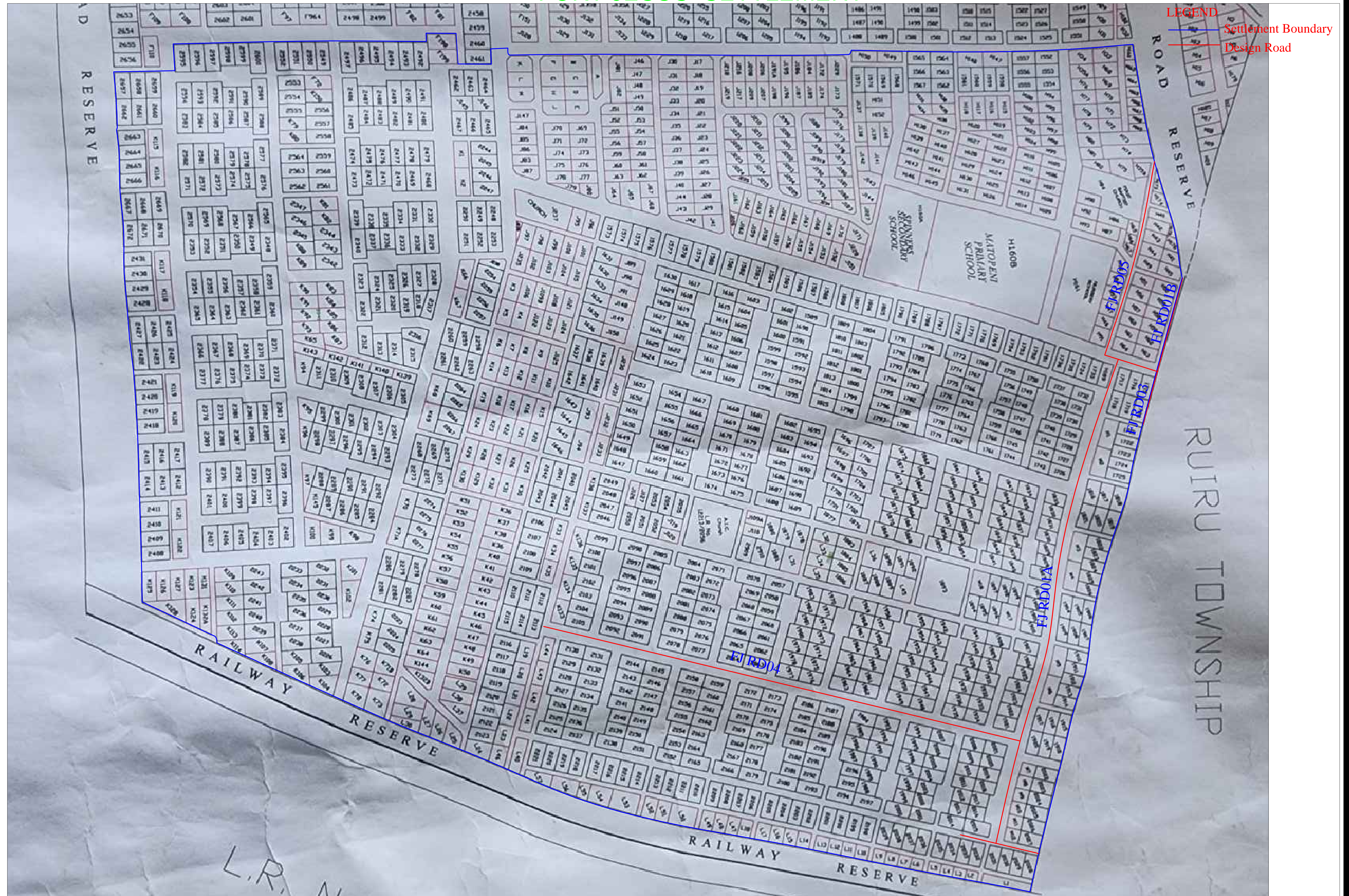
Drawing Title: **FORT JESUS SETTLEMENT**

Drawing Information				REVISIONS	
Drg. No.	Date:	DECEMBER:2023		No.	Date
Scale:	Stage: TENDER DRAWINGS		AMMENDMENTS		
APPROVED BY	ENG.IKWM	DESIGNED BY			
CHECKED BY	ENG.PNG	DRAWN BY	SM		


GENERAL LAYOUT

 EMPLOYER The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu	 FINANCIER INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)	 CONSULTANT Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.	Drawing Title: GENERAL LAYOUT		REVISIONS	
				Drg. No.	Date: DECEMBER:2023		
				Scale:	Stage: TENDER DRAWINGS		
				APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS	

FORT JESUS SETTLEMENT



LEGEND
— Settlement Boundary
— Design Road

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 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu

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 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)


CONSULTANT

 Wanjohi
 Mutonyi
 Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

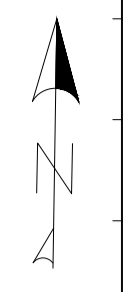
PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
**INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.**

Drawing Title: FORT JESUS SETTLEMENT LAYOUT PLAN.		REVISIONS	
Drg. No. WMCL/CR214/FJ/GLP/01 Sheet No. 1 of 2			
Scale: 1:10		Date: DECEMBER:2023	
		Stage: TENDER DRAWINGS	
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	SM
		No.	Date
		AMMENDMENTS	

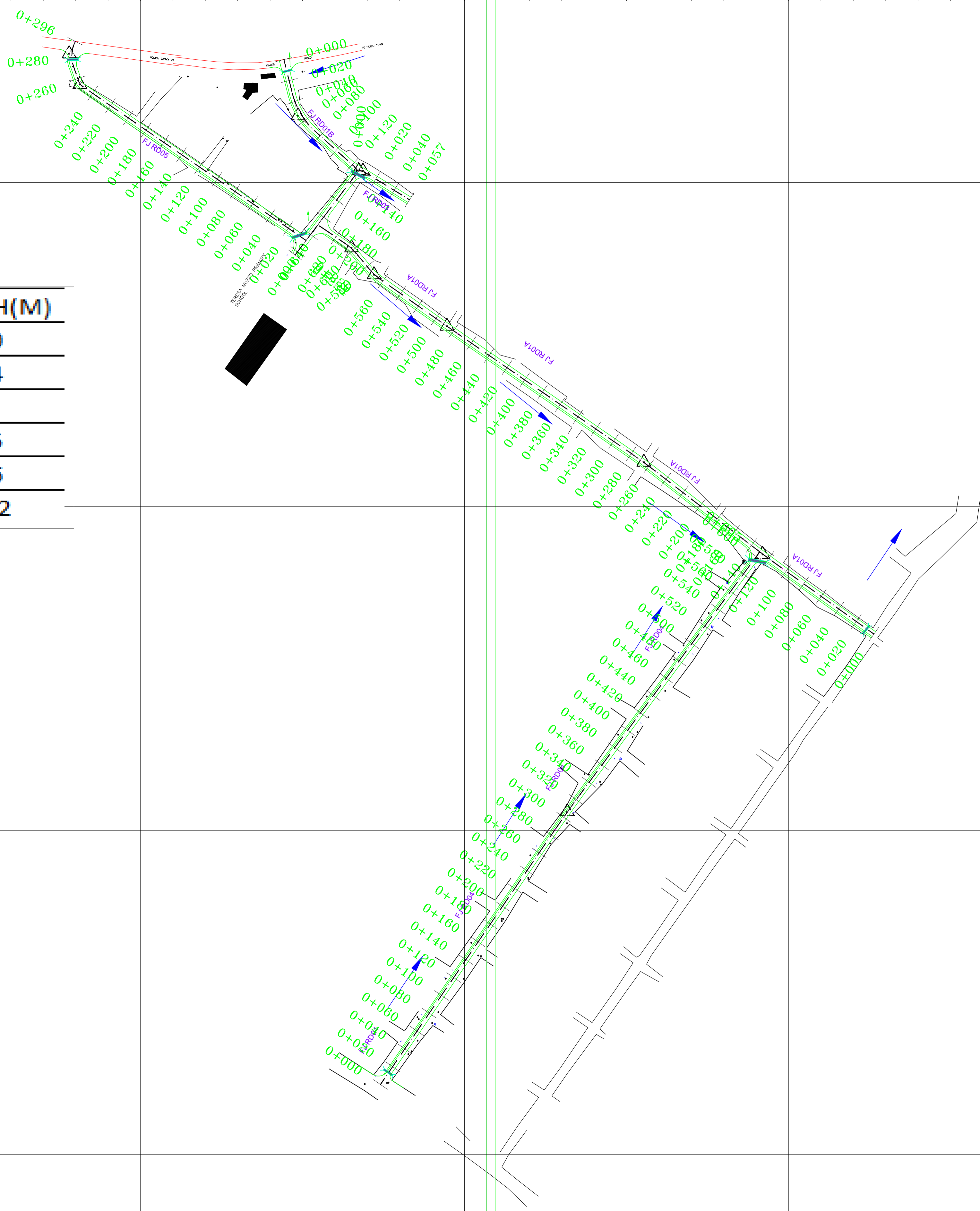
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9872700.0000
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9872100.0000

9873000.0000
9872700.0000
9872400.0000
9872100.0000



ROAD NAME	LENGTH(M)
FJ RD01A	640
FJ RD01B	224
FJ RD03	57
FJ RD04	605
FJ RD05	296
Total	1822



EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)




CONSULTANT

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Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

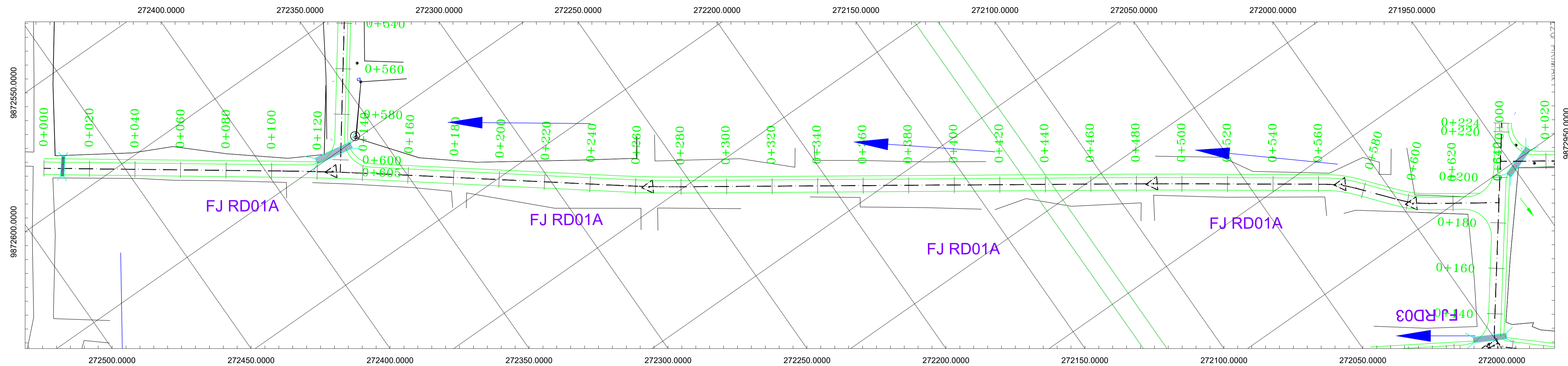


PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

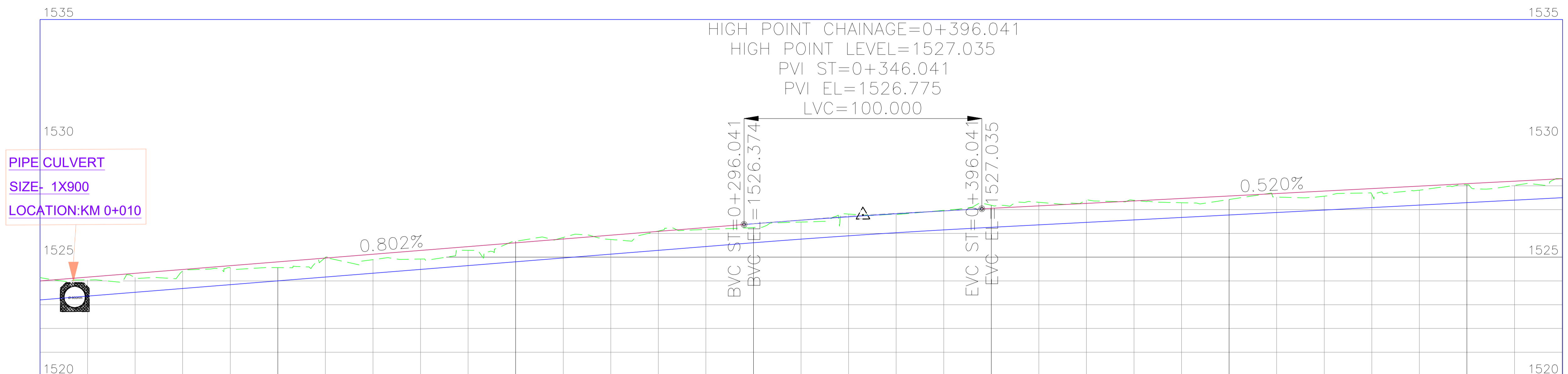
Drawing Title: FORT JESUS RUIRU SETTLEMENT : GENERAL LAYOUT PLAN				REVISIONS	
Drg. No: WMCL/CR214/FJ/GLP/02		Sheet No: 2 of 2			
Scale: H: 1:2000		Date: DECEMBER: 2023			
V: 1:200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK	No.	Date
CHECKED BY	ENG. PNG	DRAWN BY	LWK		AMMENDMENTS

PLANS AND PROFILES

<p>EMPLOYER</p>  <p>The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu</p>	<p>FINANCIER</p> <p>INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)</p>  	<p>CONSULTANT</p>  <p>Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.</p>	<p>PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.</p>	<table border="1"> <tr> <td colspan="4">Drawing Title: PLAN & PROFILES</td> <td colspan="2">REVISIONS</td> </tr> <tr> <td>Drg. No.</td> <td colspan="2">Date: DECEMBER:2023</td> <td colspan="3"></td> </tr> <tr> <td>Scale:</td> <td colspan="2">Stage: TENDER DRAWINGS</td> <td colspan="3"></td> </tr> <tr> <td>APPROVED BY</td> <td>ENG.IKWM</td> <td>DESIGNED BY</td> <td>LWK</td> <td colspan="2"></td> </tr> <tr> <td>CHECKED BY</td> <td>ENG.PNG</td> <td>DRAWN BY</td> <td>SM</td> <td>No.</td> <td>Date</td> </tr> <tr> <td colspan="6">AMMENDMENTS</td> </tr> </table>	Drawing Title: PLAN & PROFILES				REVISIONS		Drg. No.	Date: DECEMBER:2023					Scale:	Stage: TENDER DRAWINGS					APPROVED BY	ENG.IKWM	DESIGNED BY	LWK			CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date	AMMENDMENTS					
Drawing Title: PLAN & PROFILES				REVISIONS																																				
Drg. No.	Date: DECEMBER:2023																																							
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APPROVED BY	ENG.IKWM	DESIGNED BY	LWK																																					
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date																																			
AMMENDMENTS																																								



FJ RD01A PROFILE



STATION	0+000	0+100	0+200	0+300	0+400	0+500	0+600	0+640			
FRL	1523.200	1524.000	1524.160	1524.321	1524.481	1524.642	1524.802	1524.962			
OGI	1523.360	1524.043	1524.144	1524.281	1524.425	1524.551	1524.689	1524.823			
Drain	1523.200	1524.000	1524.160	1524.321	1524.481	1524.642	1524.802	1524.962			
HORIZONTAL ALIGNMENT	L=104.003m		R=1217.58m L=45.604m	L=102.994m	R=485.56m L=26.771m	L=195.550m	R=2498.29m L=25.114m	L=63.498m	R=50.00m L=3.038m	R=50.00m L=3.811m	L=30.861m
VERTICAL ALIGNMENT	L=296.050m 0.802%			LVC=100m K=354.102		L=244.160m 0.520%					

EMPLOYER

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 Lands, Physical Planning, Urban Development,
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 FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT

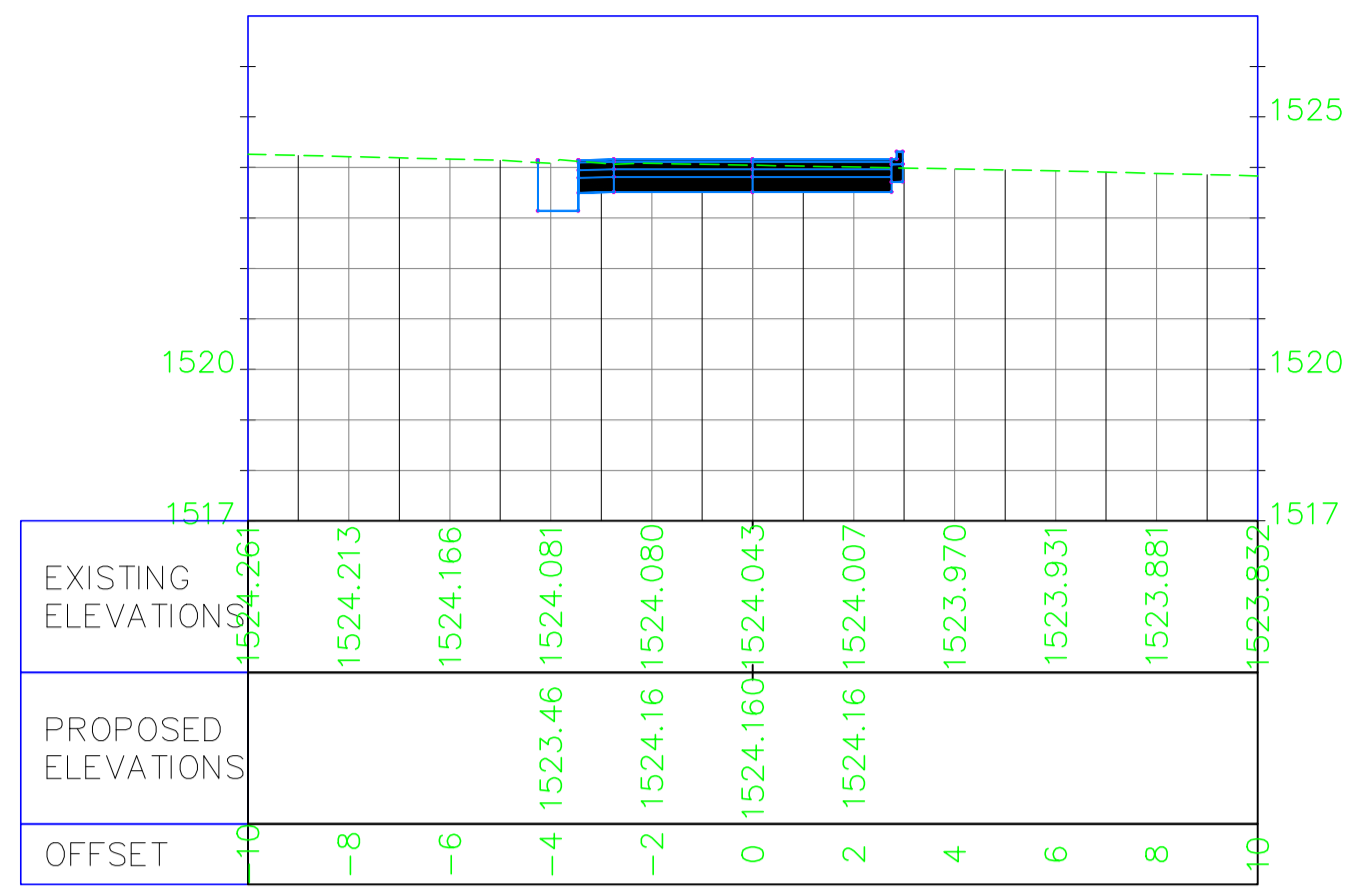
**Wanjohi
 Mutonyi
 Consult Ltd.**
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

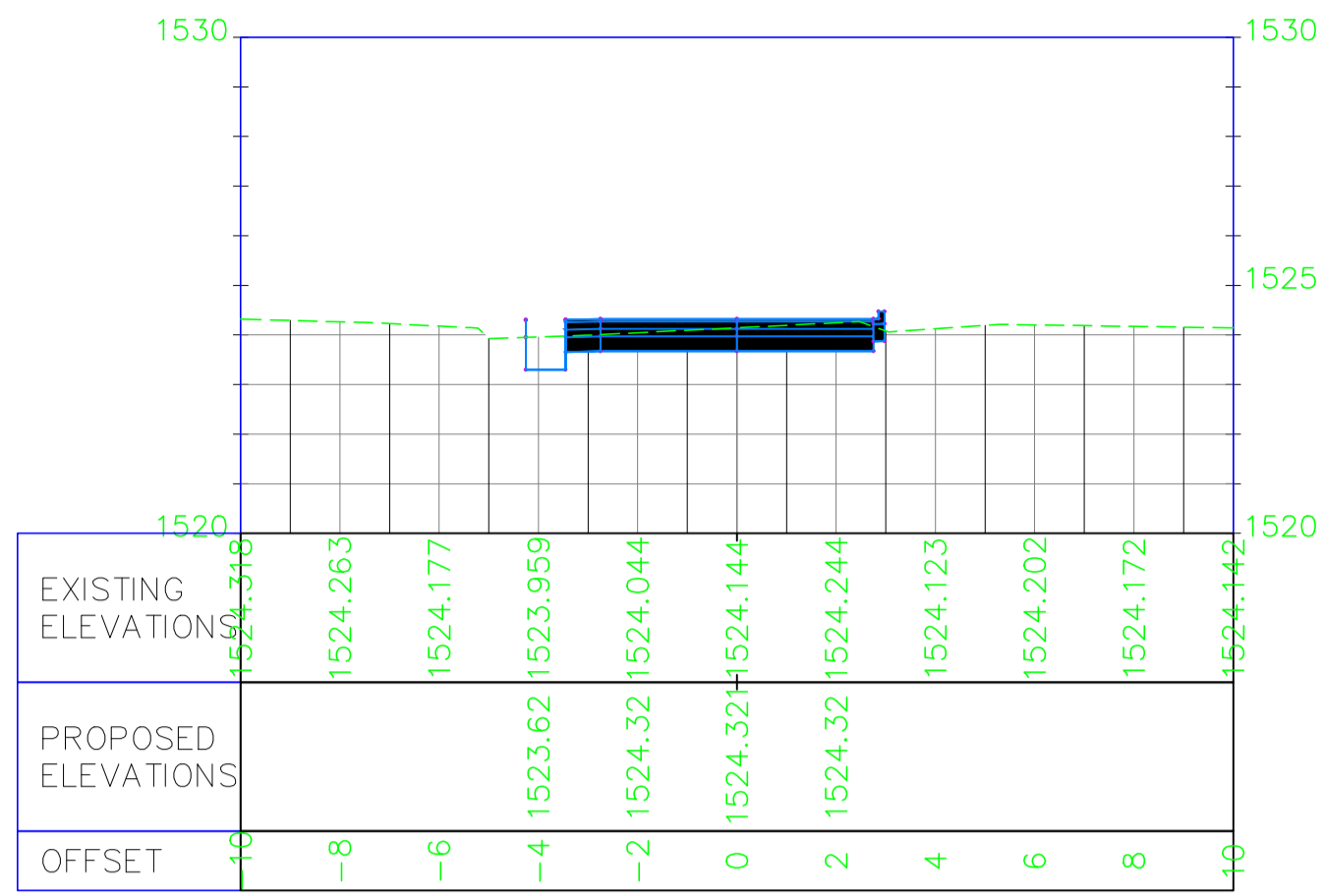
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 FJ RD01A PLAN & PROFILES**

Drg. No. WMCL/CR214/FJ/PP/01	Sheet No. 1 of 5	REVISIONS	
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V: 1:200	Stage: TENDER DRAWINGS		
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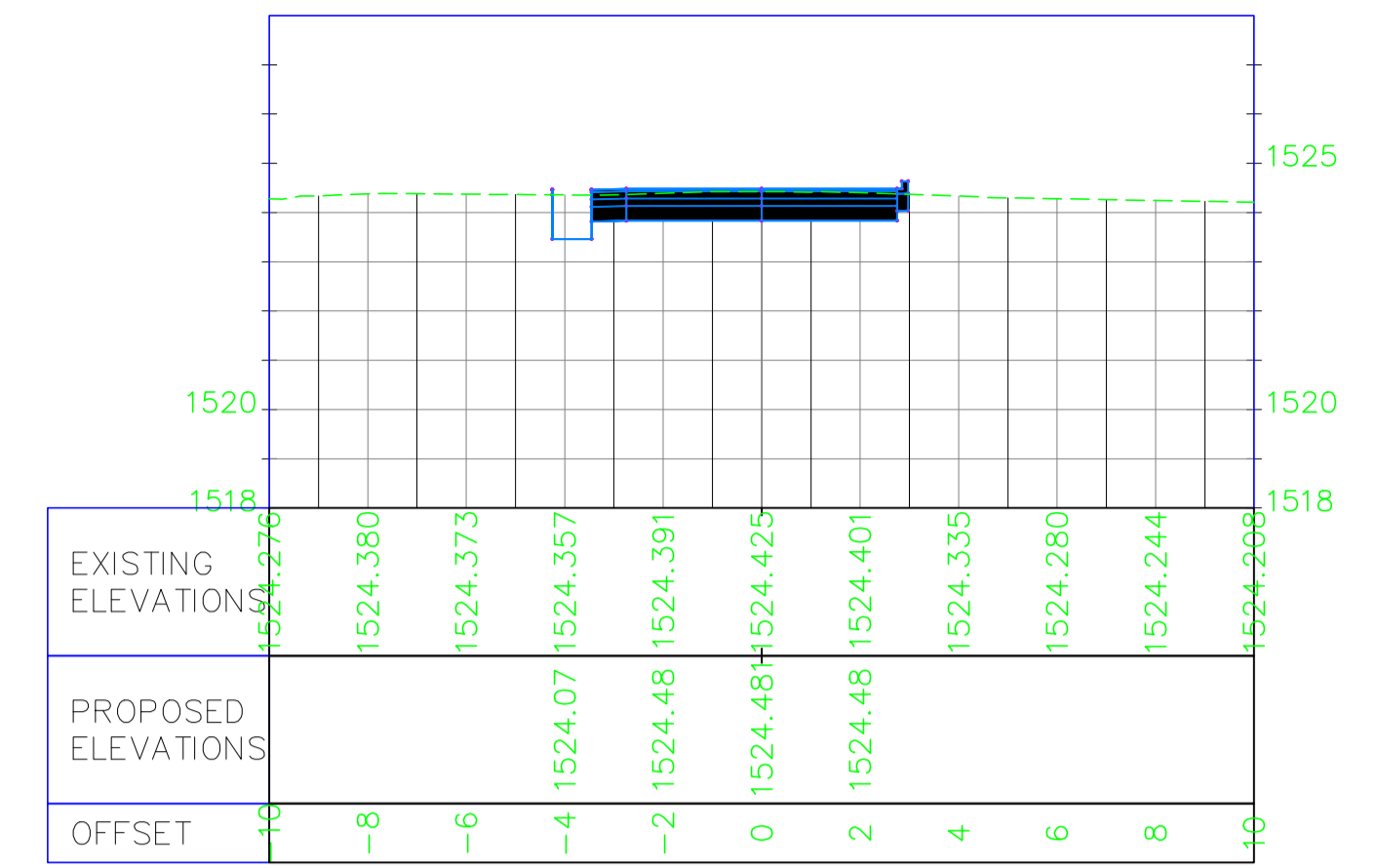
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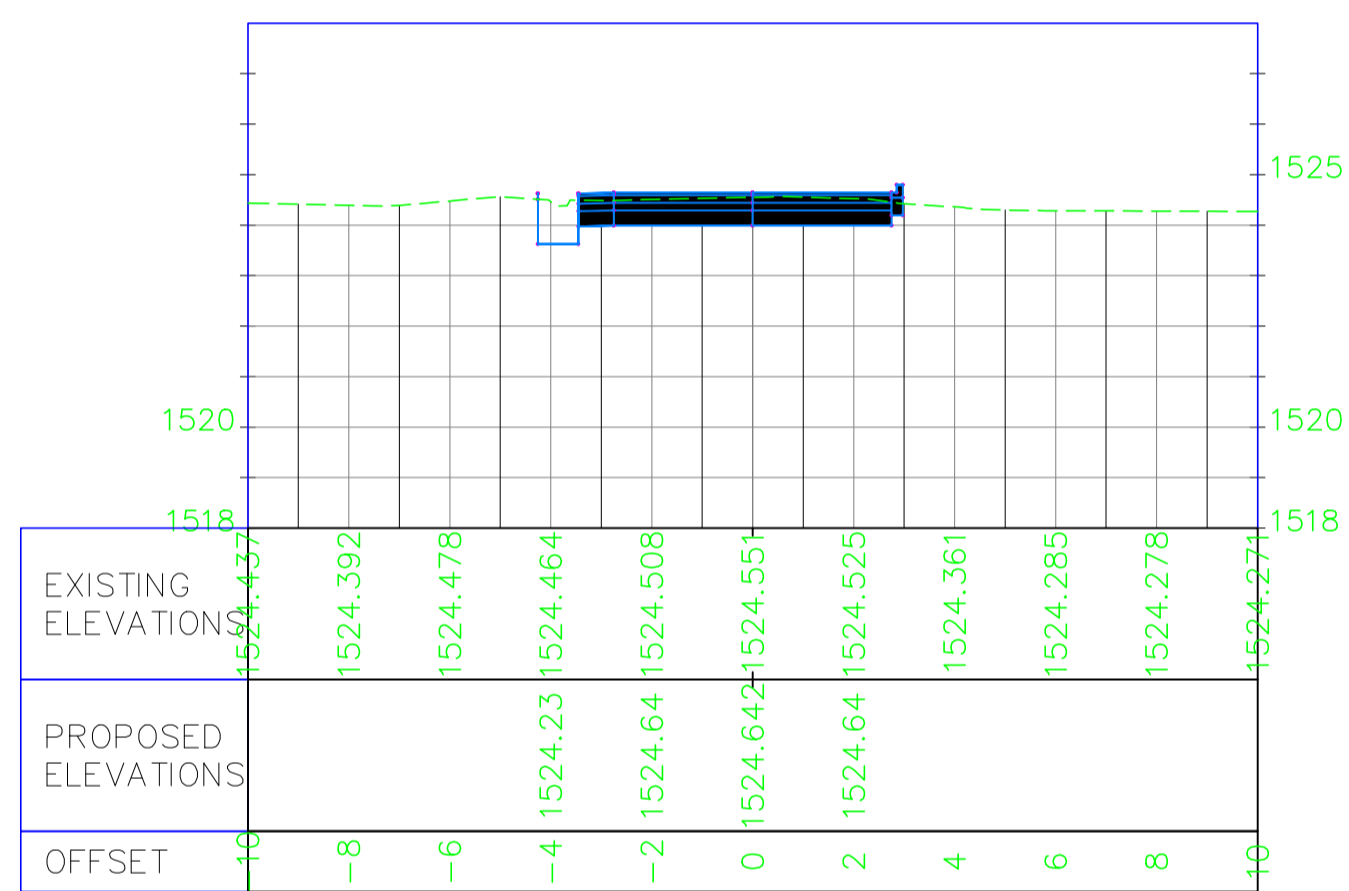
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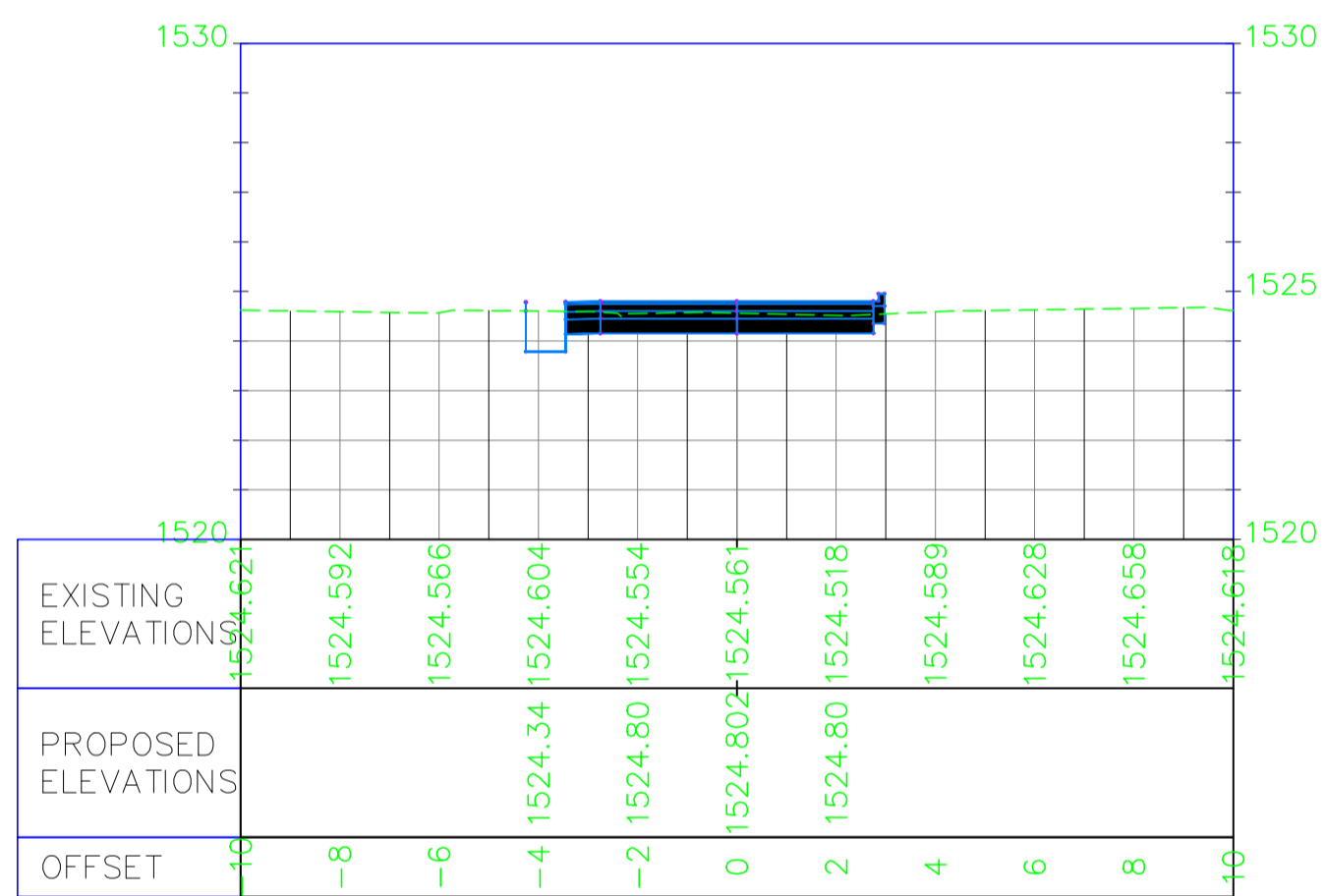
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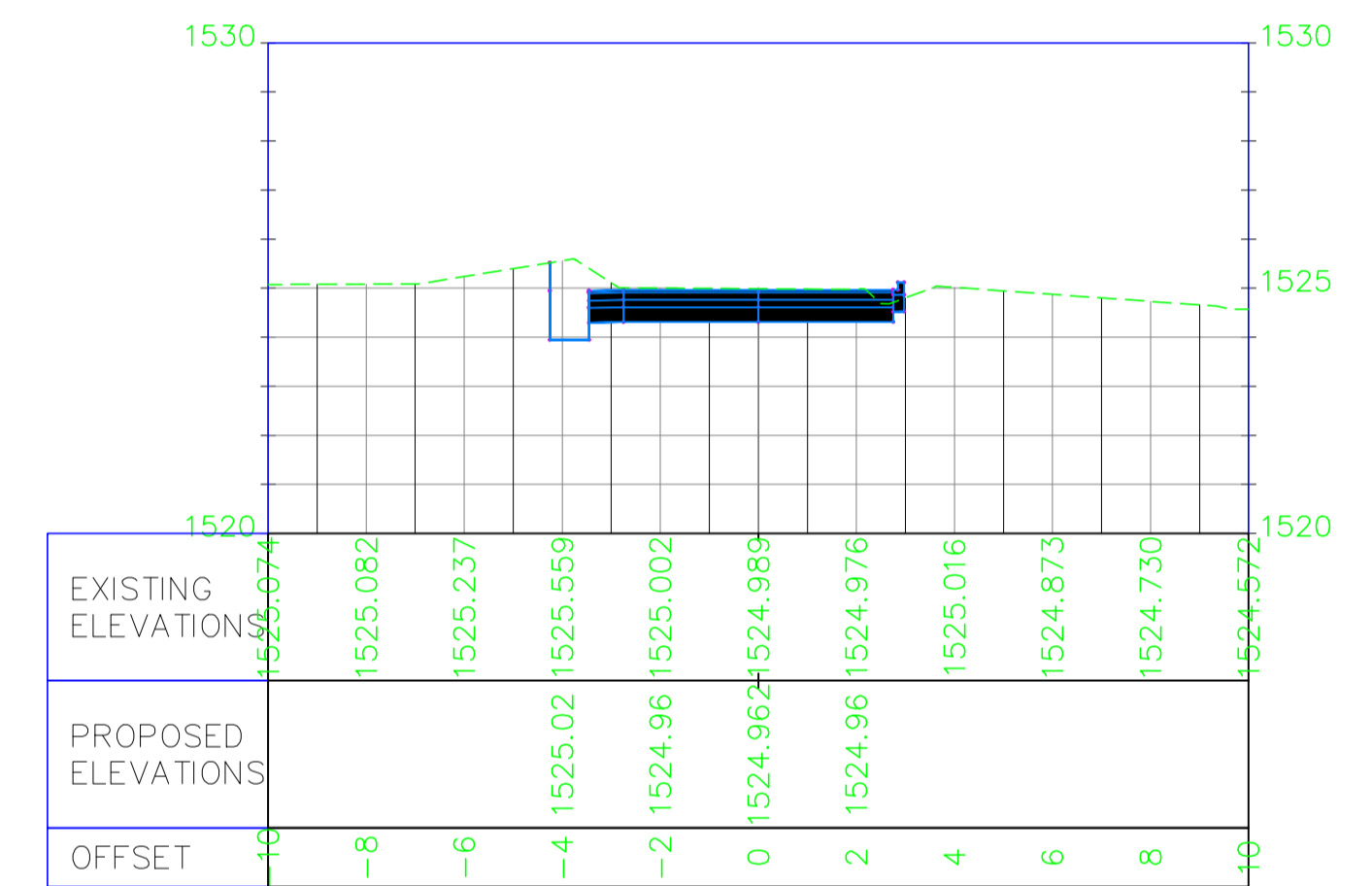
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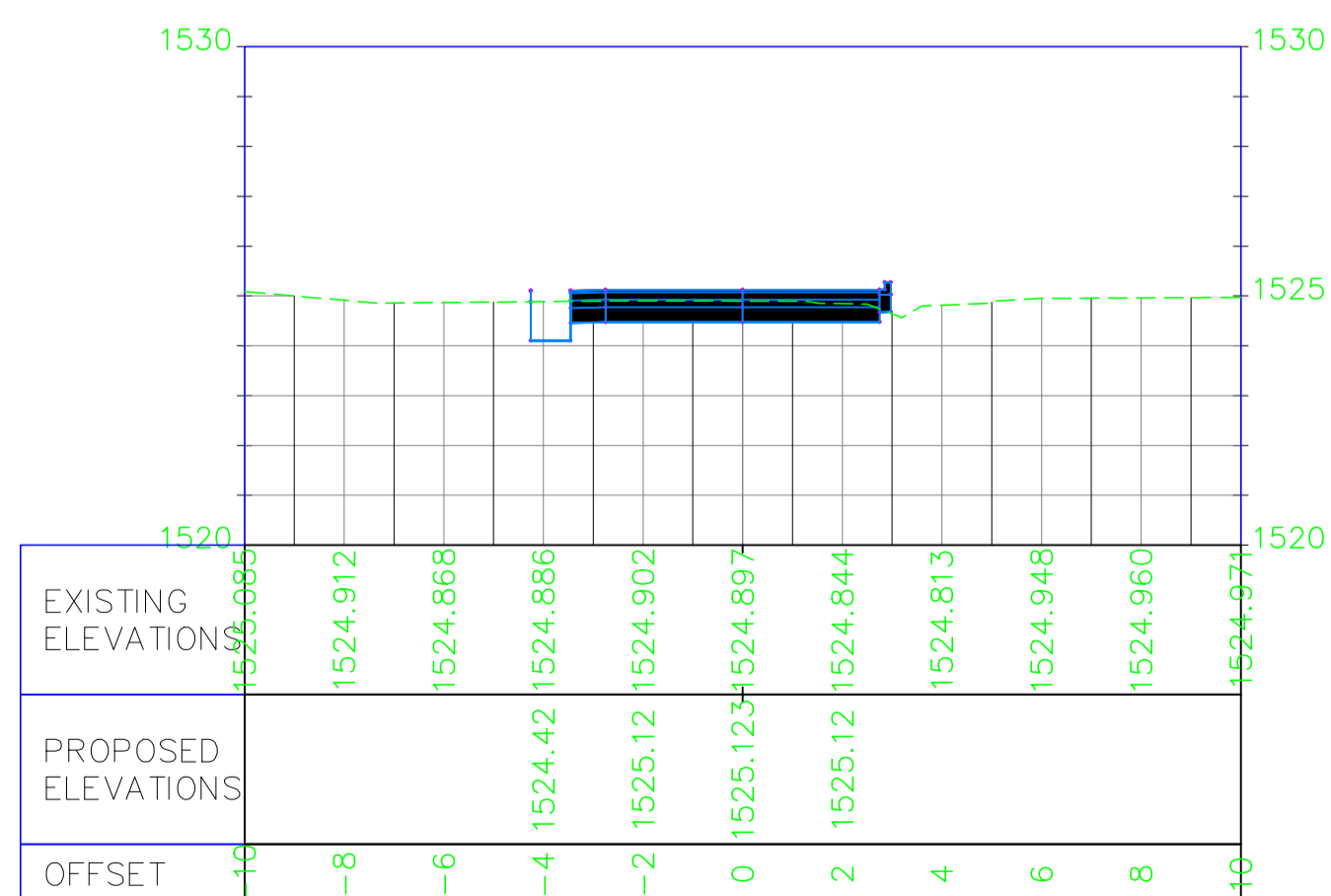
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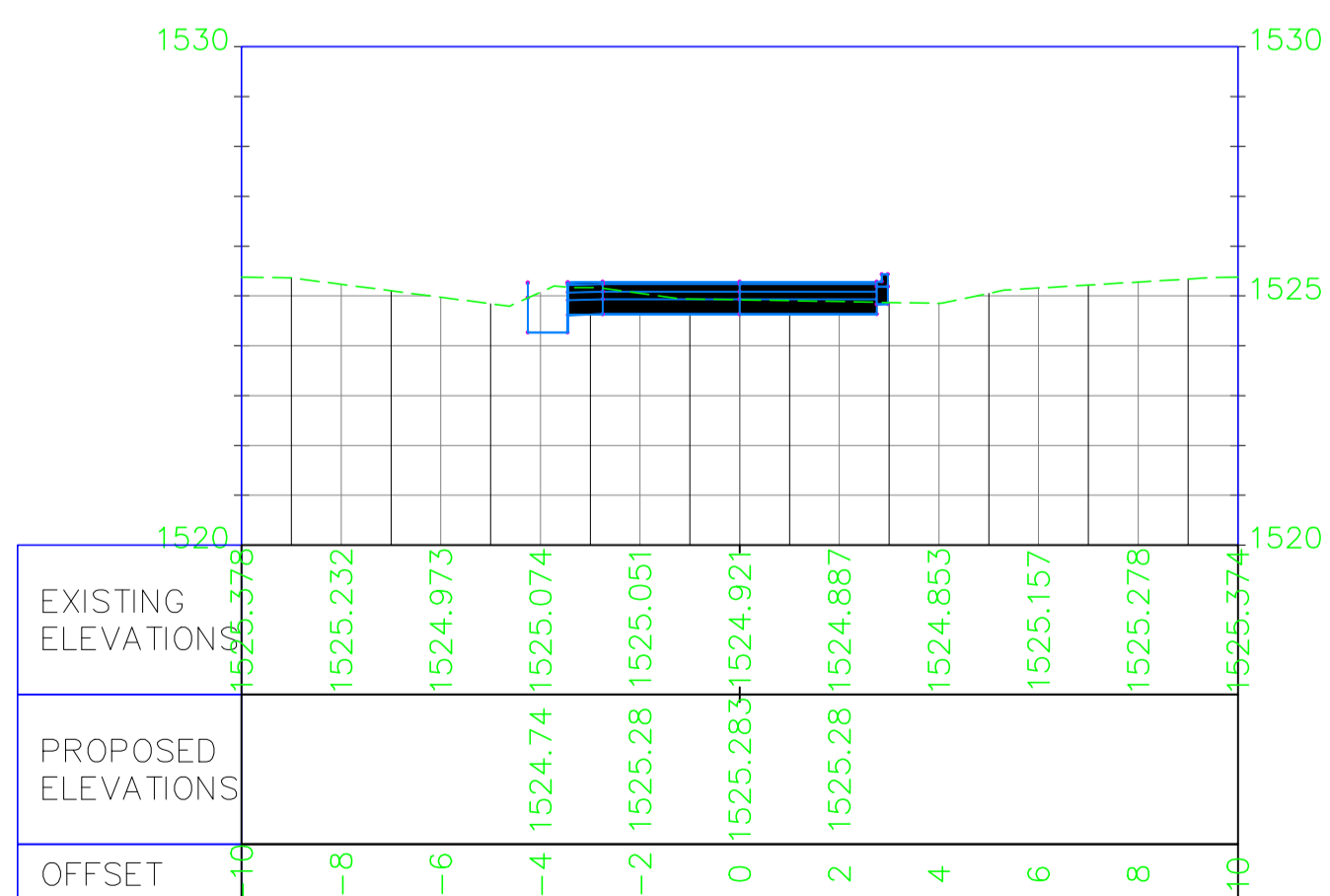
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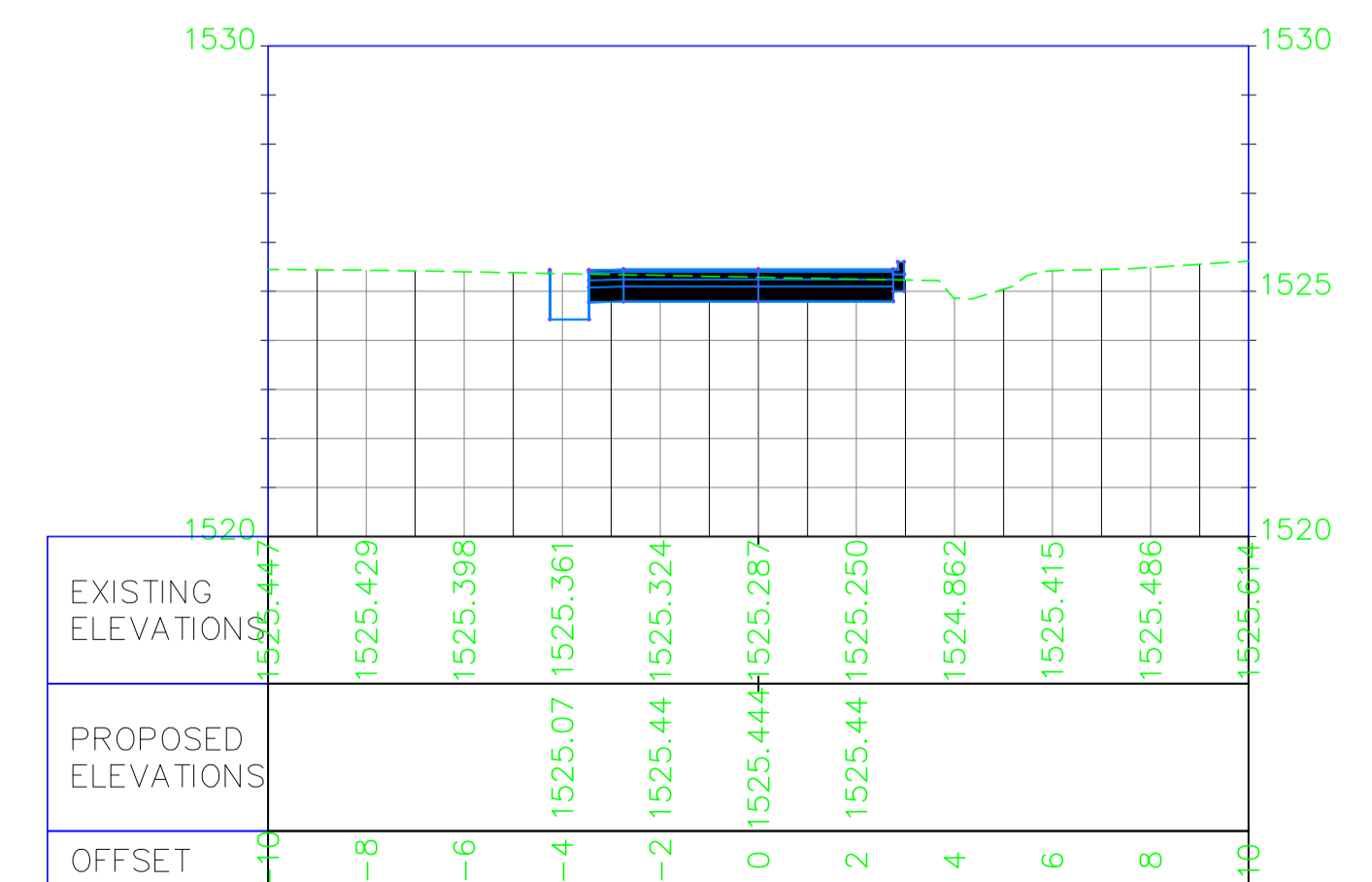
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EMPLOYER
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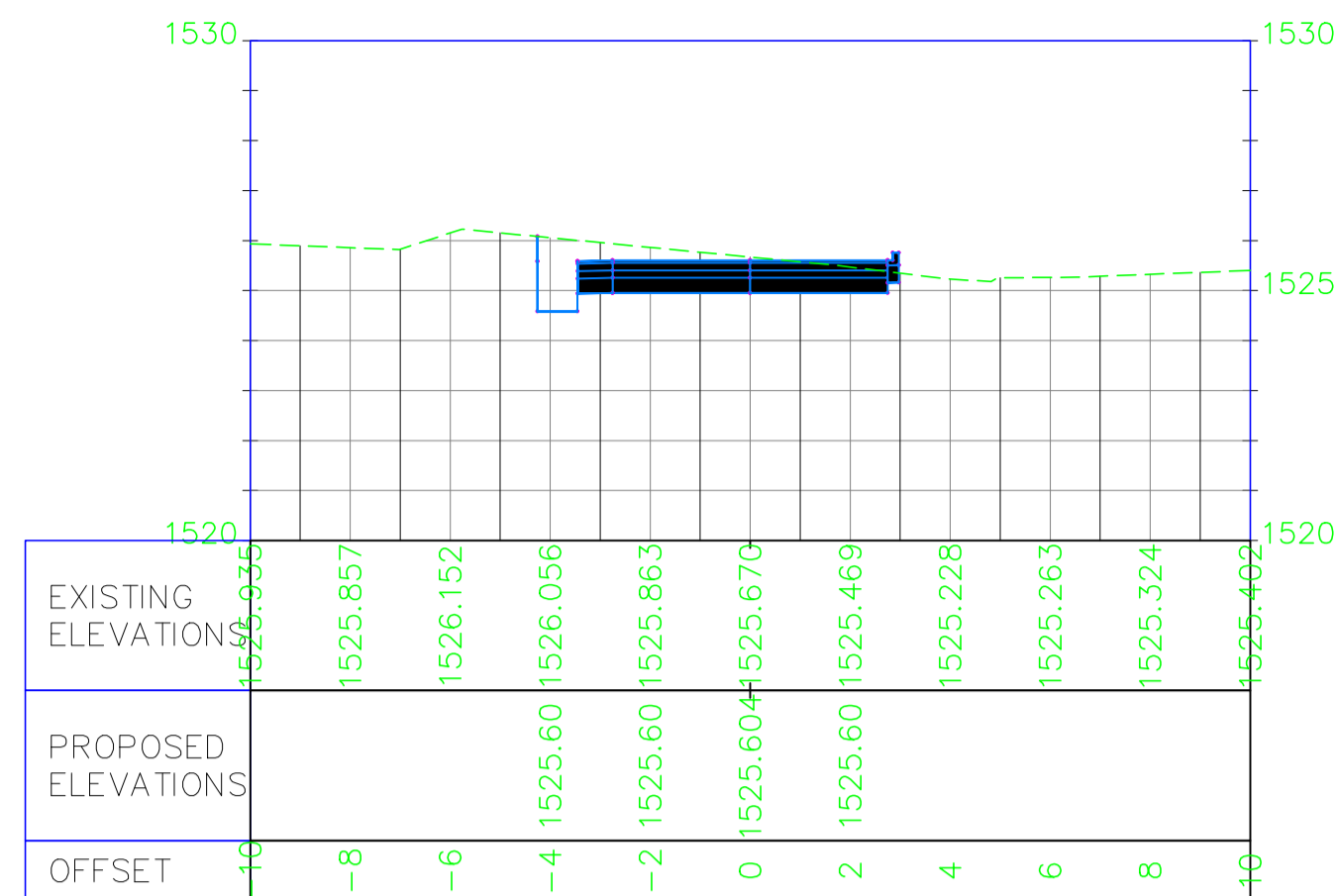
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 FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

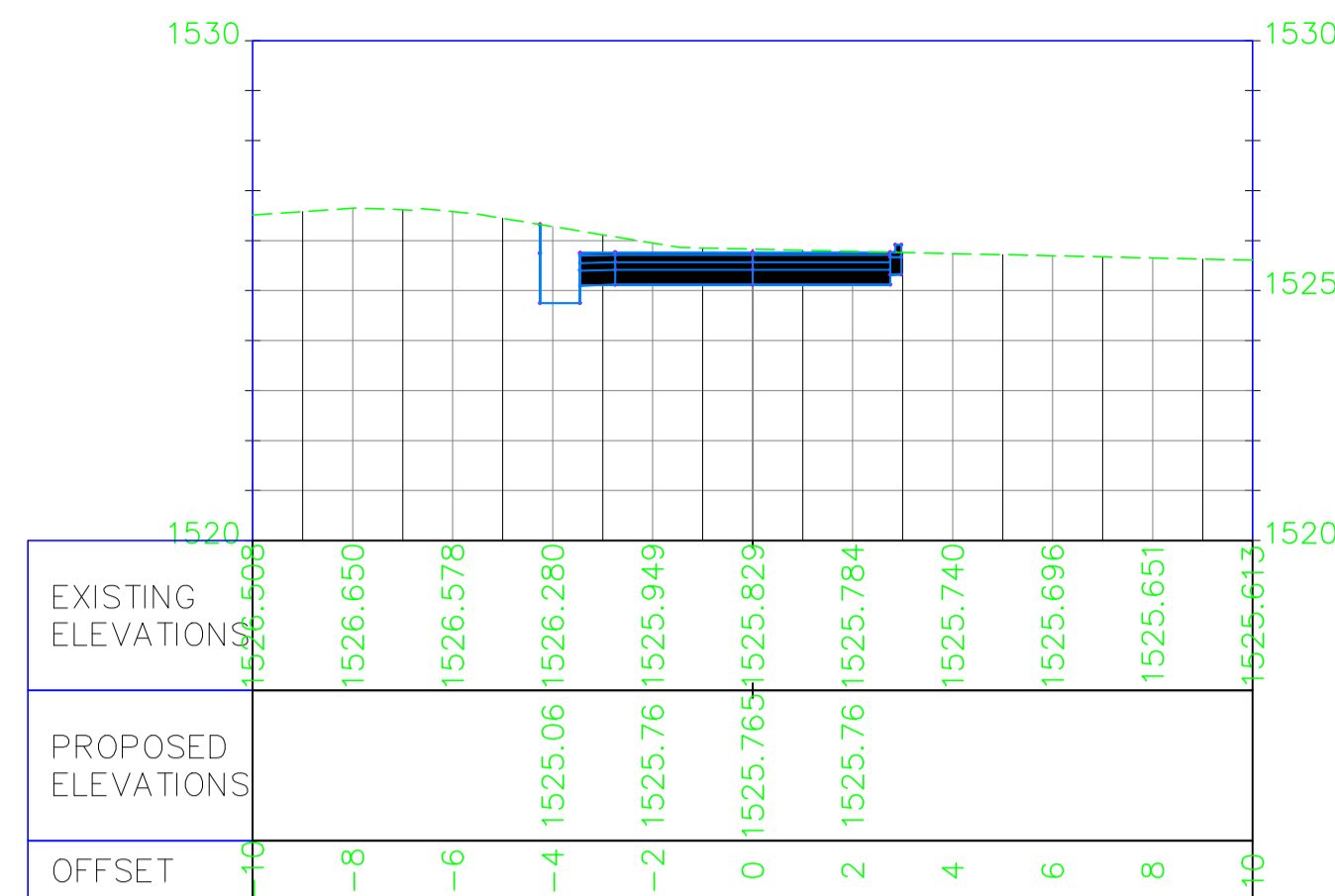
PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
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 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD01A CROSS SECTIONS				REVISIONS	
Org. No: WMCL/CR214/FJ/DCS/01		Sheet No: 1 of 4			
Scale: H: 1: 2000		Date: DECEMBER: 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
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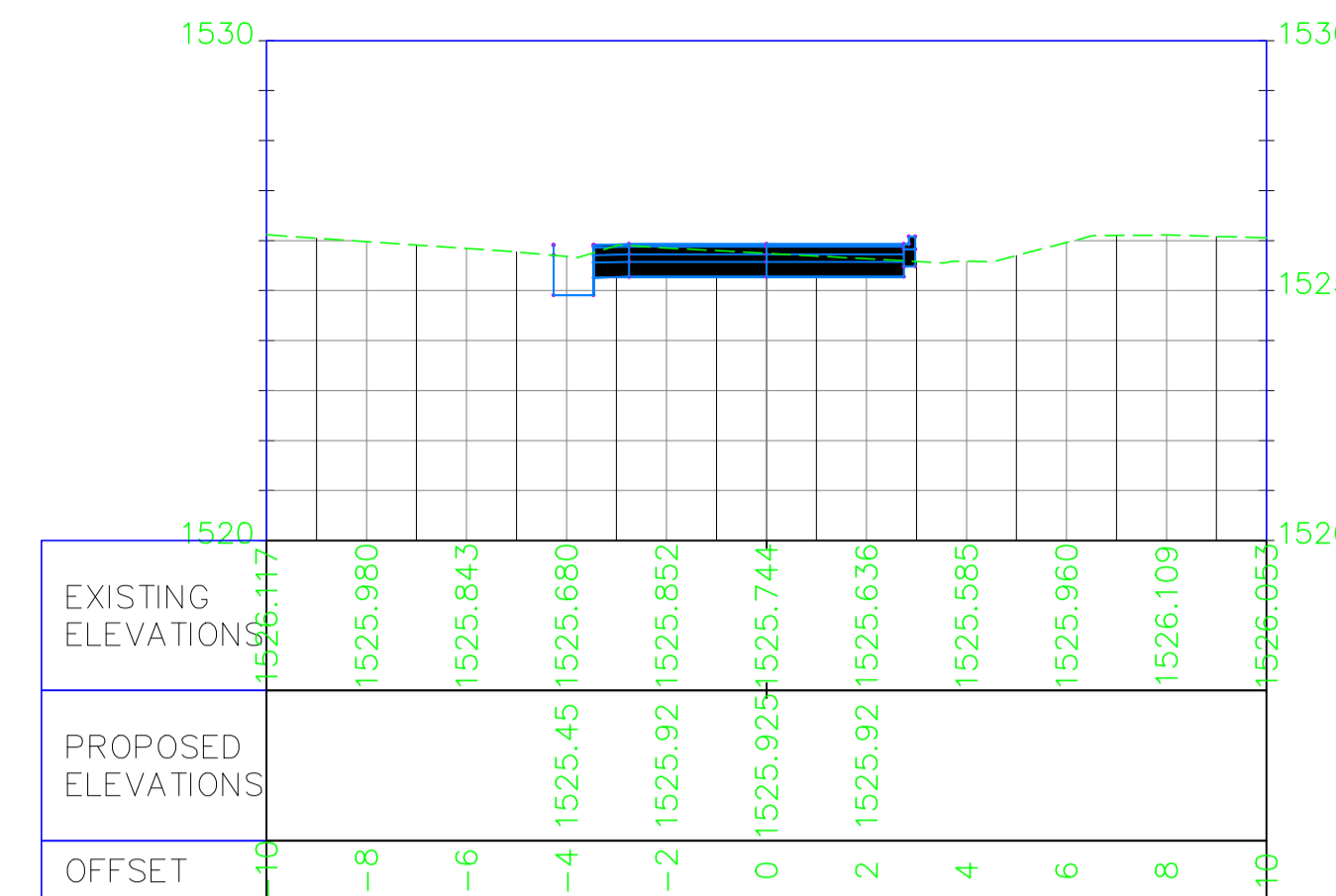
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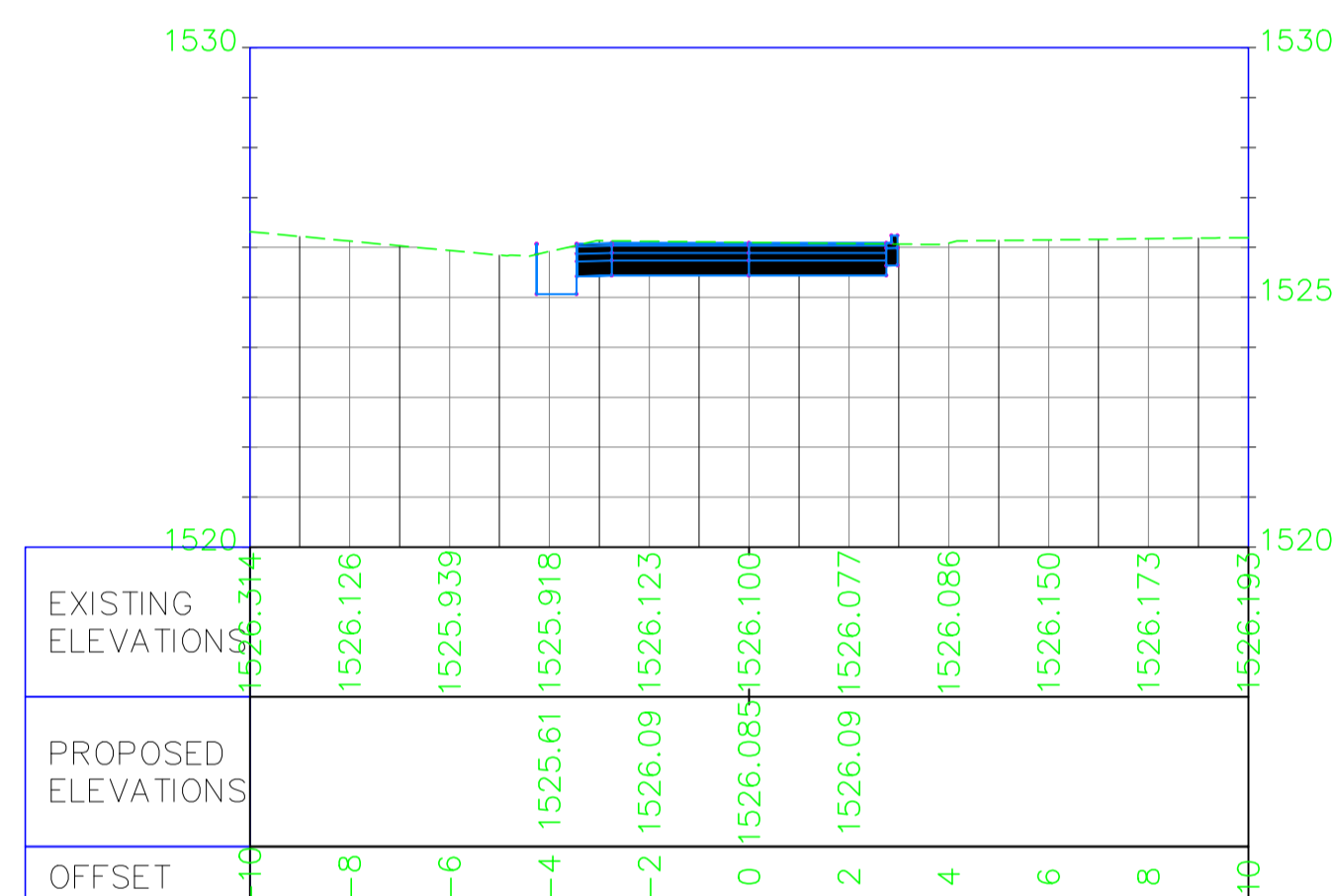
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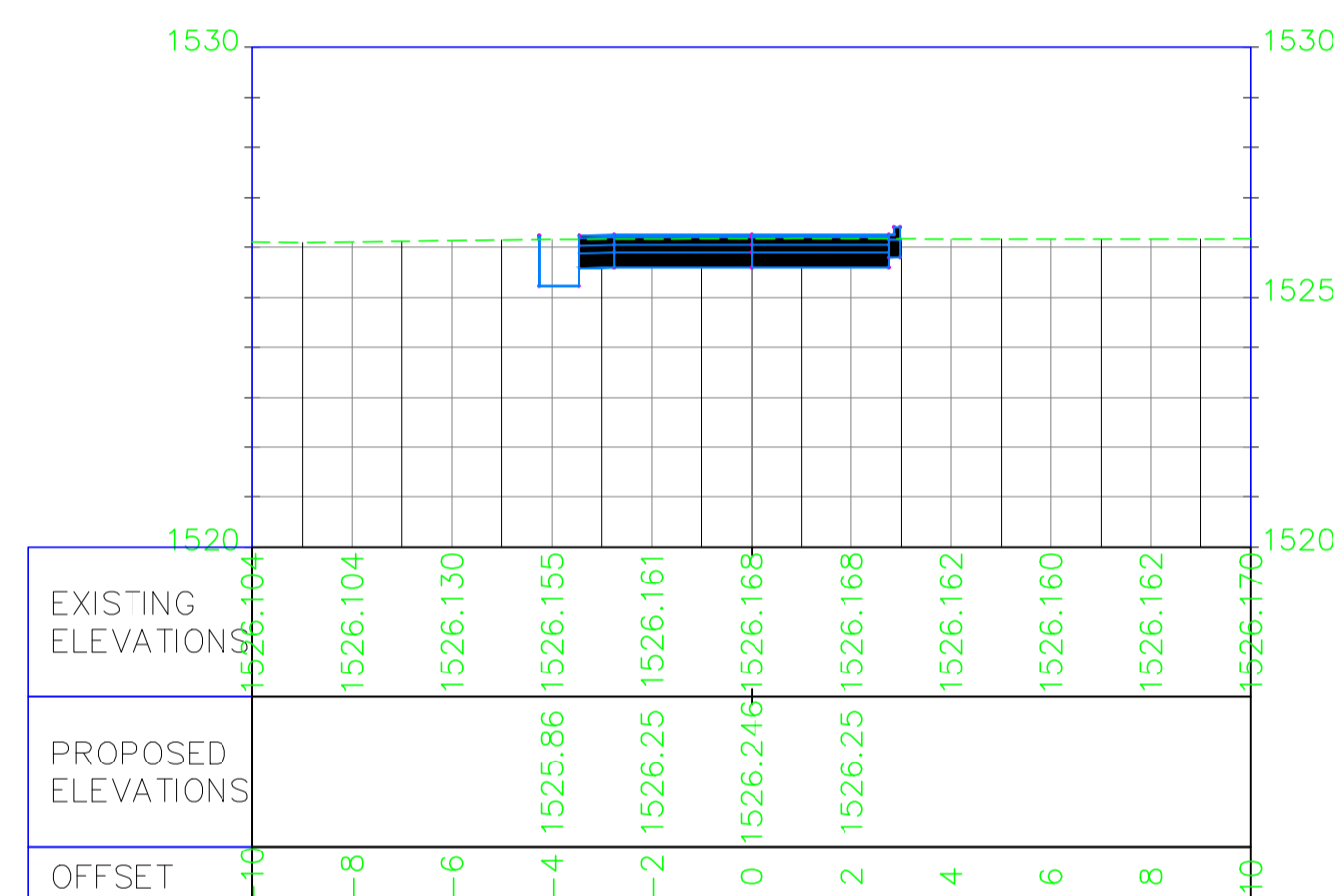
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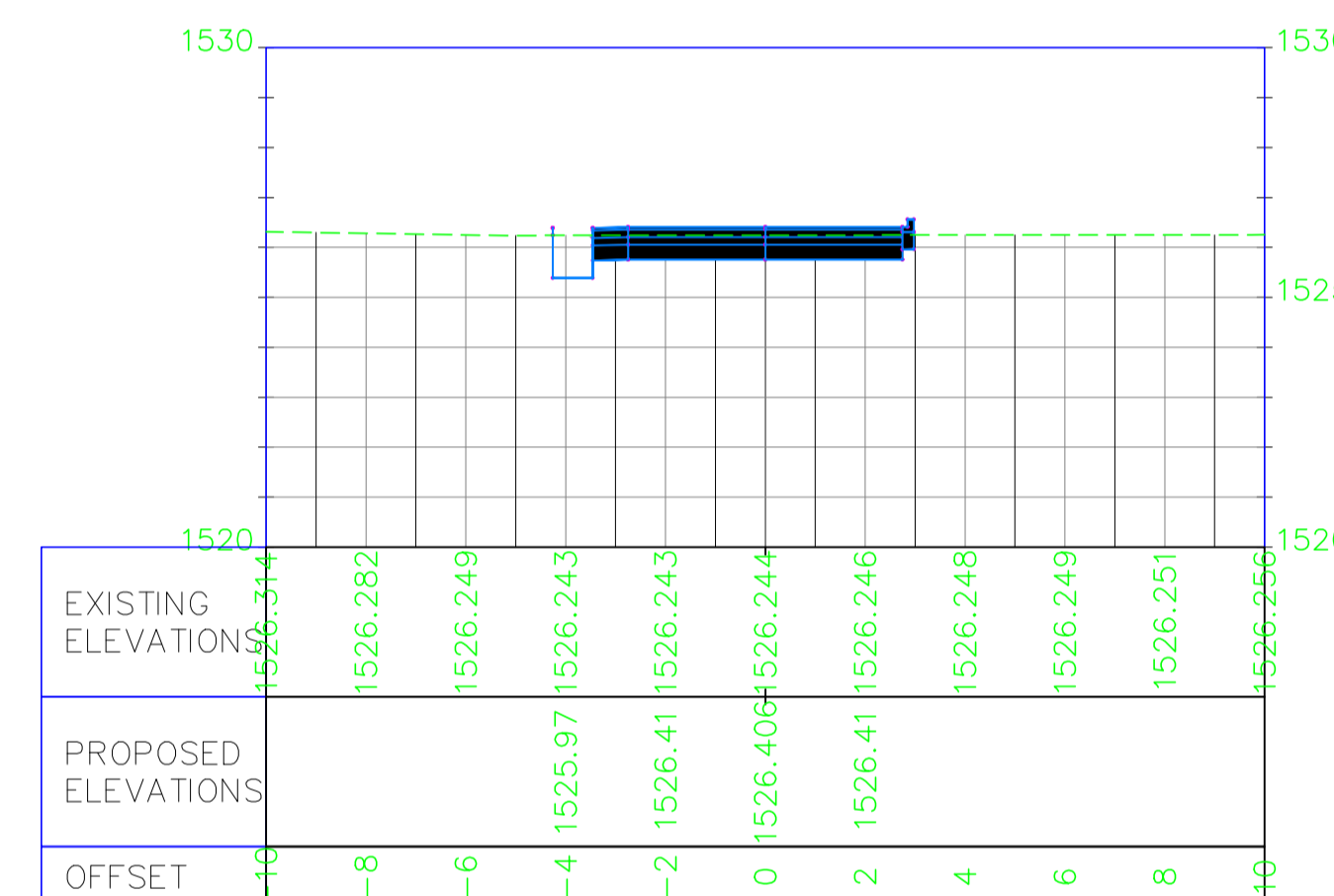
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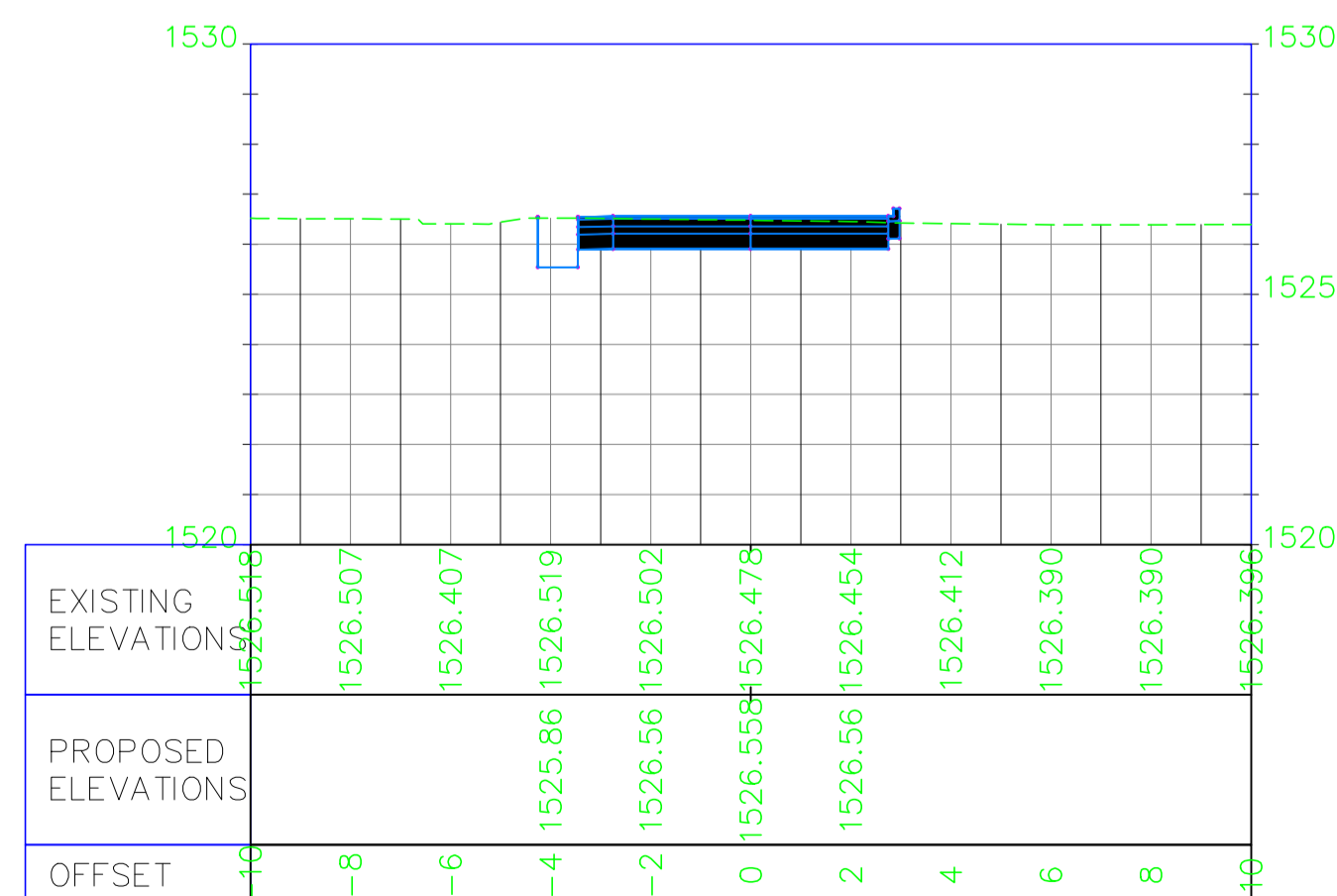
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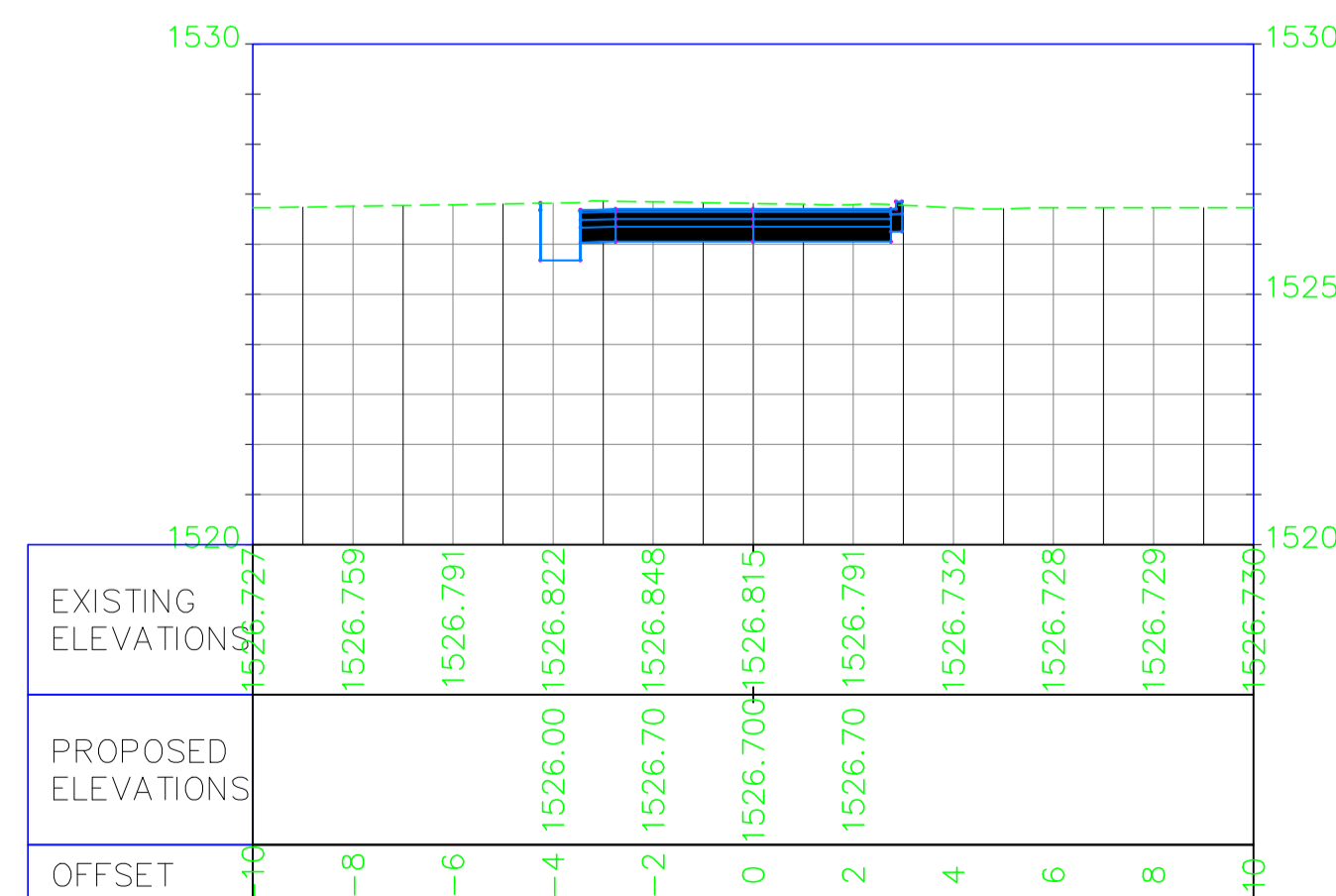
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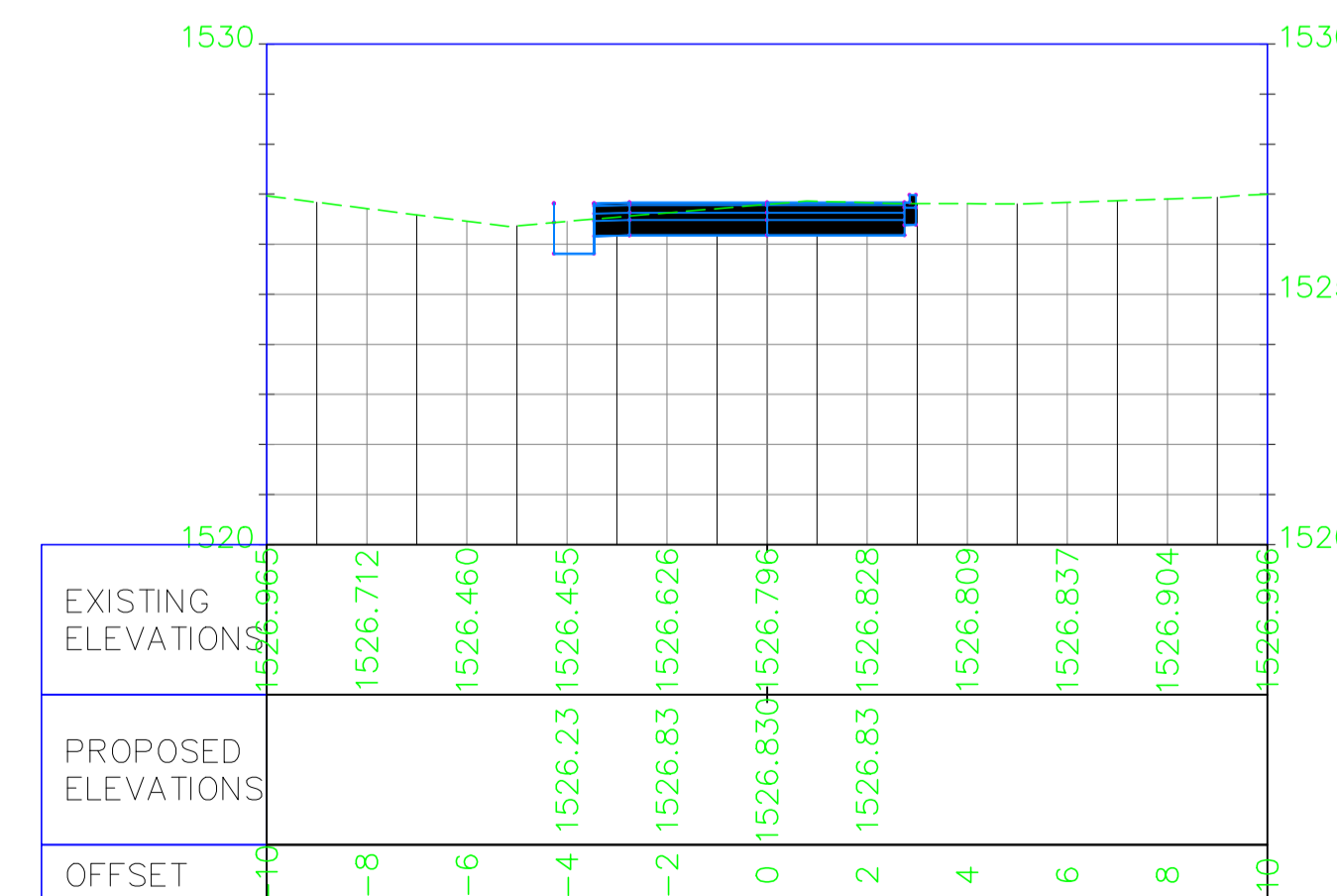
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0+360.00



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Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu**

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



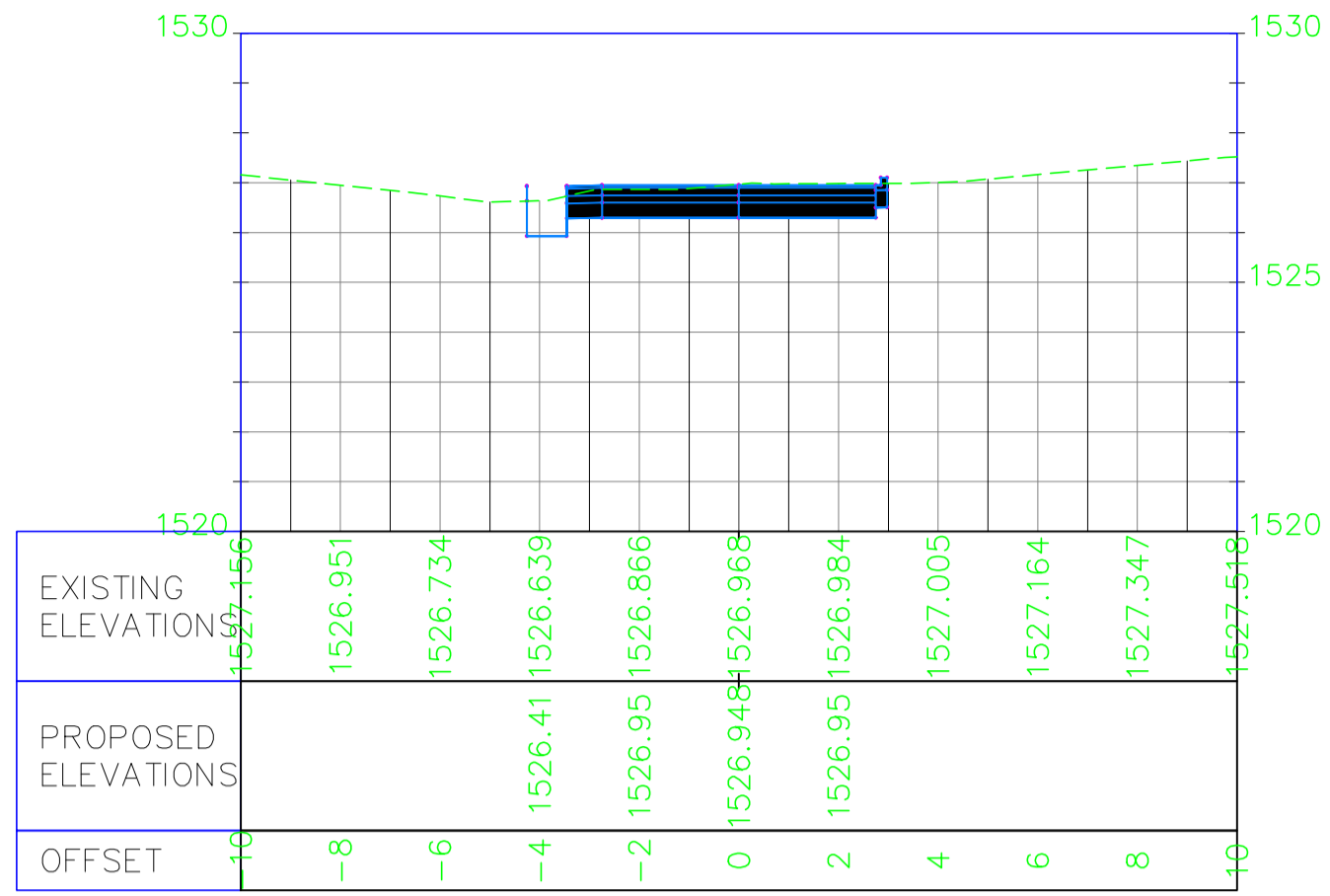

CONSULTANT
Wanjohi Mutonyi Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



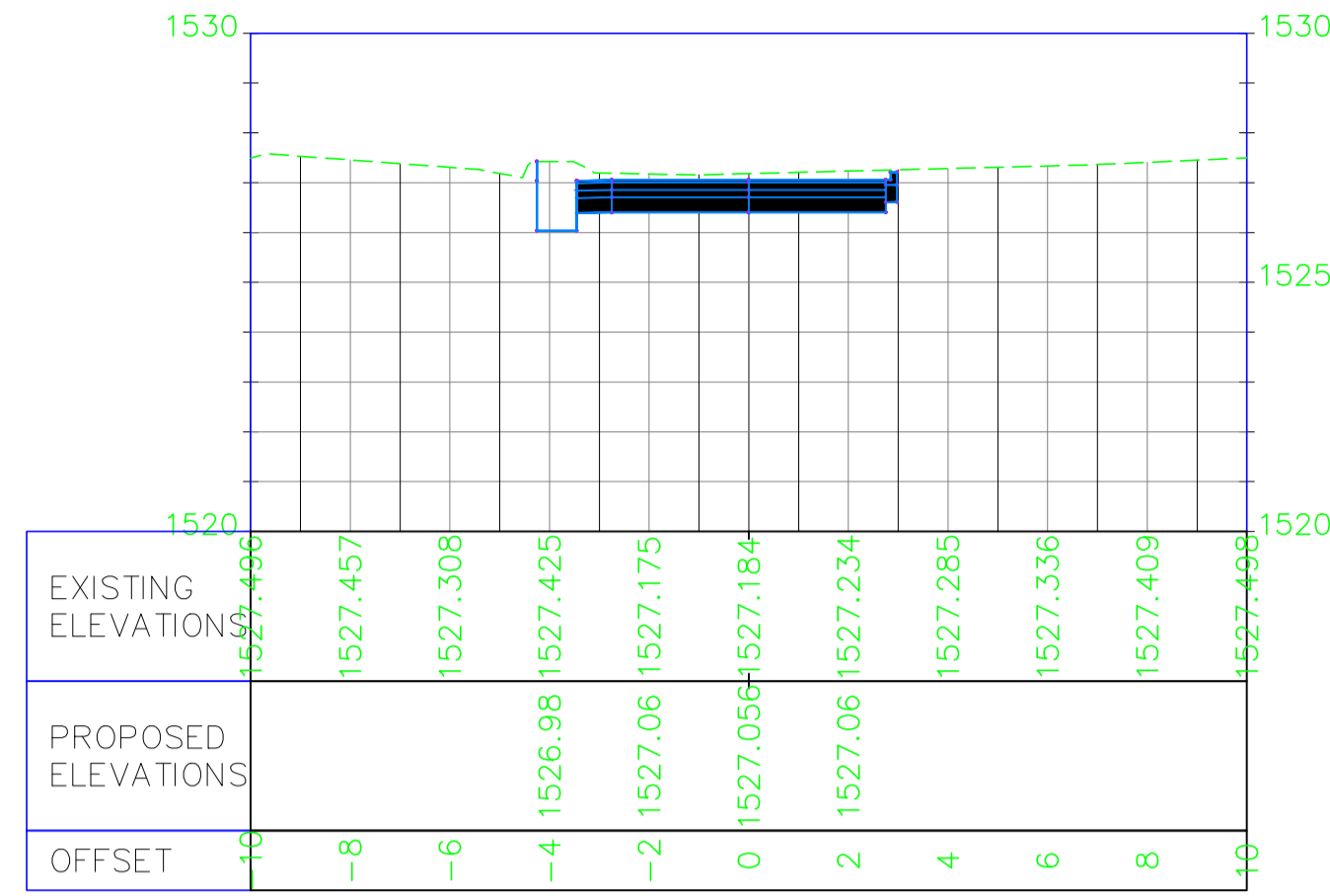
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD01A CROSS SECTIONS				REVISIONS	
Org. No: WMCL/CR214/FJ/DCS/02		Sheet No. 2 of 4			
Scale: H: 1: 2000		Date: DECEMBER, 2023			
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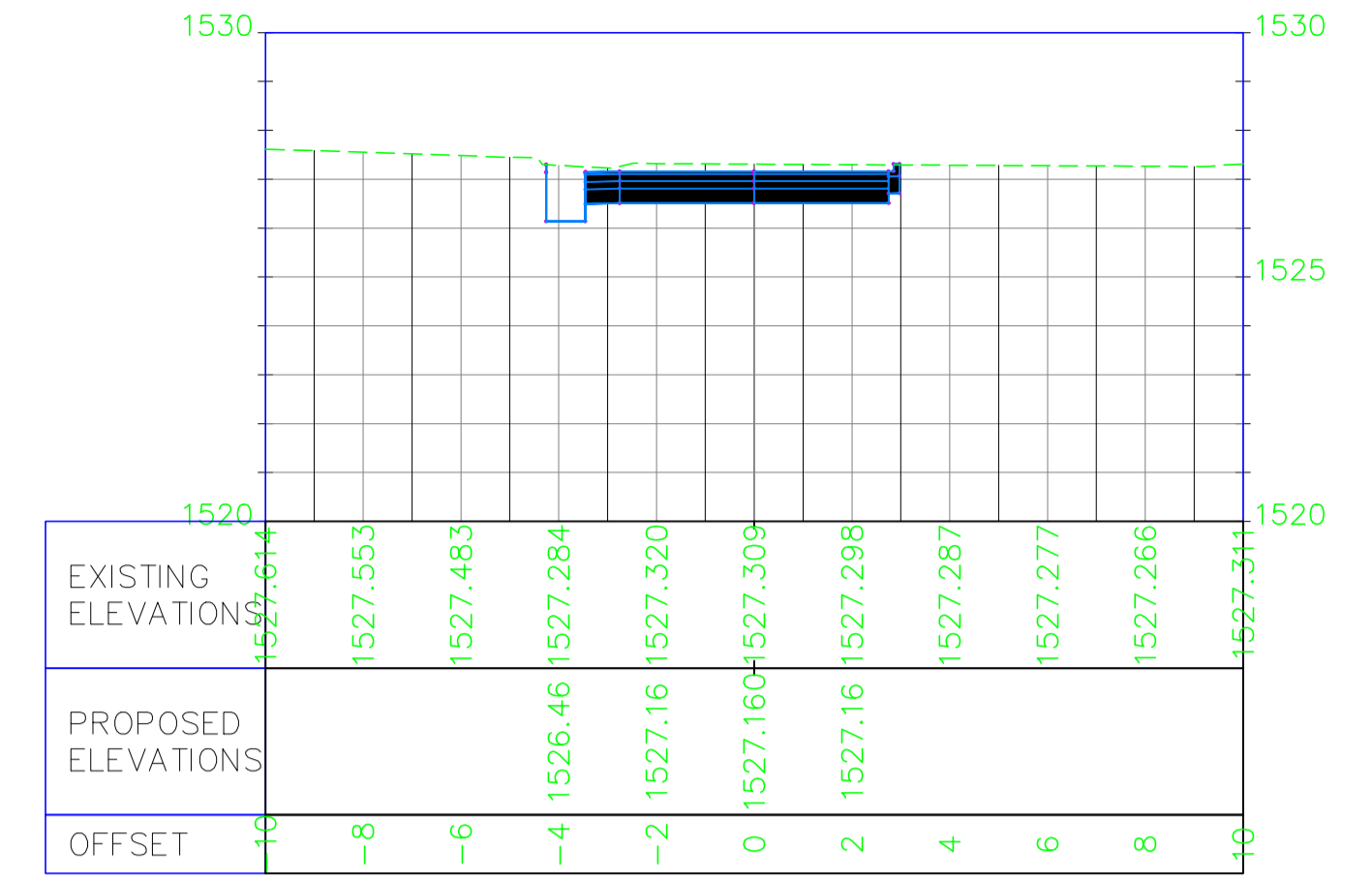
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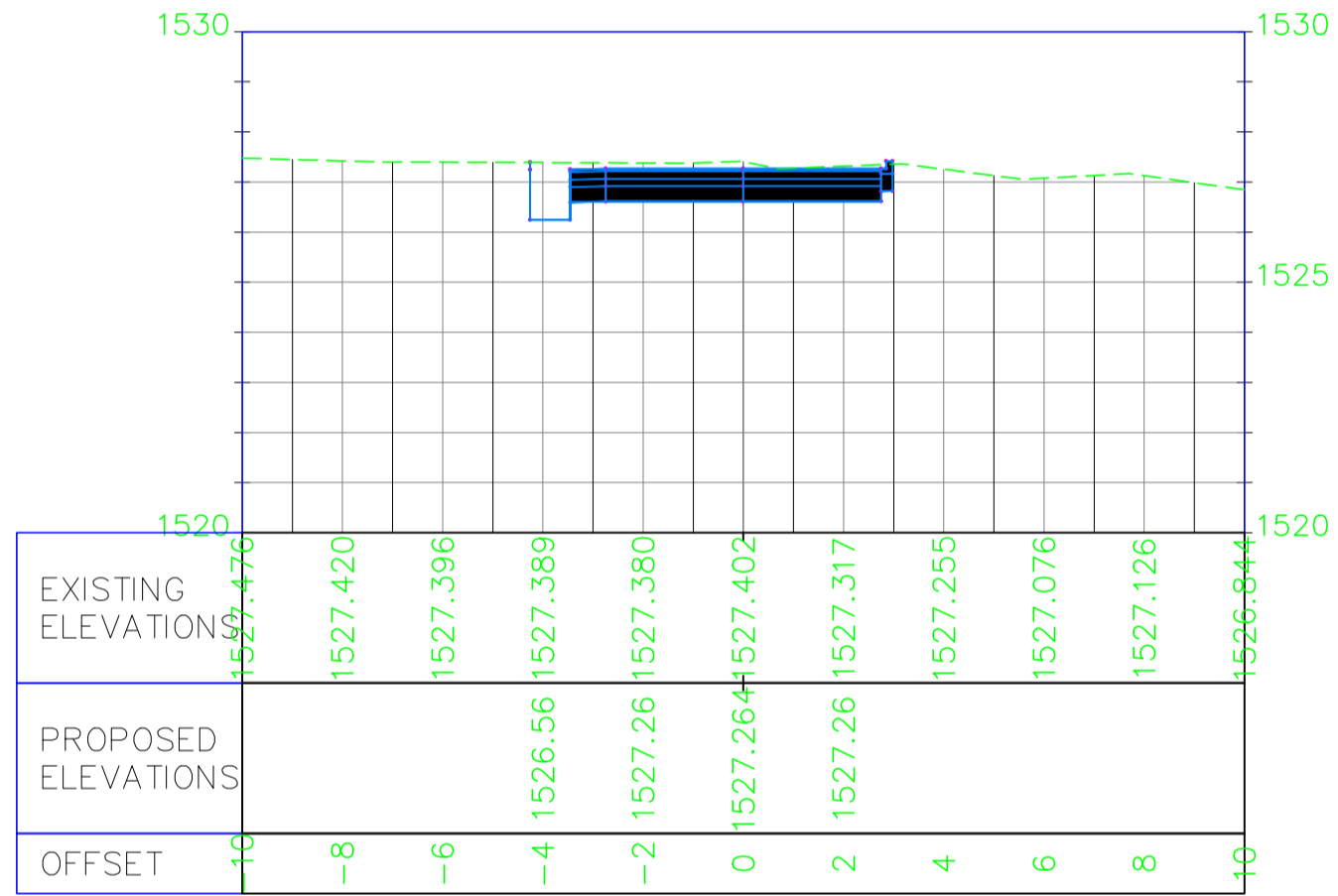
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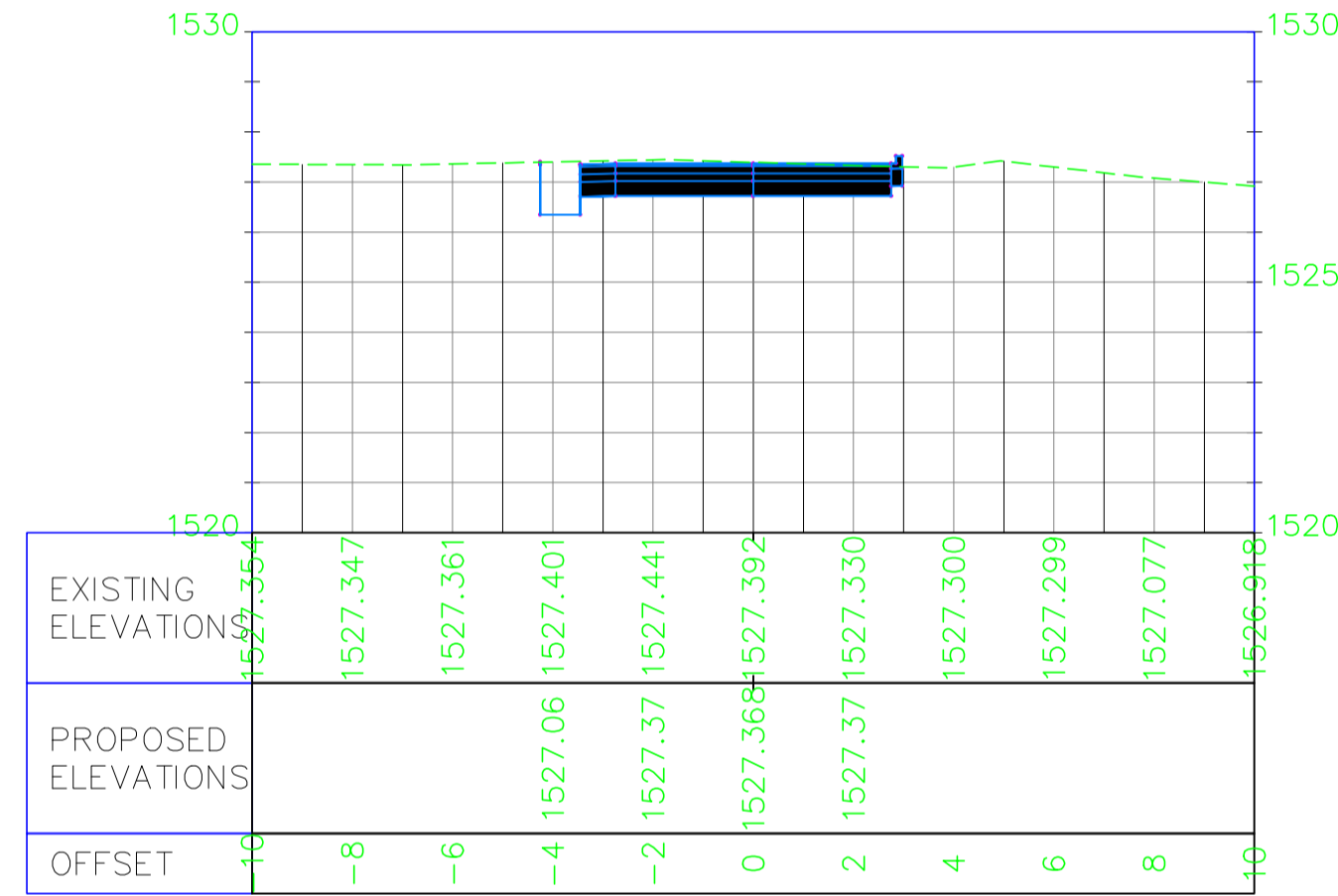
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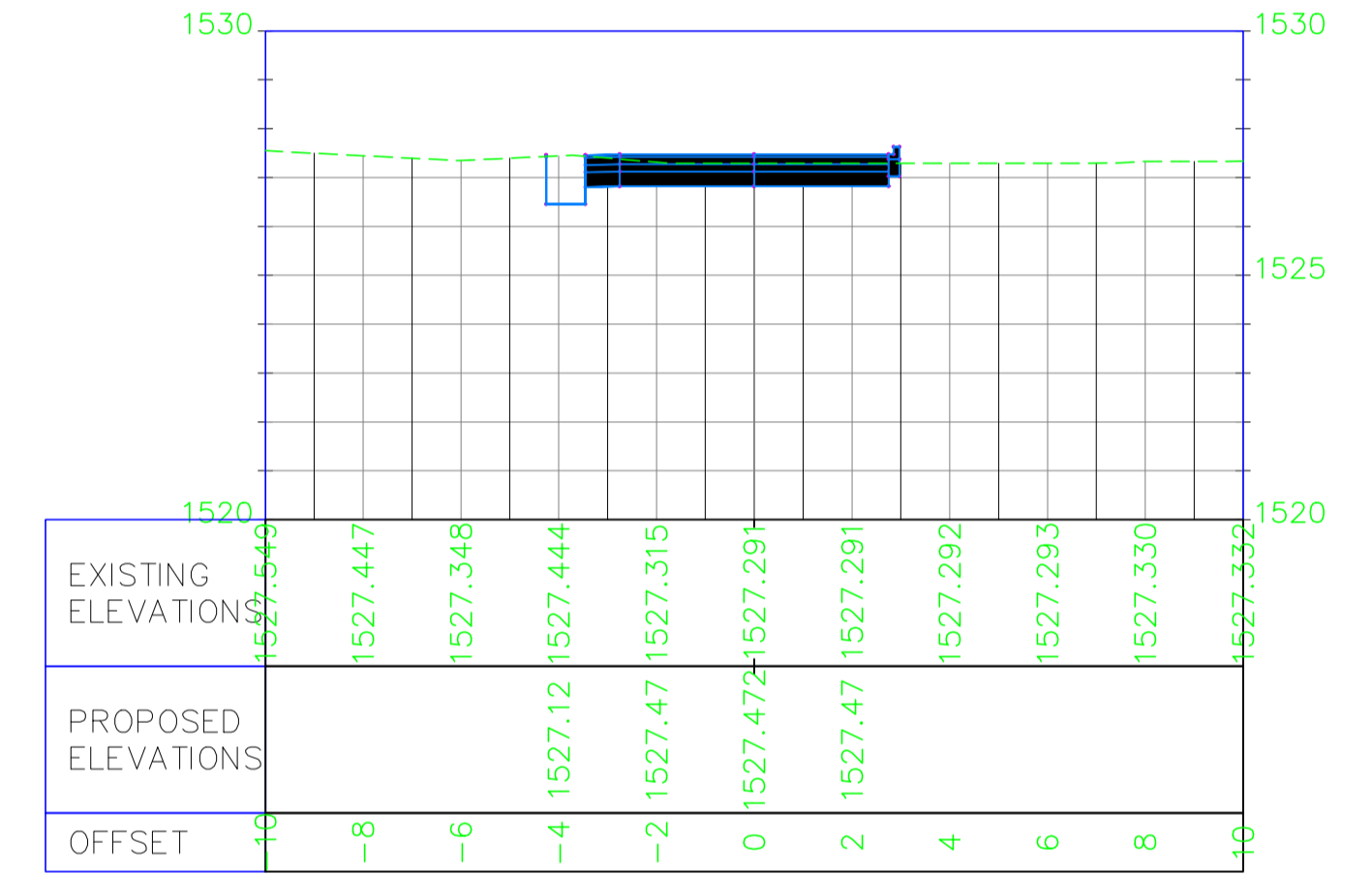
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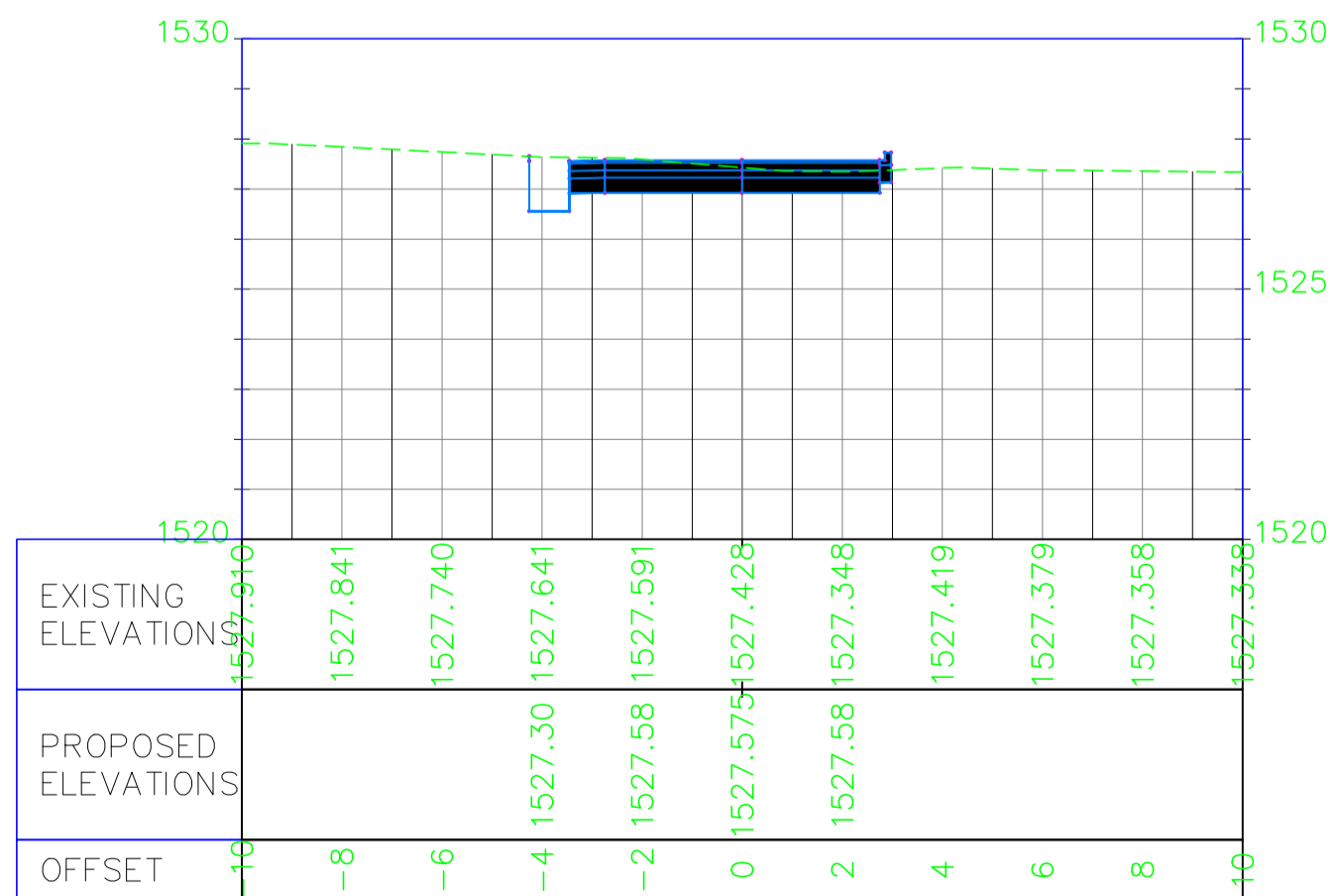
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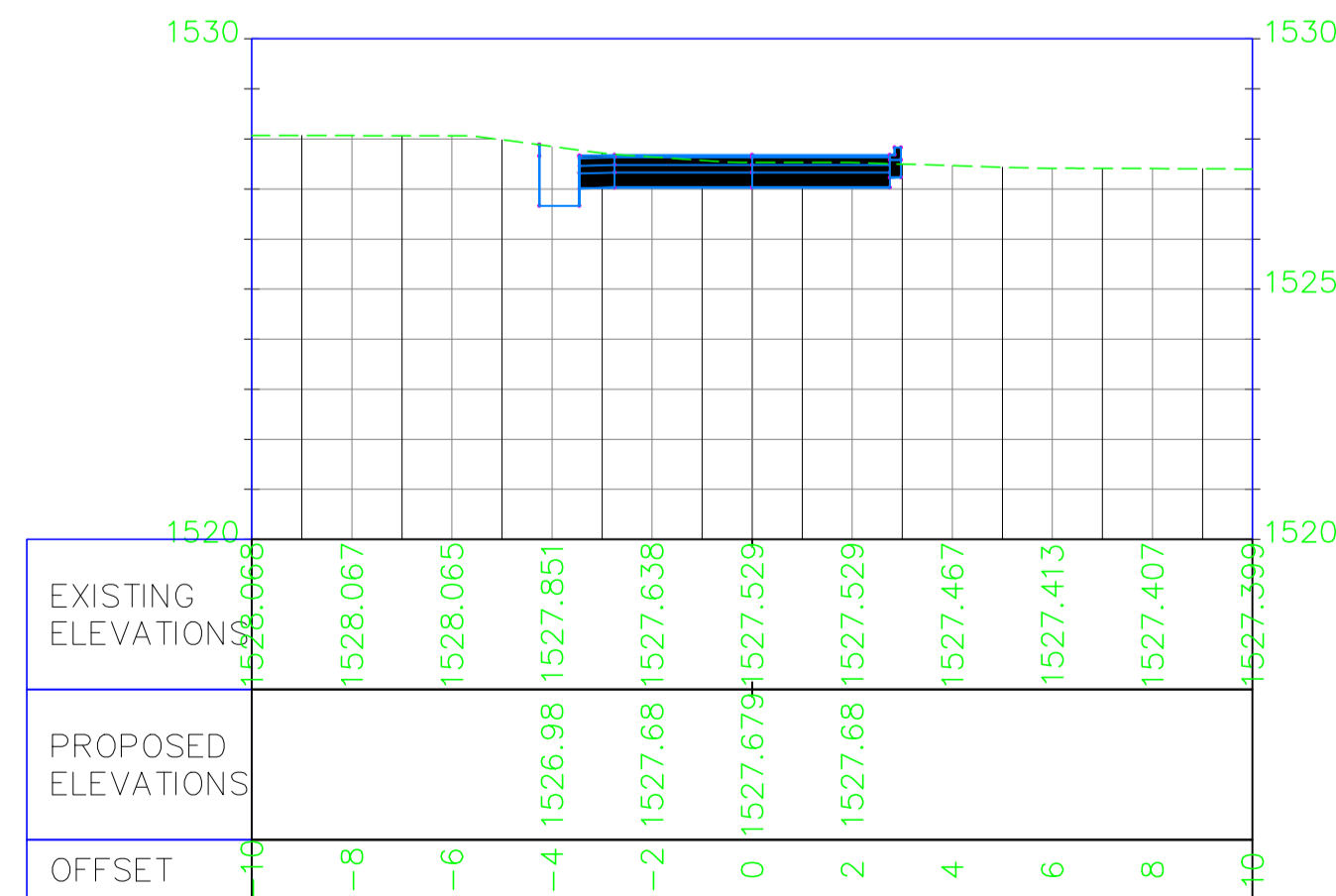
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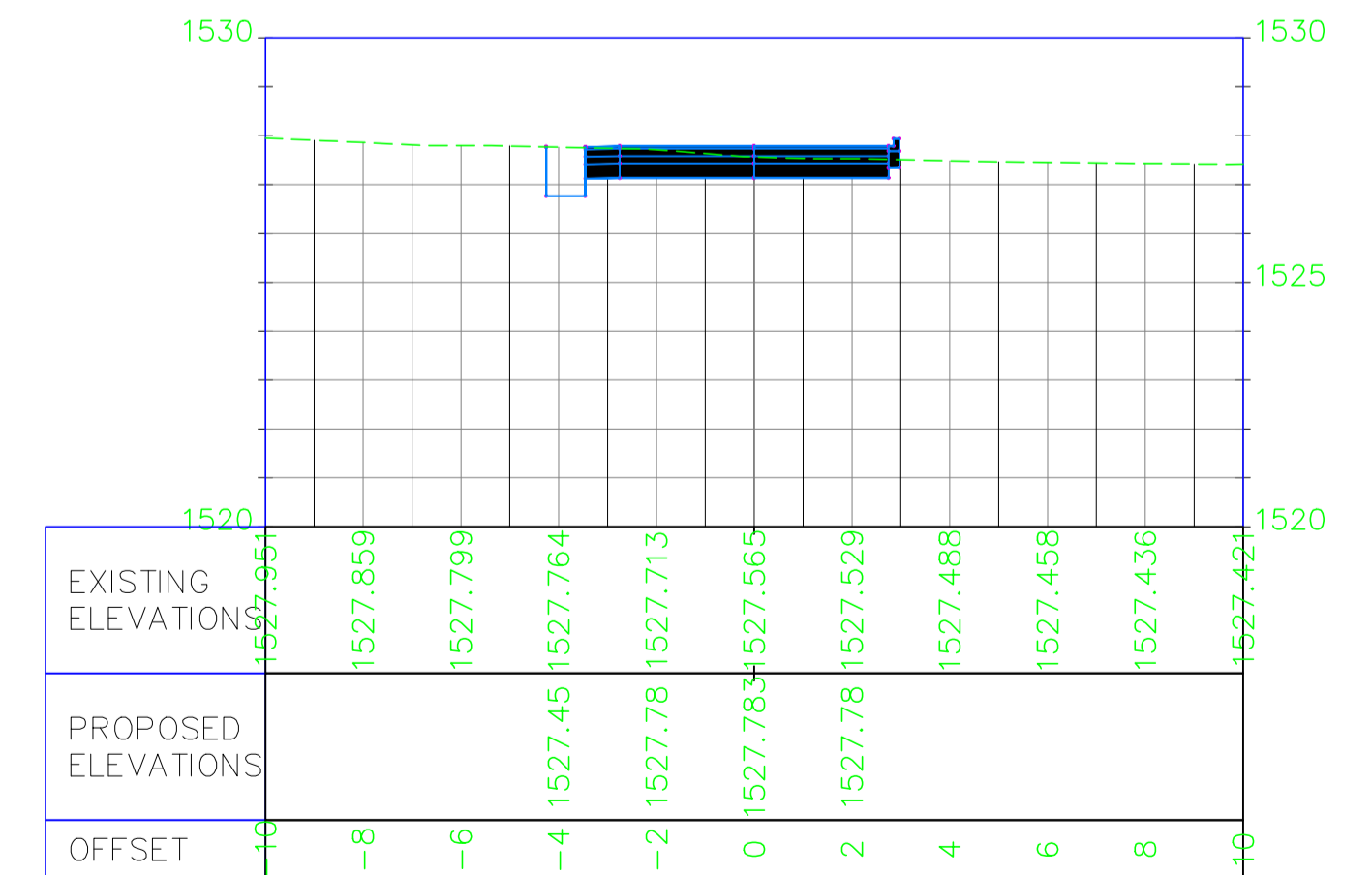
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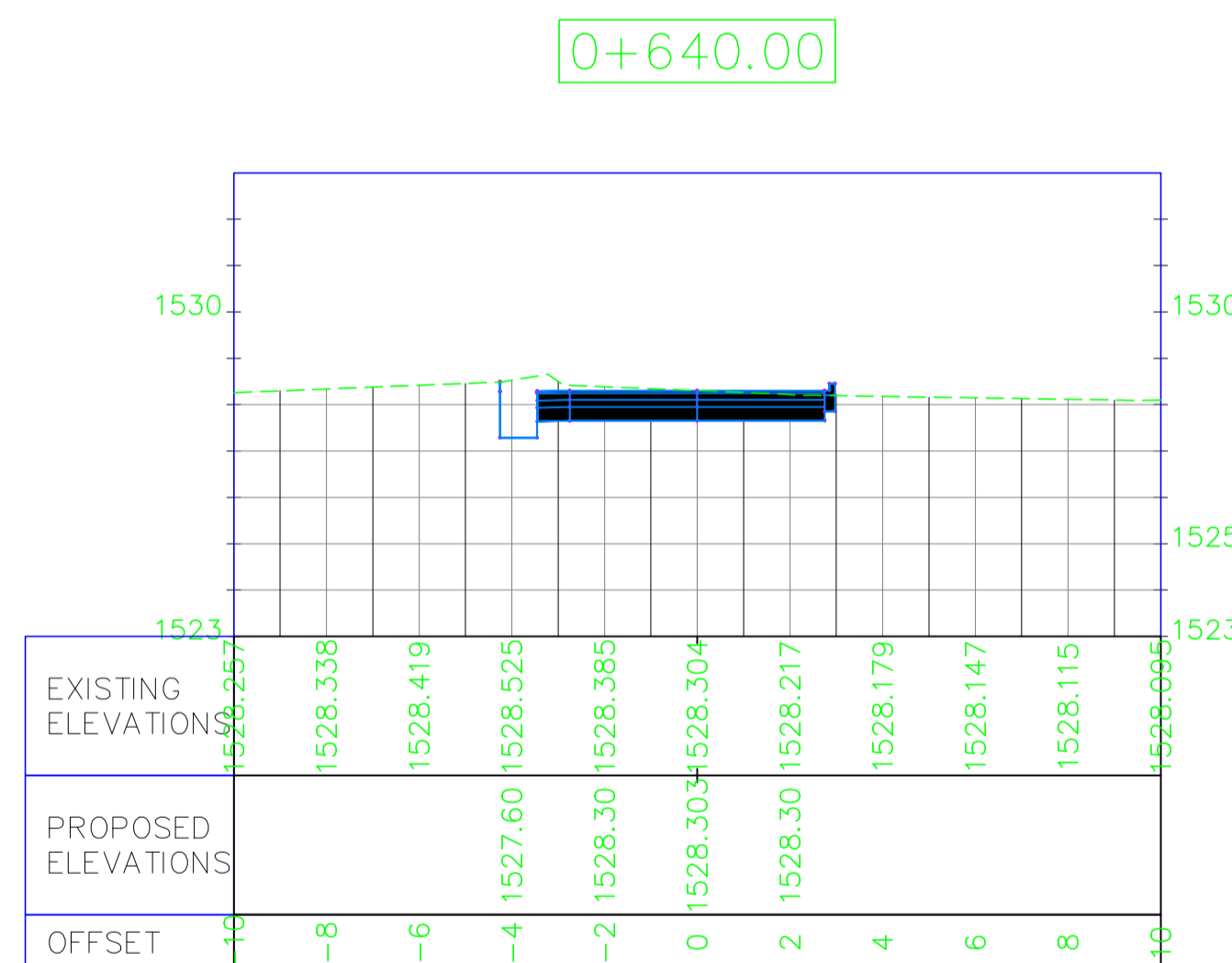
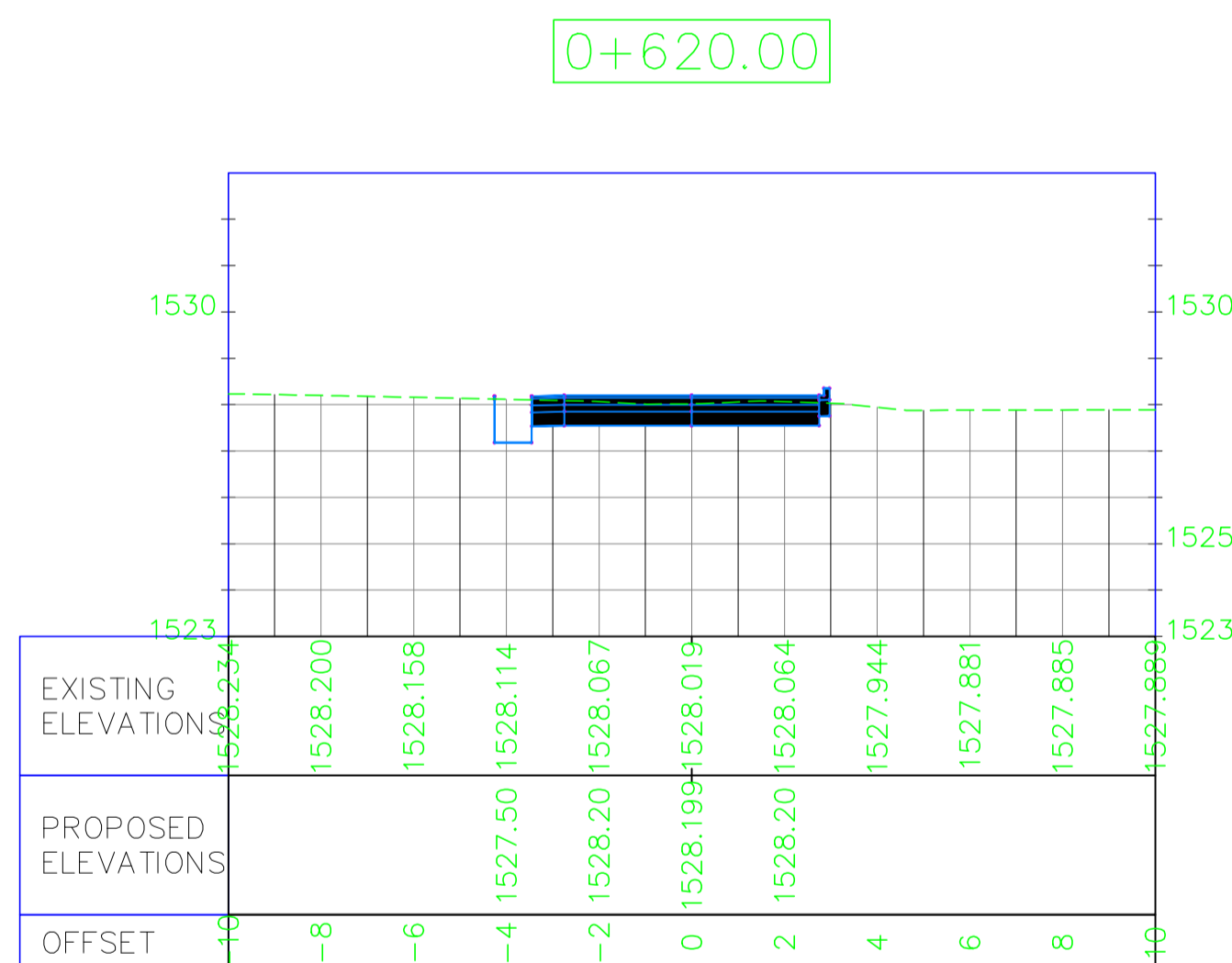
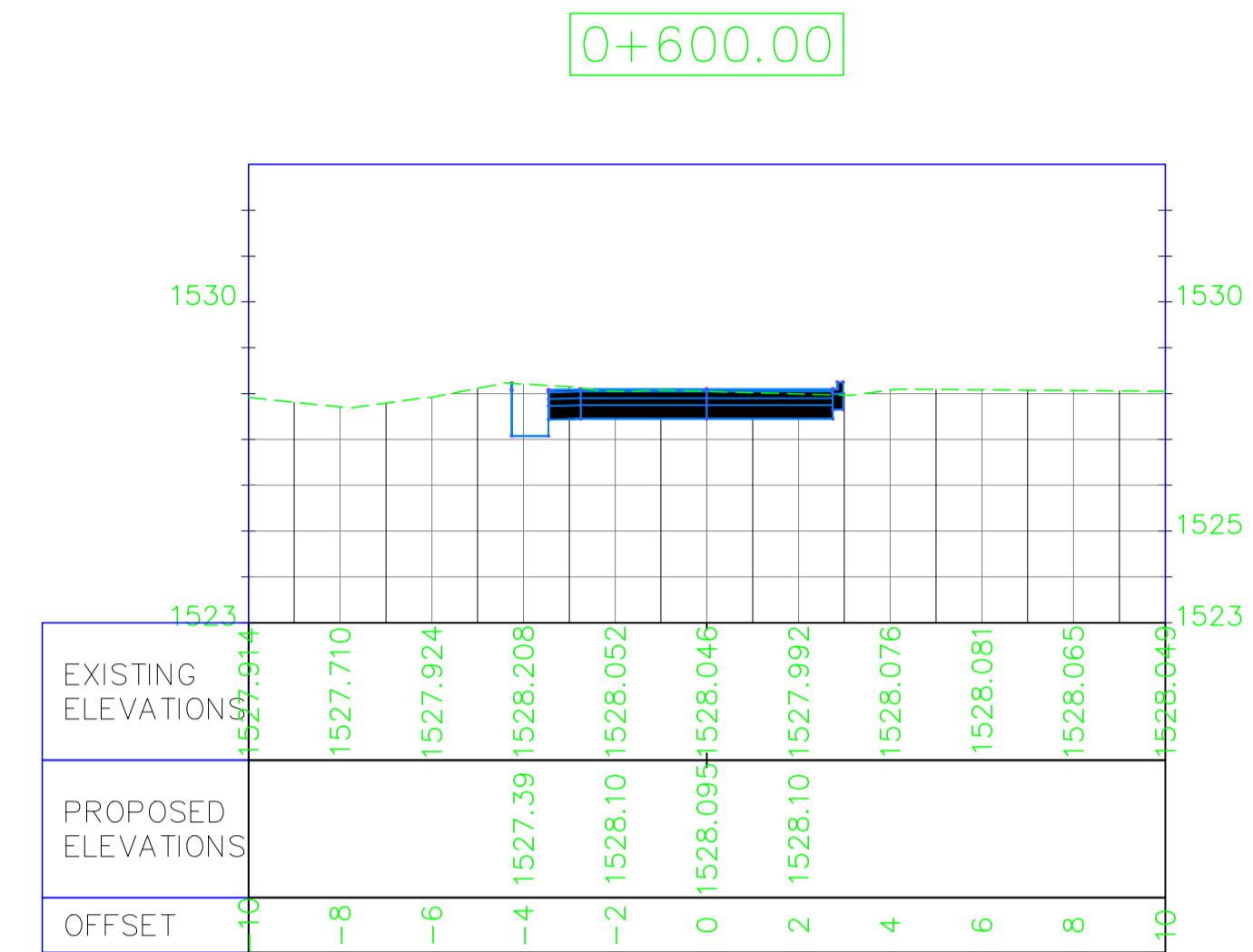
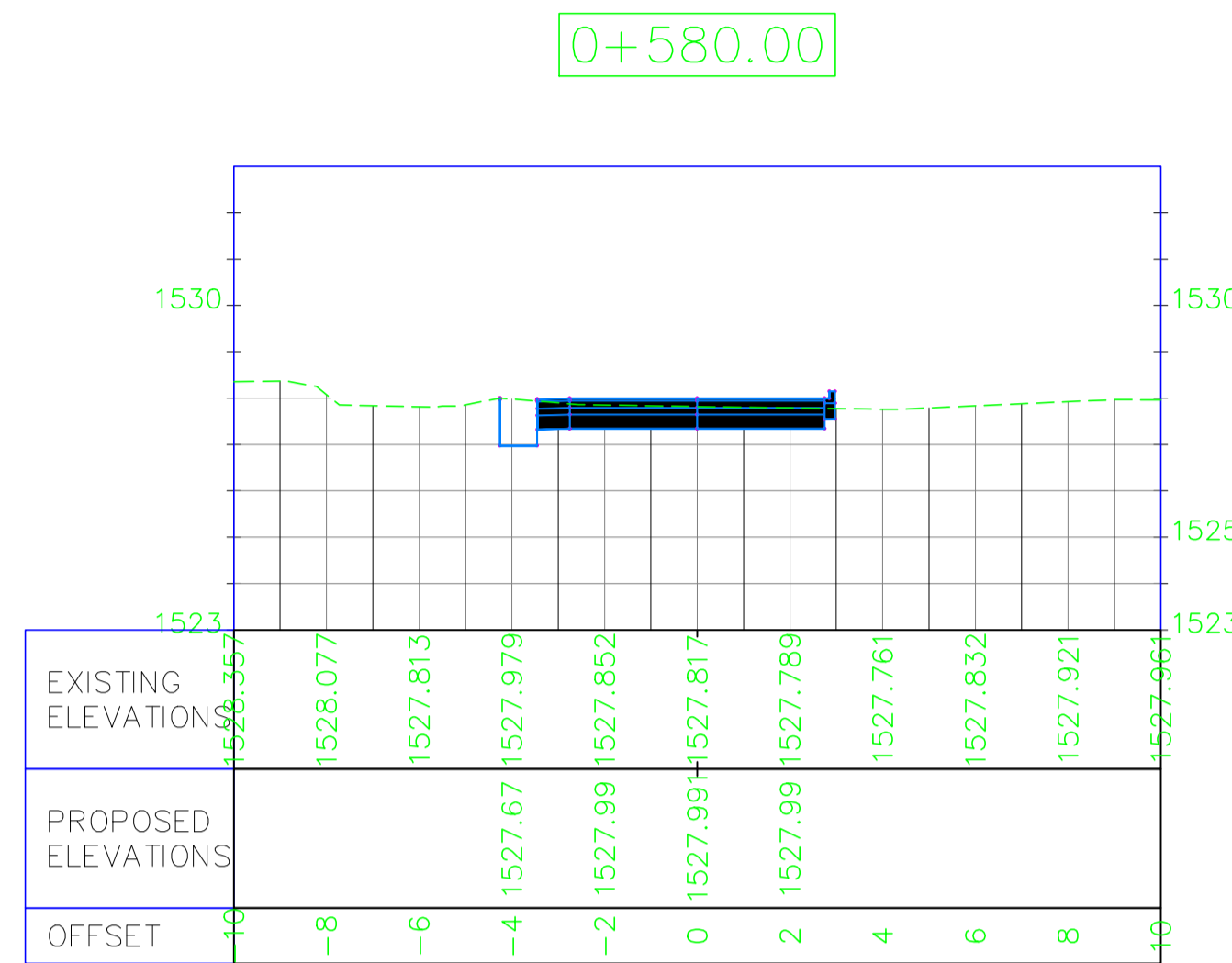
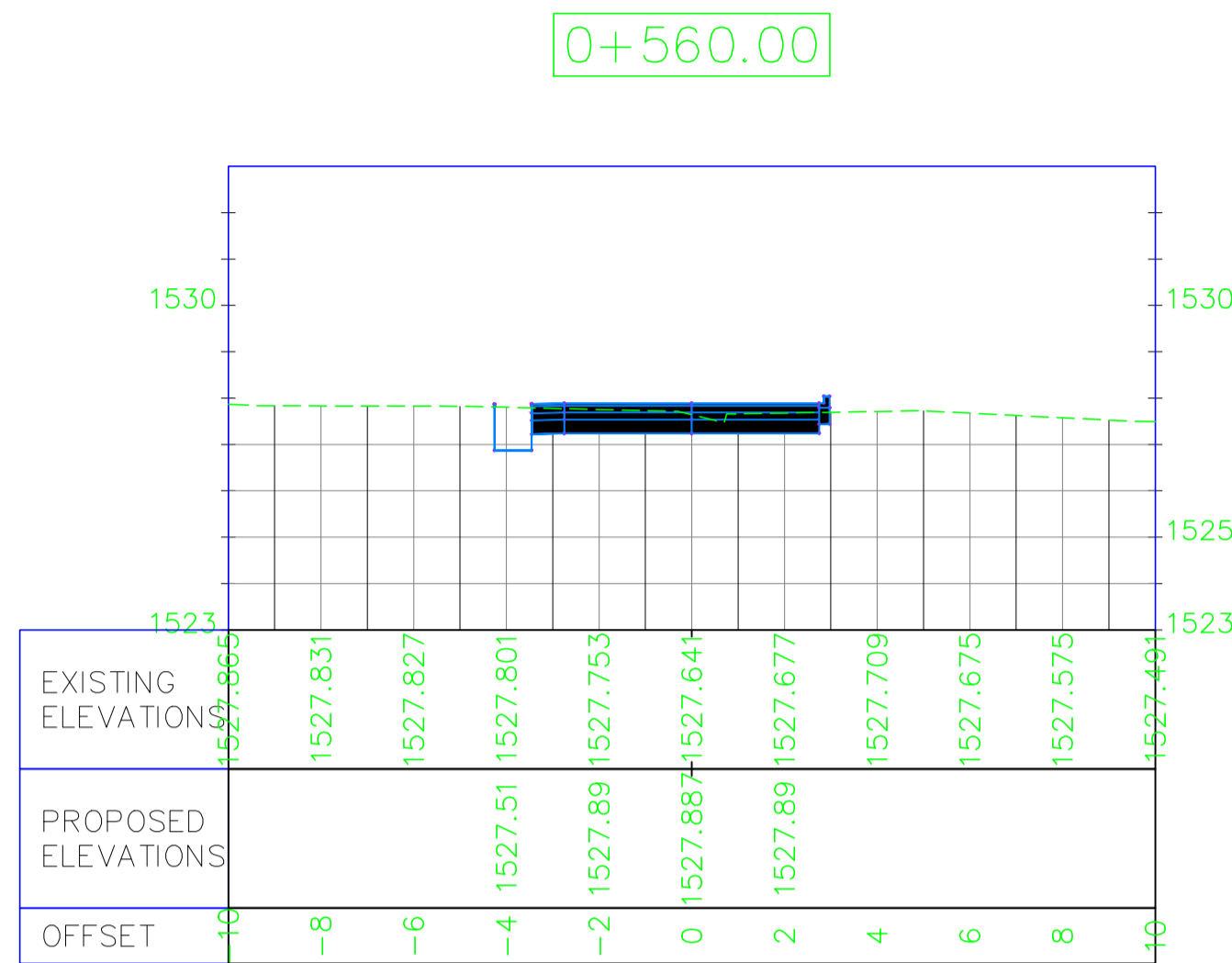
**The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu**

FINANCIER
**INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)**
 

CONSULTANT
**Wanjohi
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 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS , DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY**

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD01A CROSS SECTIONS				REVISIONS	
Org. No: WML/CR214/FJ/DCS/03		Sheet No. 3 of 4			
Scale: H: 1: 2000		Date: DECEMBER, 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
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CHECKED BY: ENG. PNG	DRAWN BY: LWK	No.	Date	AMMENDMENTS	



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 The Chief Officer,
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 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu

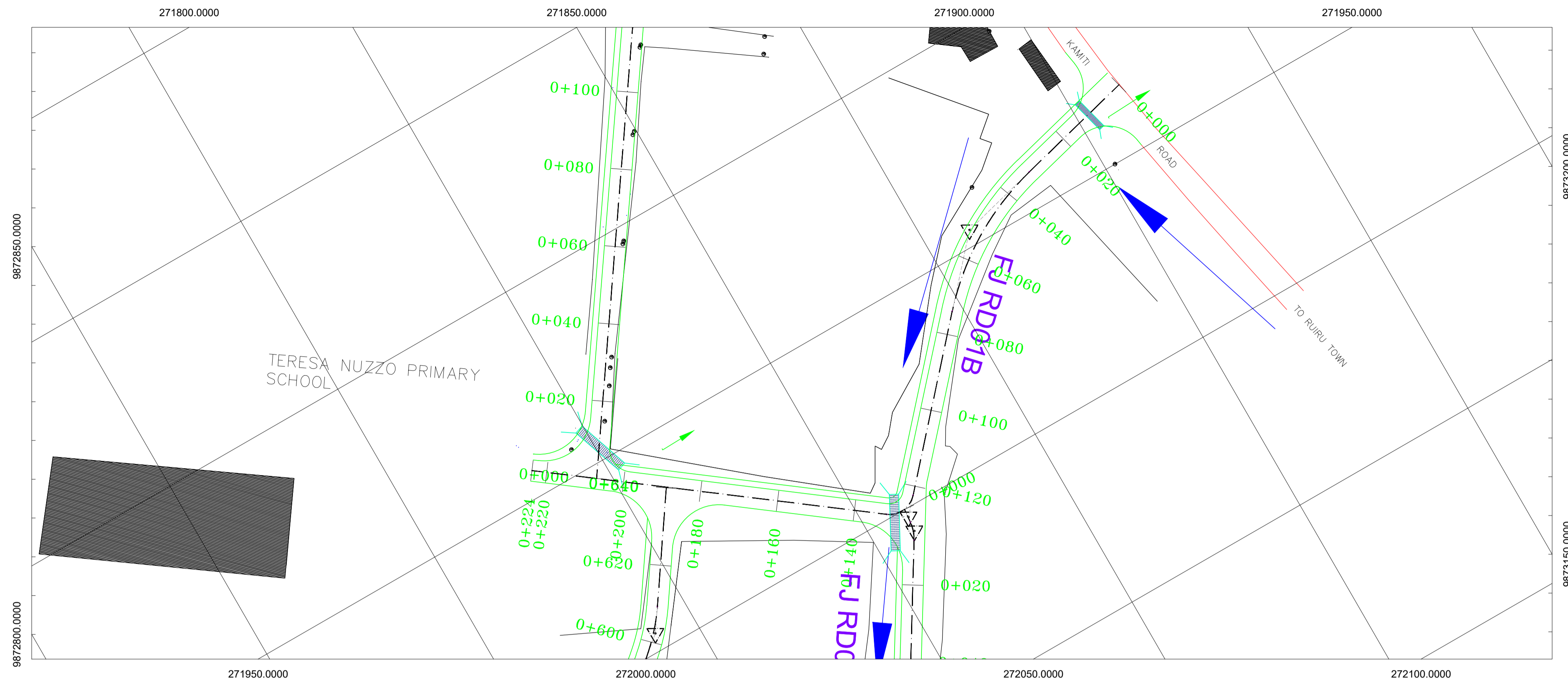
FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT
Wanjohi Mutonyi Consult Ltd.
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 Corner Ngong/Ndemi Road,
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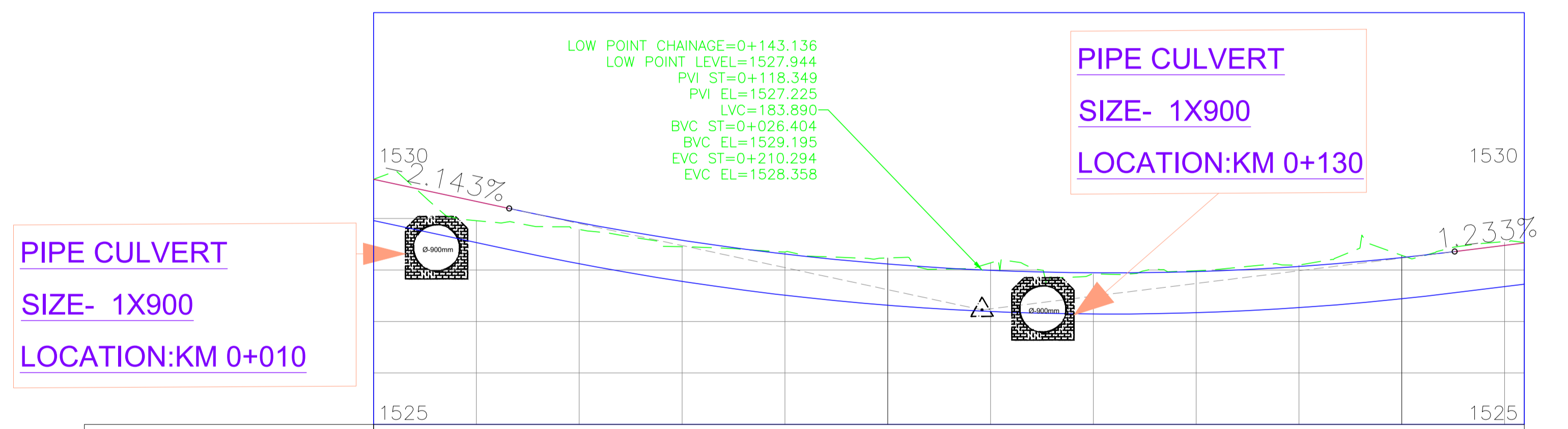
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD01A CROSS SECTIONS			
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Scale: H: 1:2000	Date: DECEMBER: 2023	Stage: TENDER DRAWINGS	
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		ENG. IKWM	LWK
CHECKED BY	ENG. PNG	DRAWN BY	LWK

REVISIONS	
No.	Date



FJ RD01B PROFILE



PIPE CULVERT
SIZE- 1X900
LOCATION:KM 0+010

PIPE CULVERT
SIZE- 1X900
LOCATION:KM 0+130

STATION	0+000	0+100						0+200	0+224
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 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

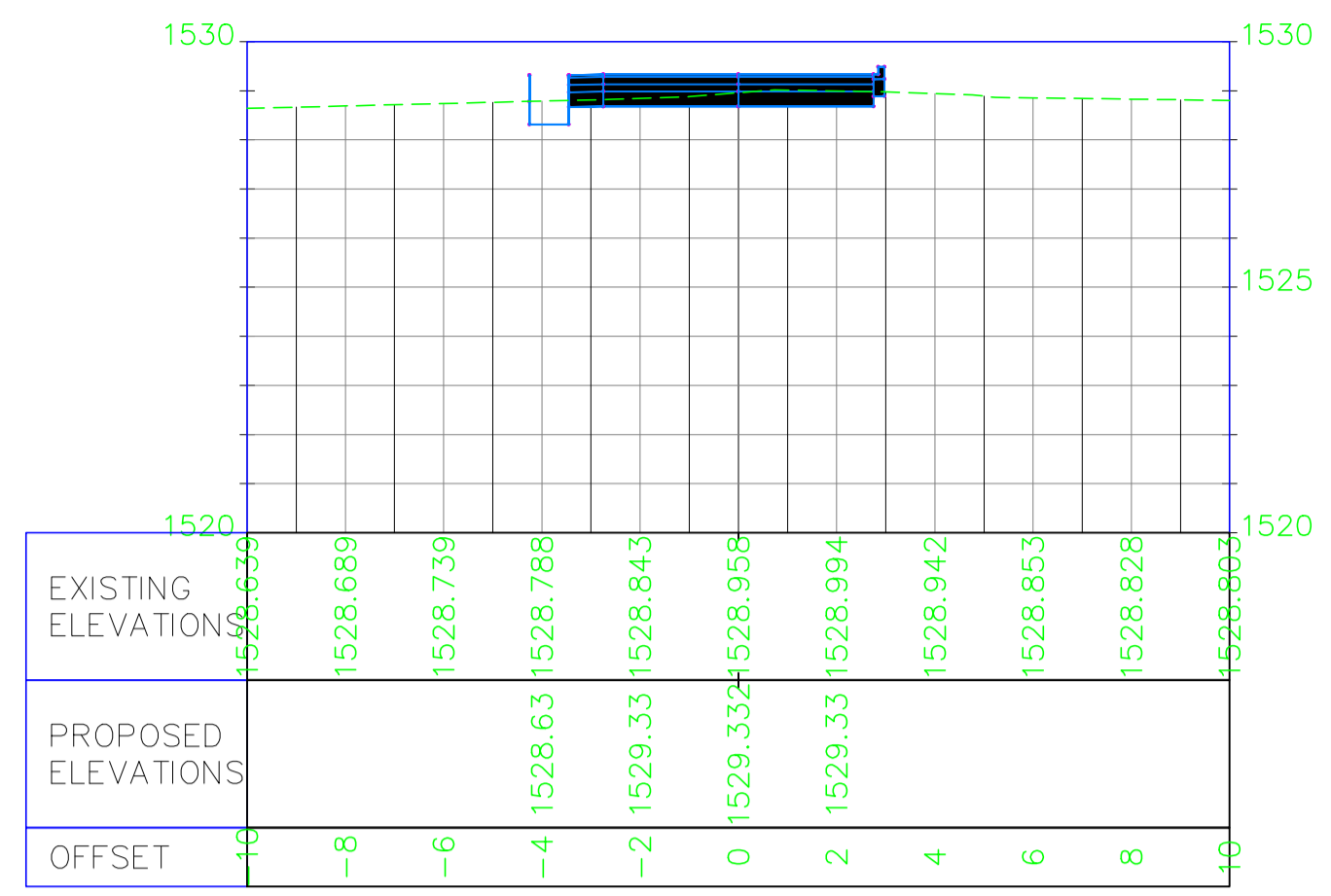

CONSULTANT

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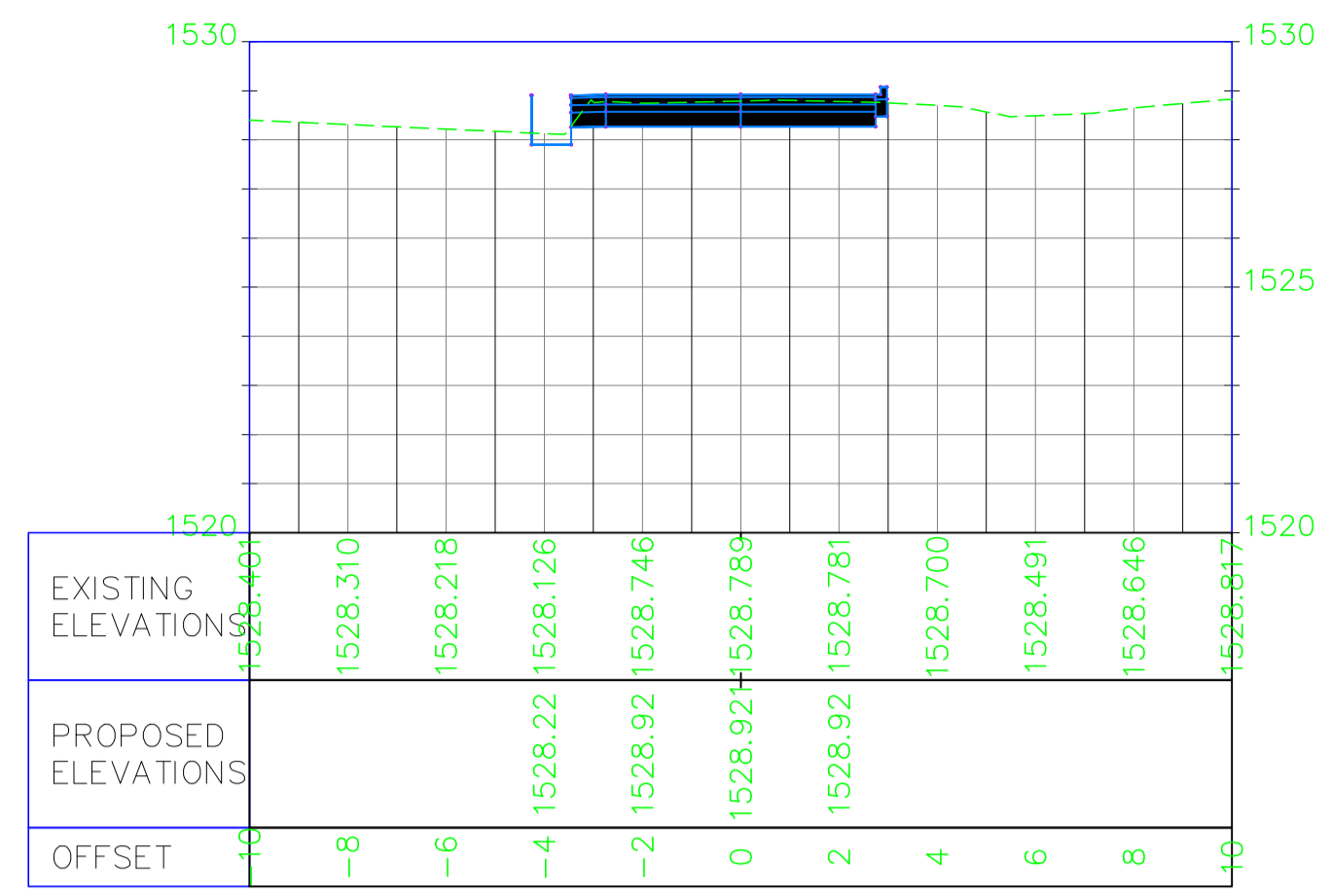
PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
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 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD01B PLAN & PROFILES				REVISIONS	
Drg. No. WMCL/CR214/FJ/PP/02		Sheet No. 2 of 5			
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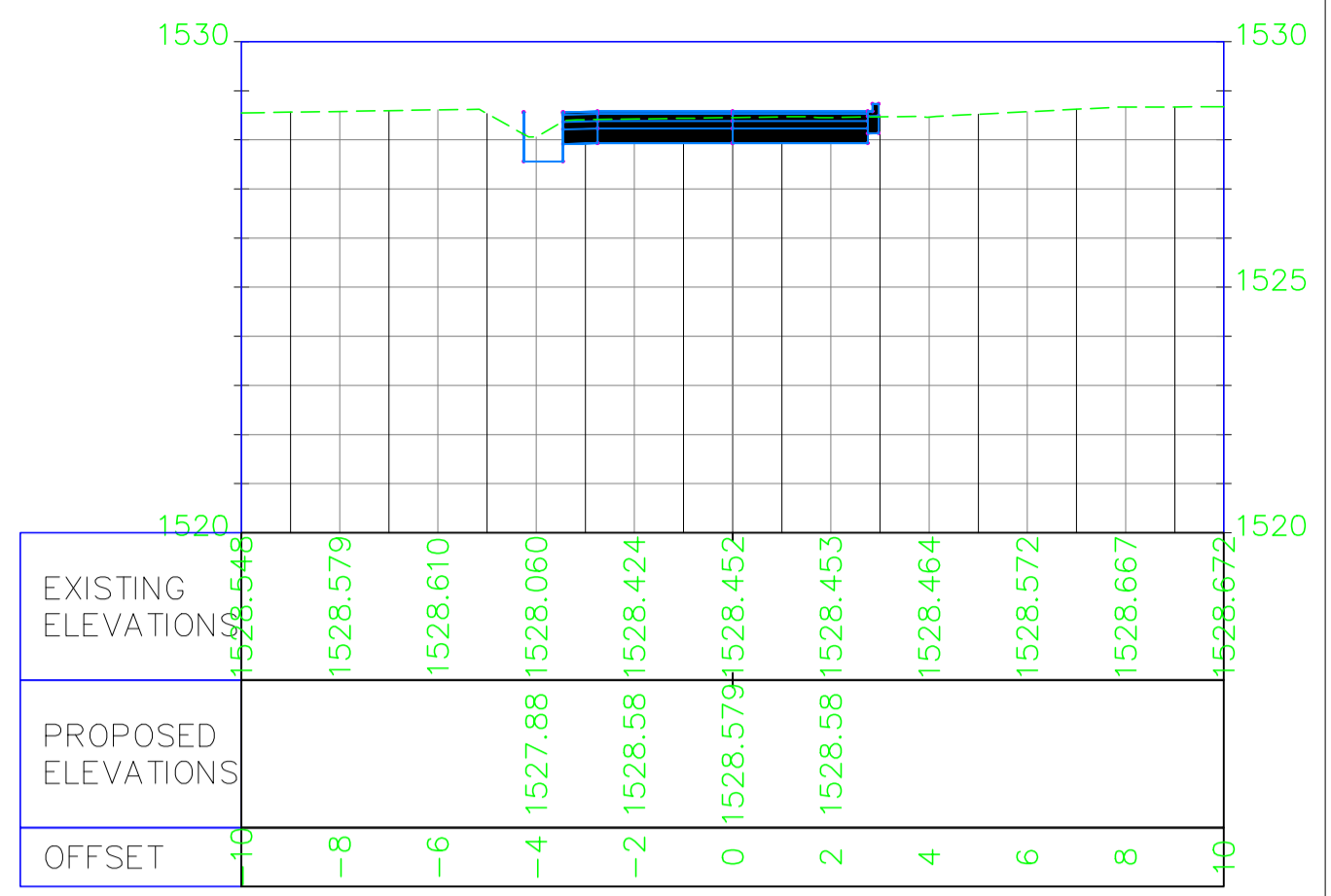
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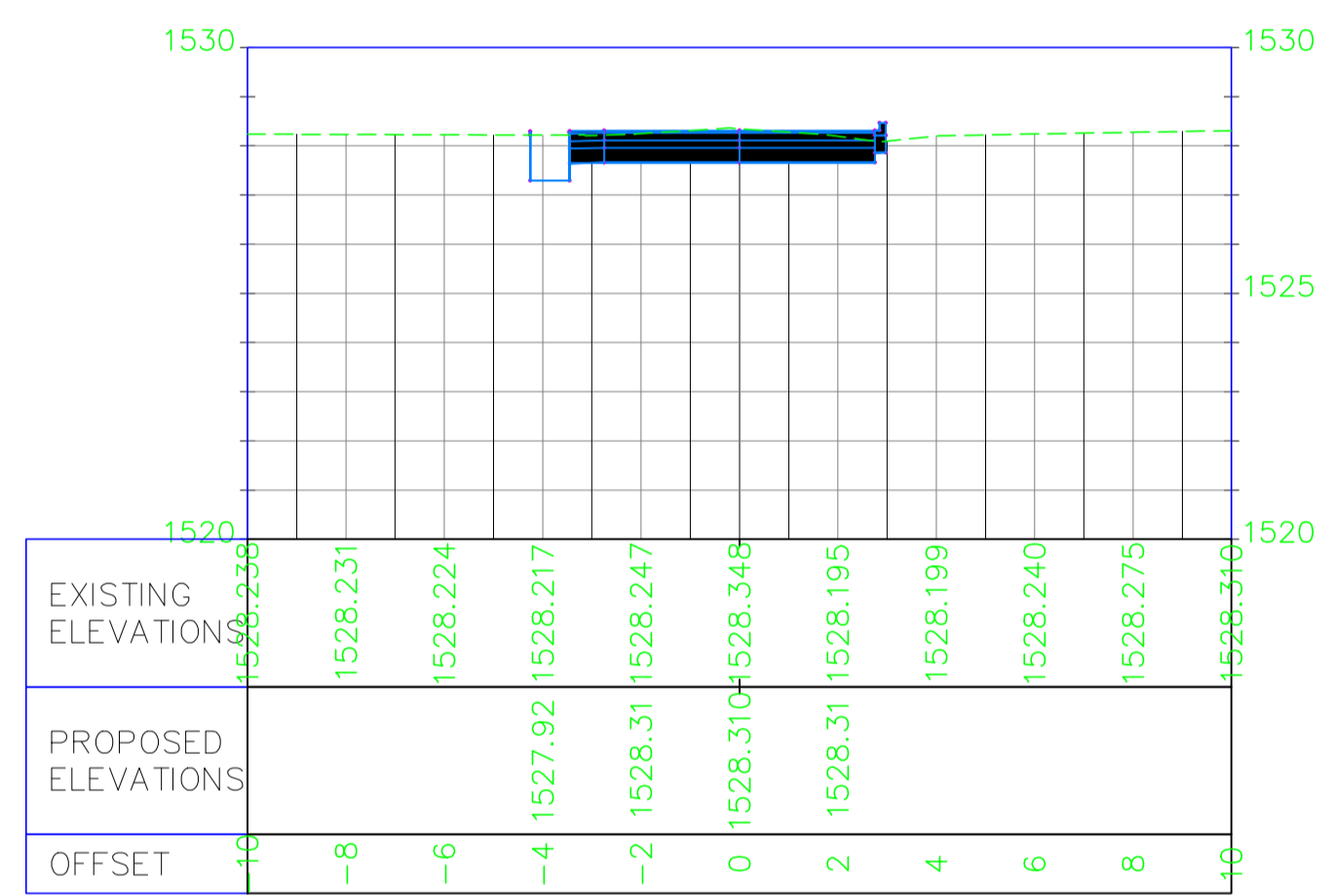
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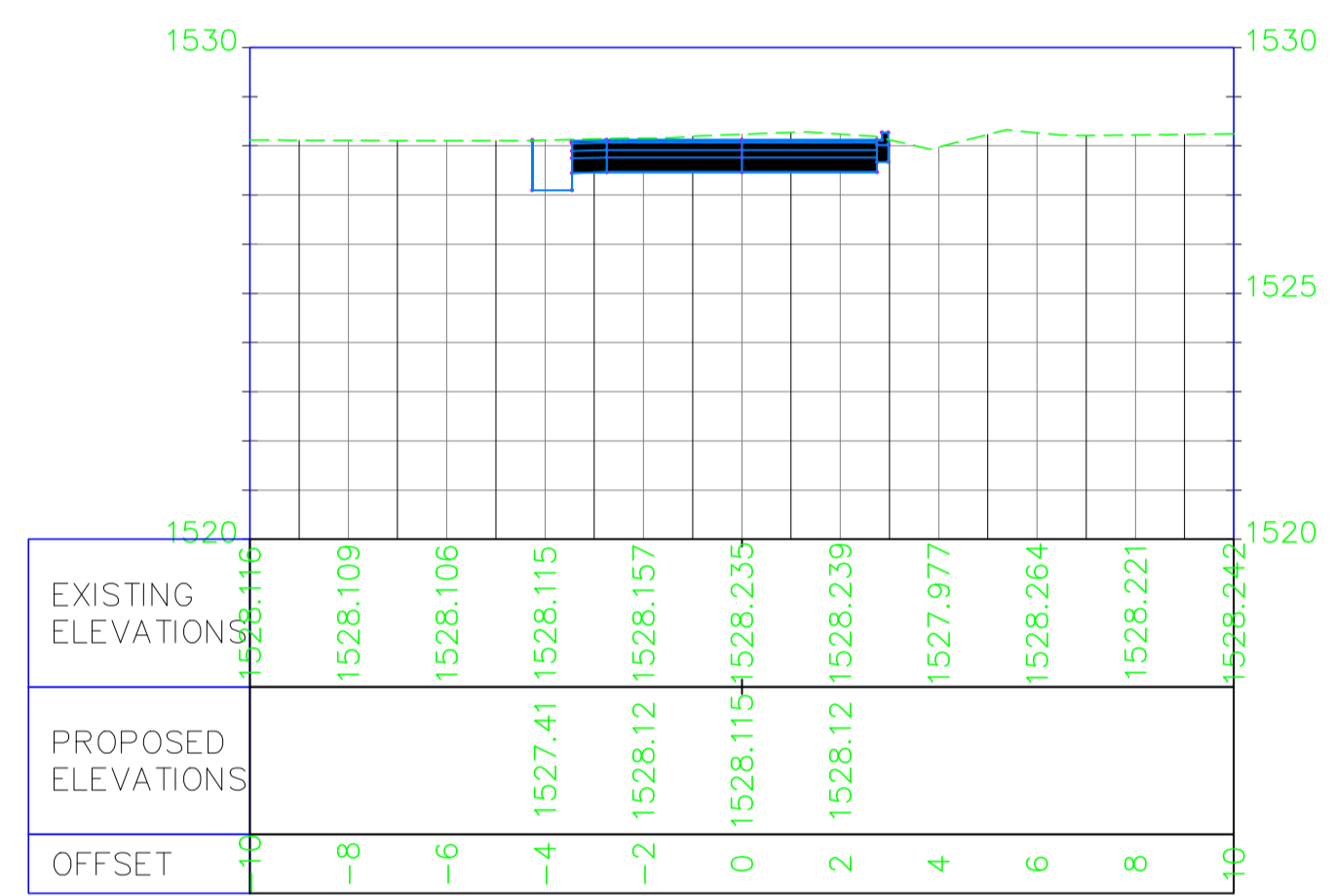
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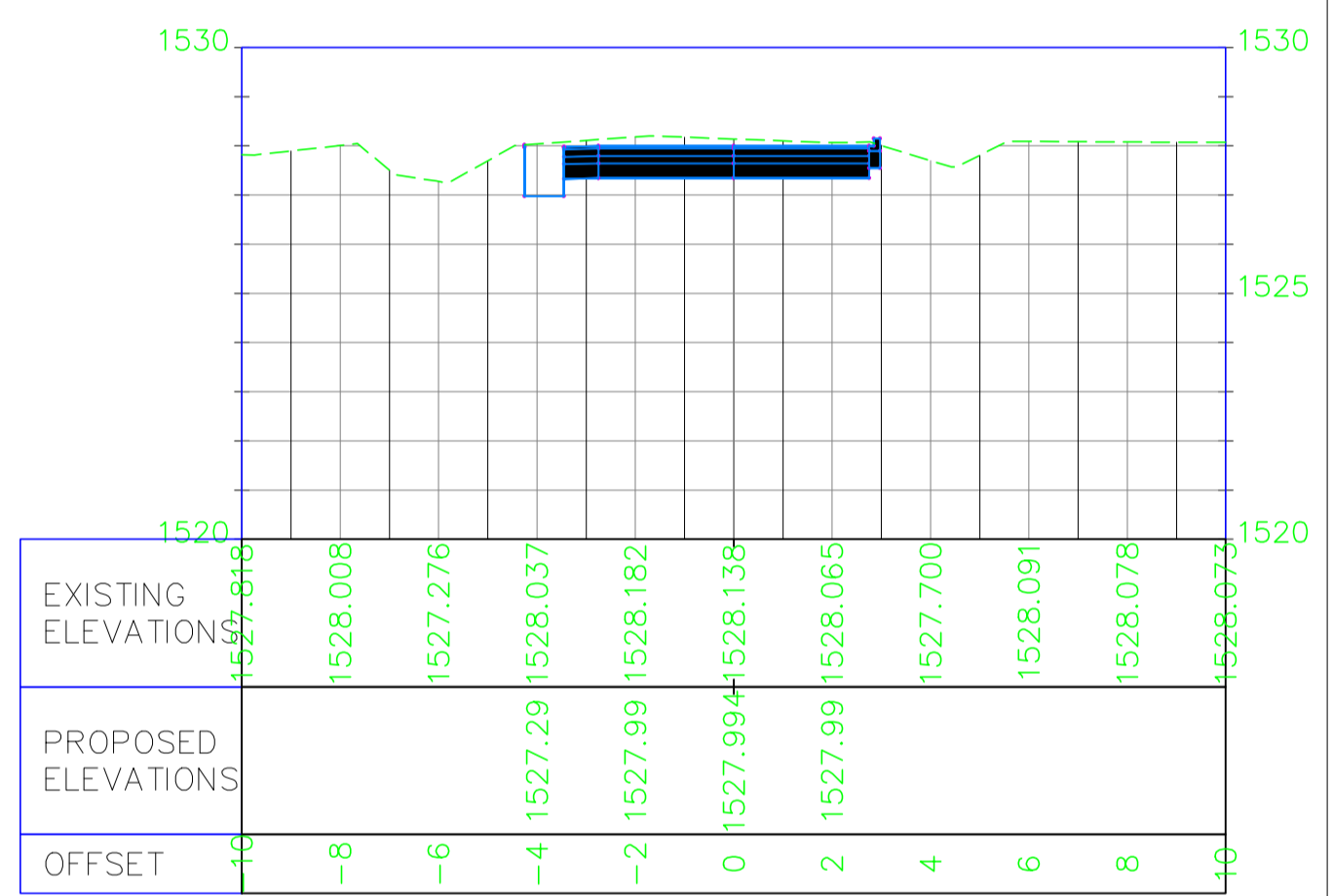
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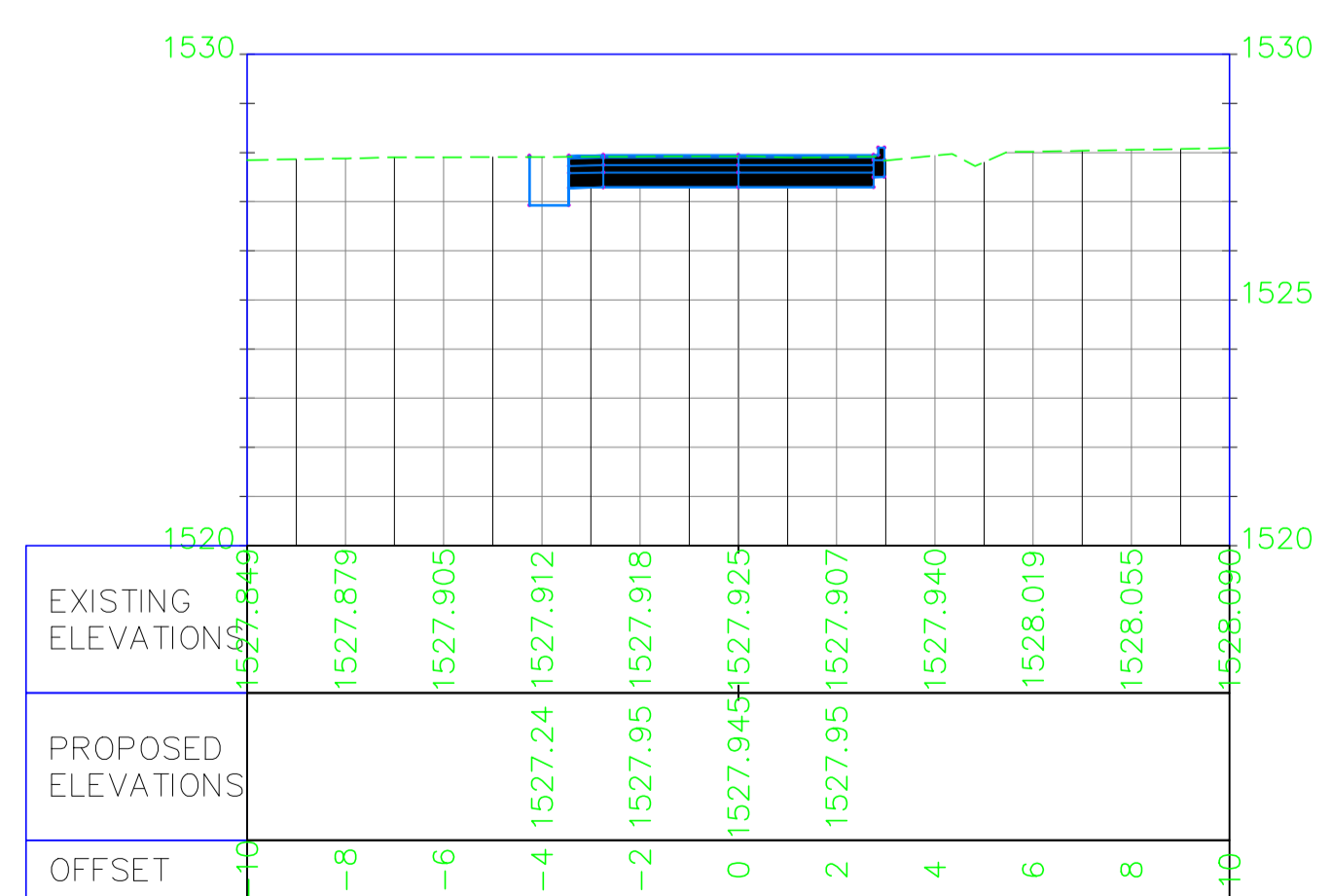
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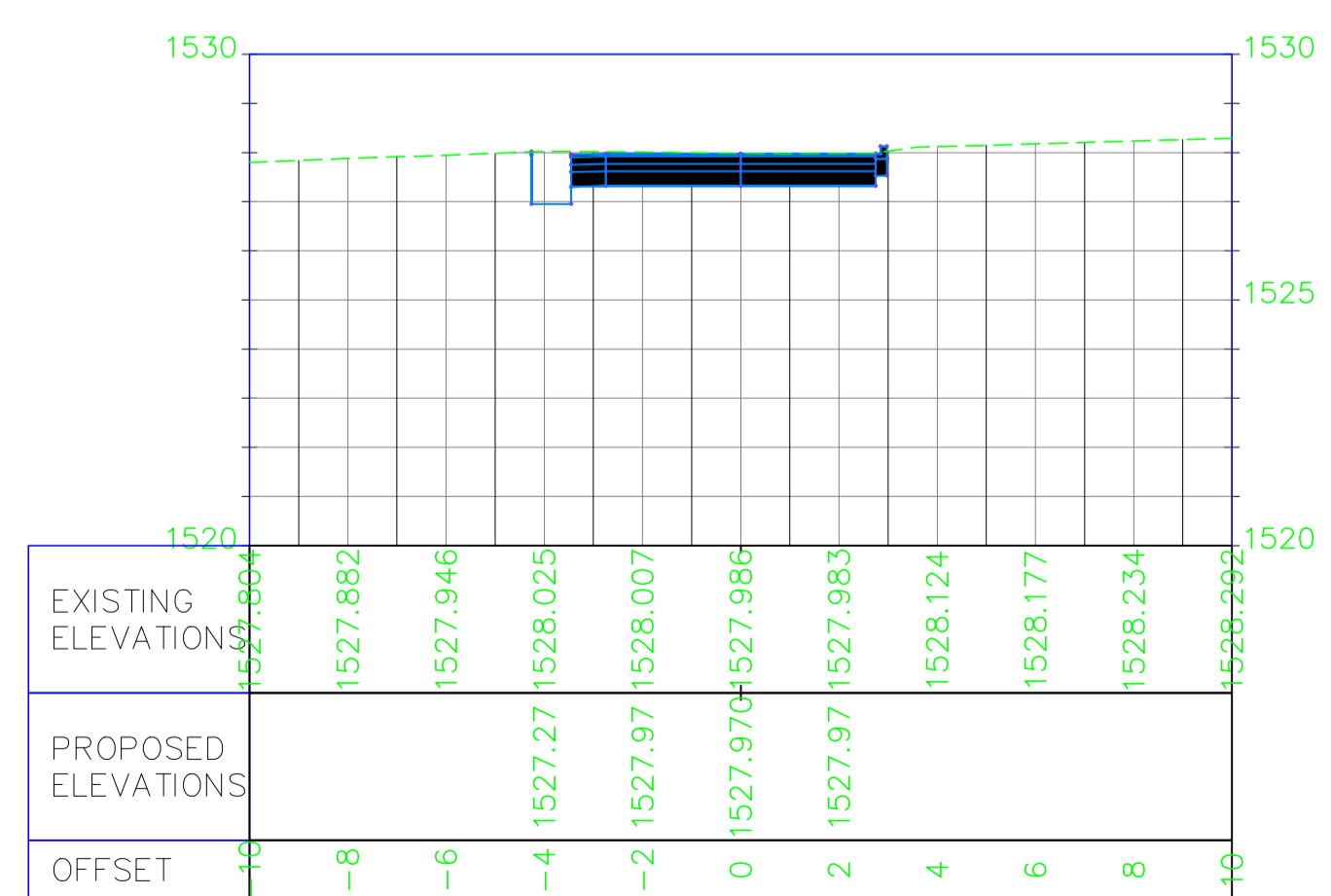
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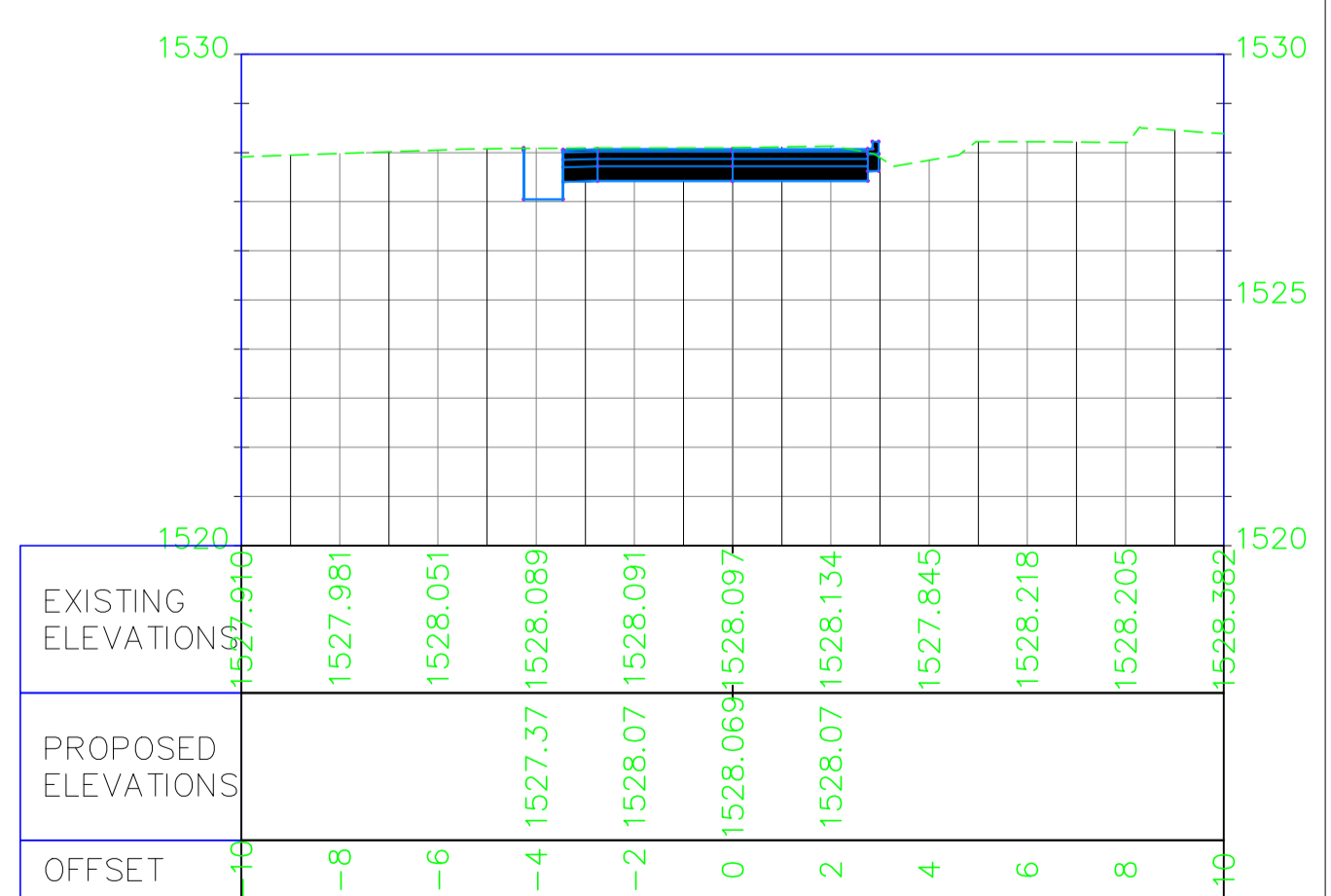
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 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

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 FRANÇAISE DE DÉVELOPPEMENT (AFD)

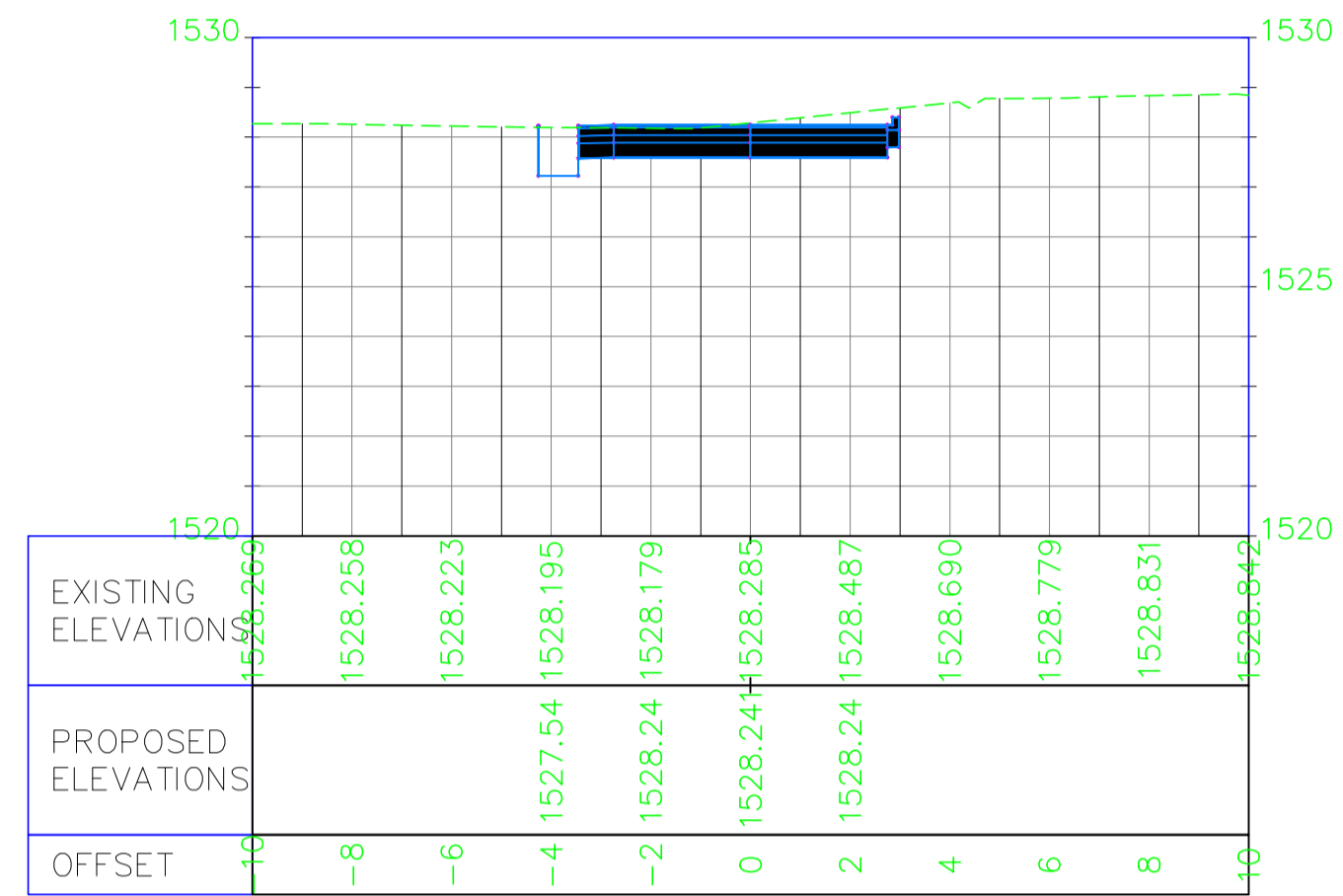


CONSULTANT
Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

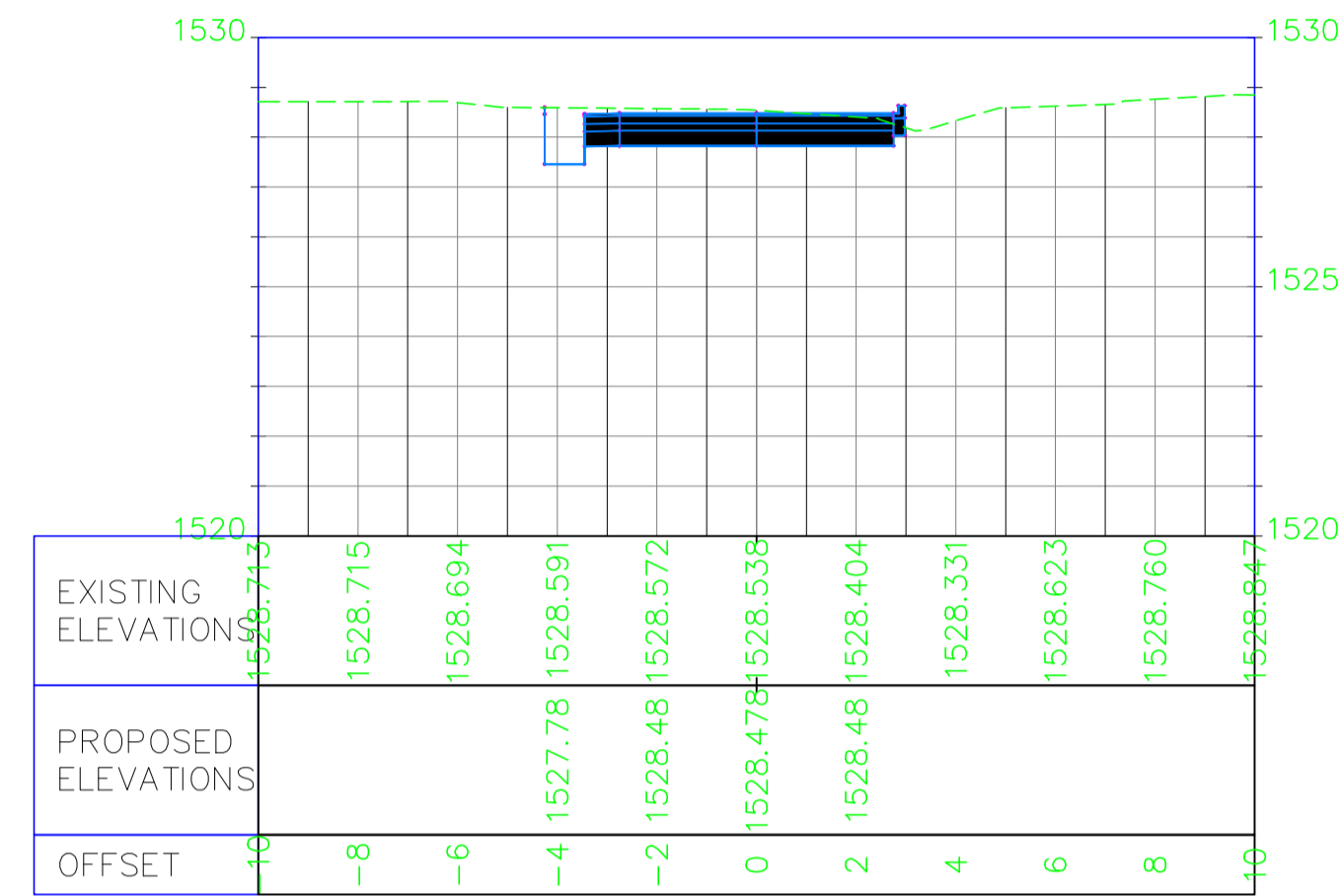
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD01BCROSS SECTIONS				REVISIONS	
Org. No: WMCL/CR214/FJ/DCS/01		Sheet No. 1 of 2			
Scale: H: 1: 2000		Date: DECEMBER: 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	

0+200.00



0+220.00



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CONSULTANT

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Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: **FORT JESUS RUIRU SETTLEMENT : FJ RD01B CROSS SECTIONS**

Drg. No: WMCL/CR214/FJ/DCS/02 Sheet No. 2 of 2

Scale: H: 1: 2000 Date: DECEMBER: 2023

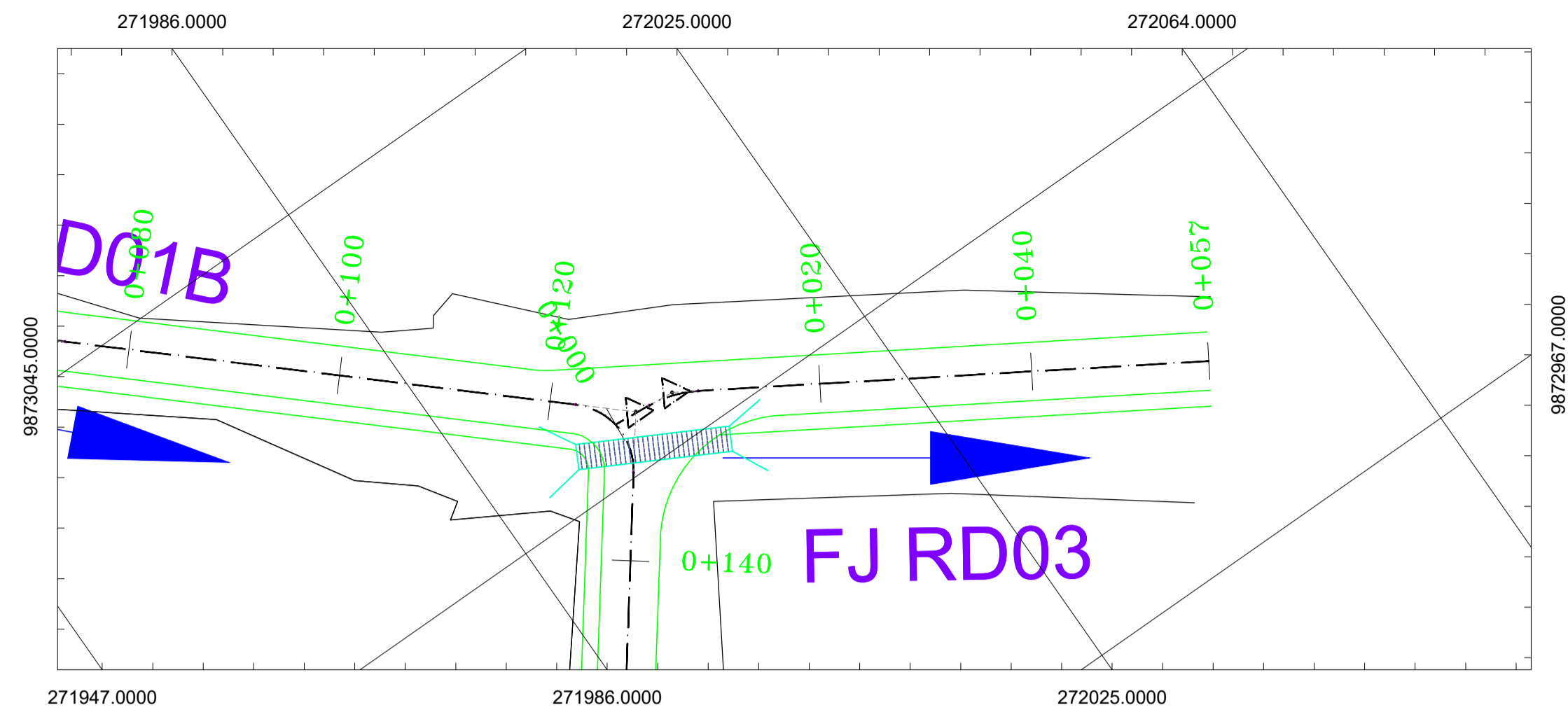
V: 1: 200 Stage: TENDER DRAWINGS

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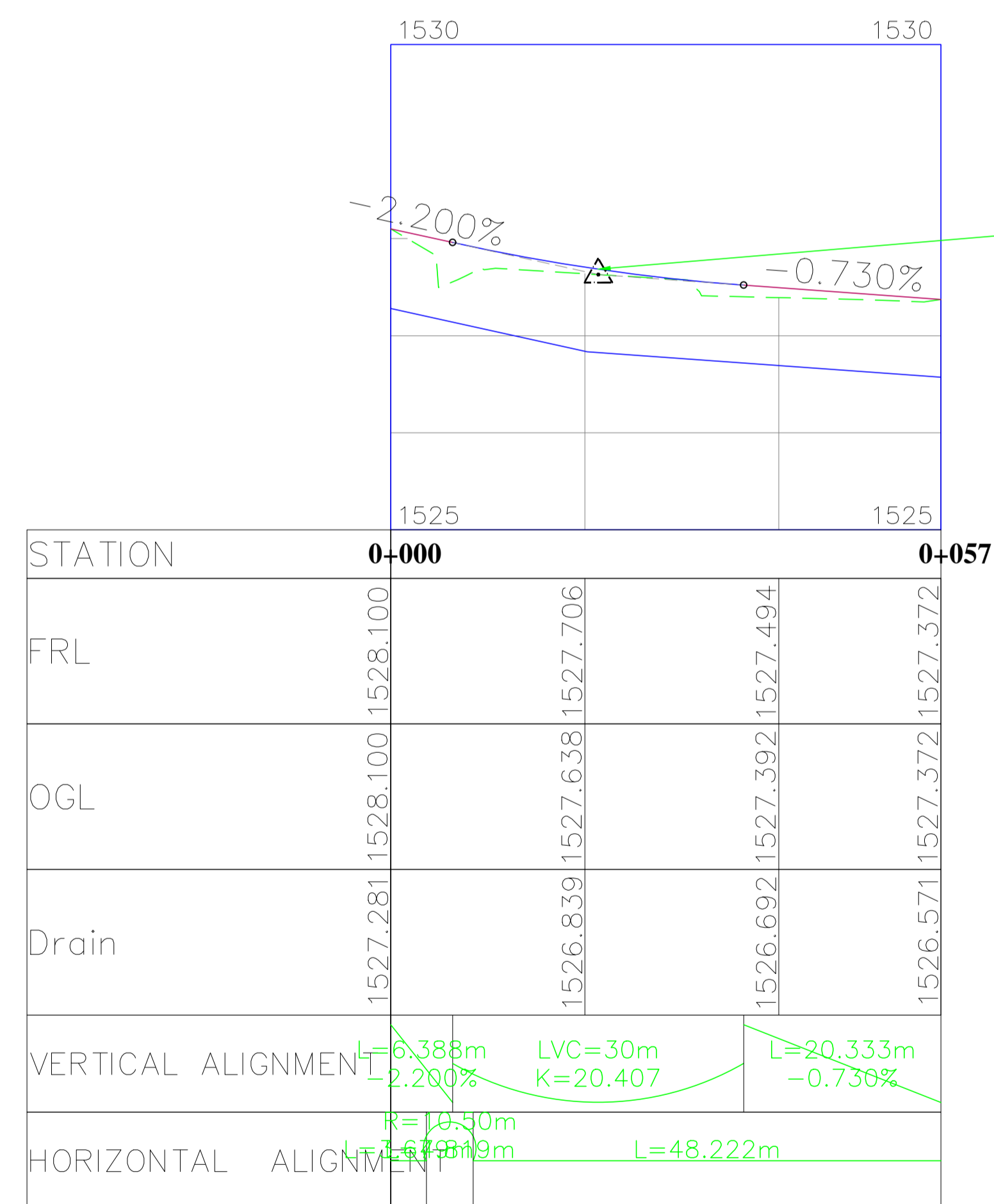
CHECKED BY: ENG. PNG DRAWN BY: LWK

REVISIONS

No.	Date	AMMENDMENTS



FJ RD03 PROFILE



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 LOW POINT LEVEL=1527.520
 PVI ST=+021.387
 PVI EL=1527.630
 LVC=30.000
 BVC ST=0+006.387
 BVC EL=1527.960
 EVC ST=0+036.387
 EVC EL=1527.520

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 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

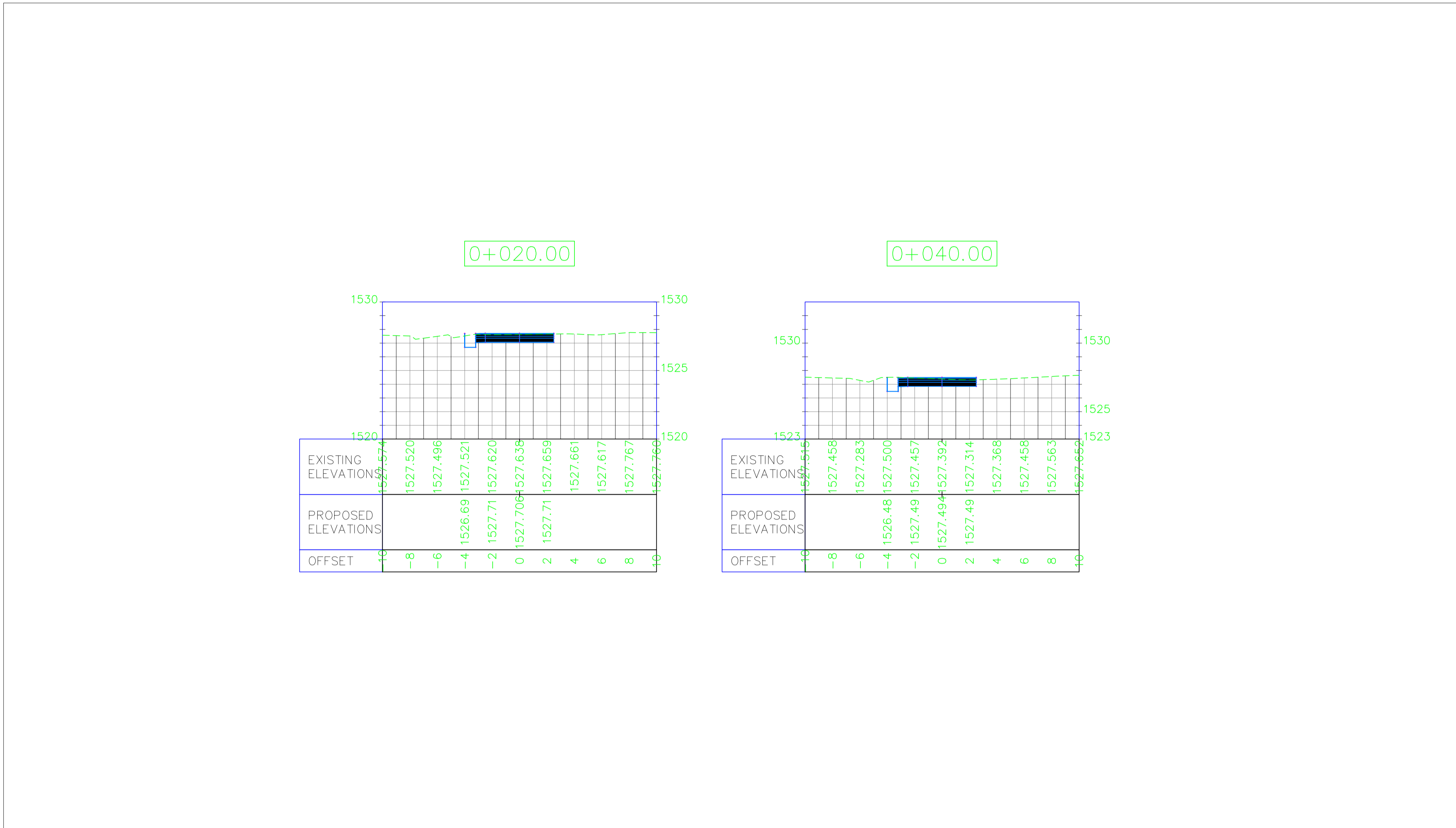
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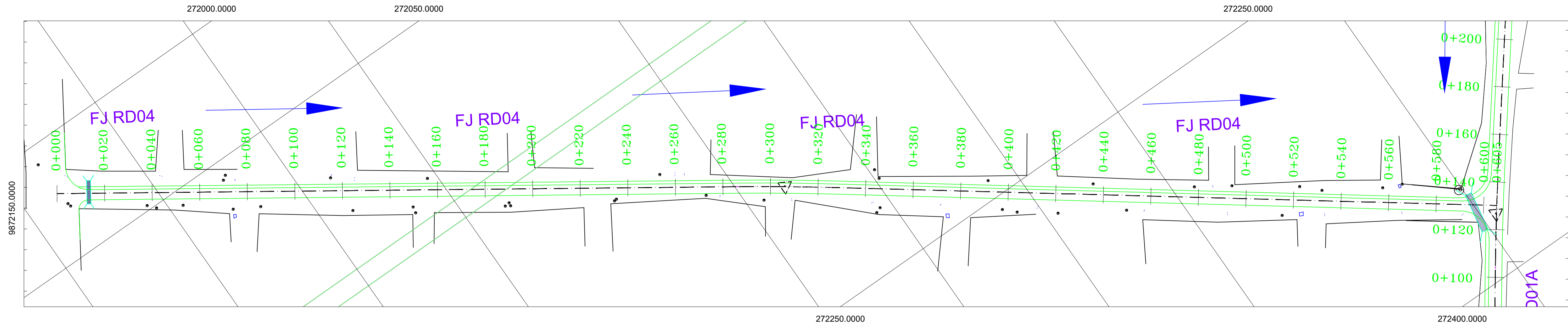
Drg. No: WMCL/CR214/FJ/PP/03 | Sheet No. 3 of 5
 Scale: H: 1:2000 | Date: DECEMBER: 2023
 V: 1:200 | Stage: TENDER DRAWINGS

APPROVED BY: ENG. JKWM | DESIGNED BY: LWK
 CHECKED BY: ENG. PNG | DRAWN BY: LWK

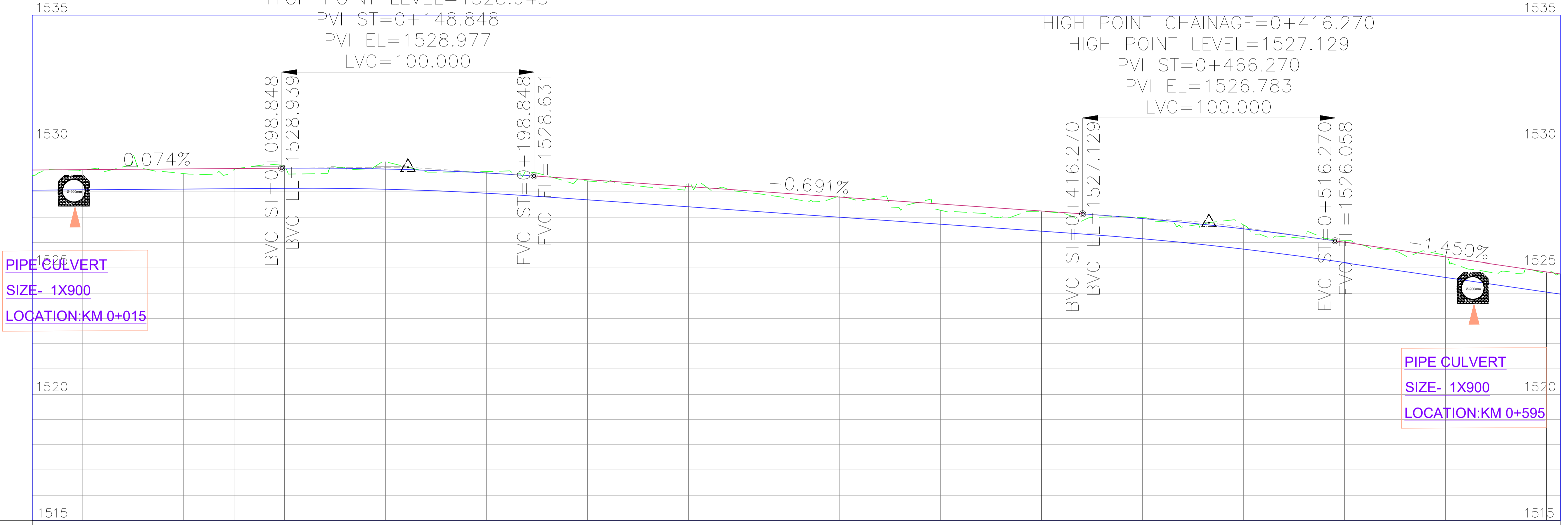
REVISIONS

No.	Date	AMMENDMENTS





FJ RD04 PROFILE



STATION	0+000	0+100	0+200	0+300	0+400	0+500	0+600
FRL	1528.866	1528.881	1528.896	1528.911	1528.925	1528.940	1528.938
OGL	1528.066	1528.081	1528.096	1528.111	1528.125	1528.140	1528.138
Drain	1528.066	1528.081	1528.096	1528.111	1528.125	1528.140	1528.138
HORIZONTAL ALIGNMENT	L=285.990m			R=1078.96m L=40.174m	L=279.306m		
VERTICAL ALIGNMENT	L=98.848m 0.074%		LVC=100m K=130.659	L=217.427m -0.691%		LVC=100m K=131.733	L=89.209m -1.450%

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 Mutonyi
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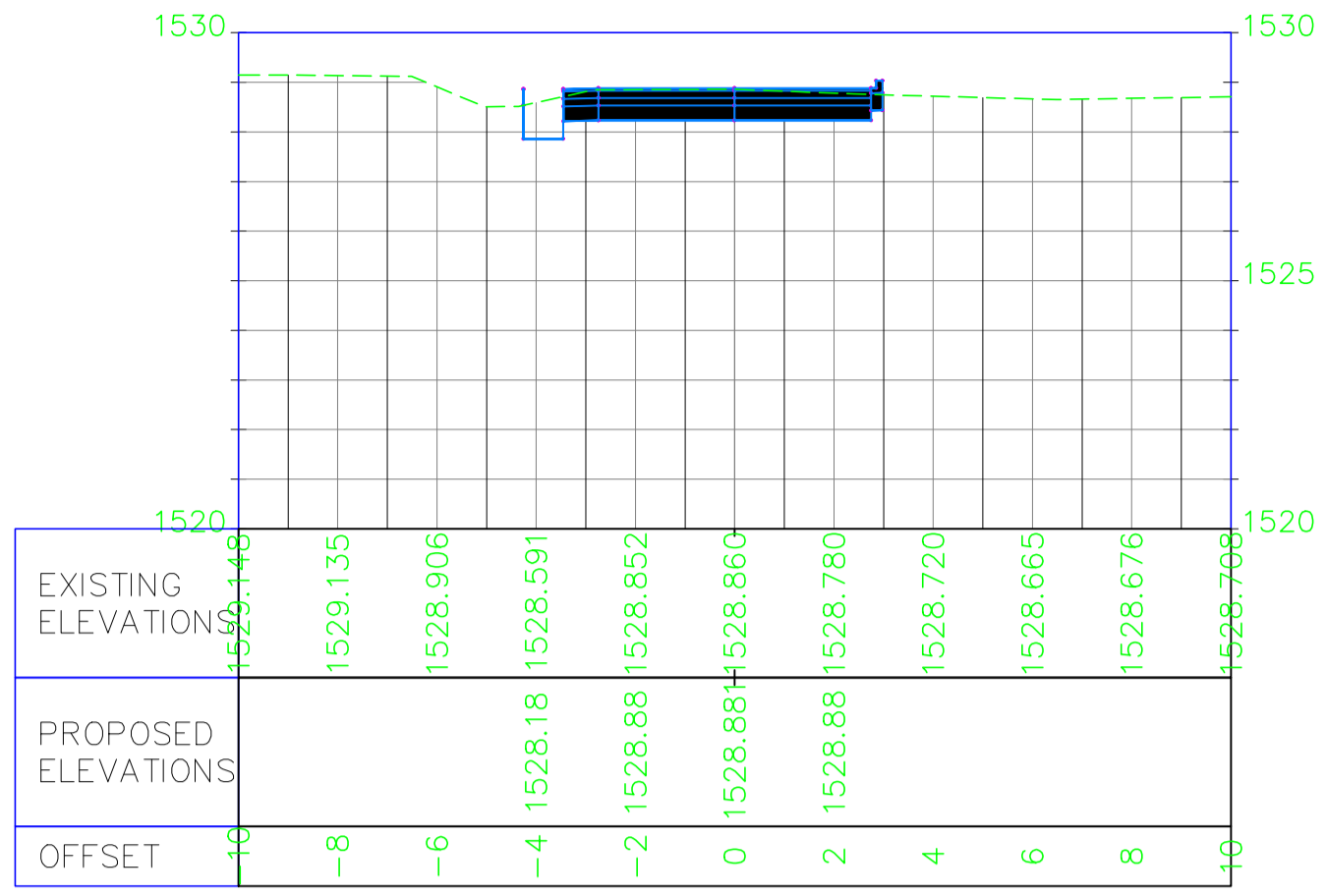
PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: **FORT JESUS RUIRU SETTLEMENT : FJ RD04 PLAN & PROFILES**

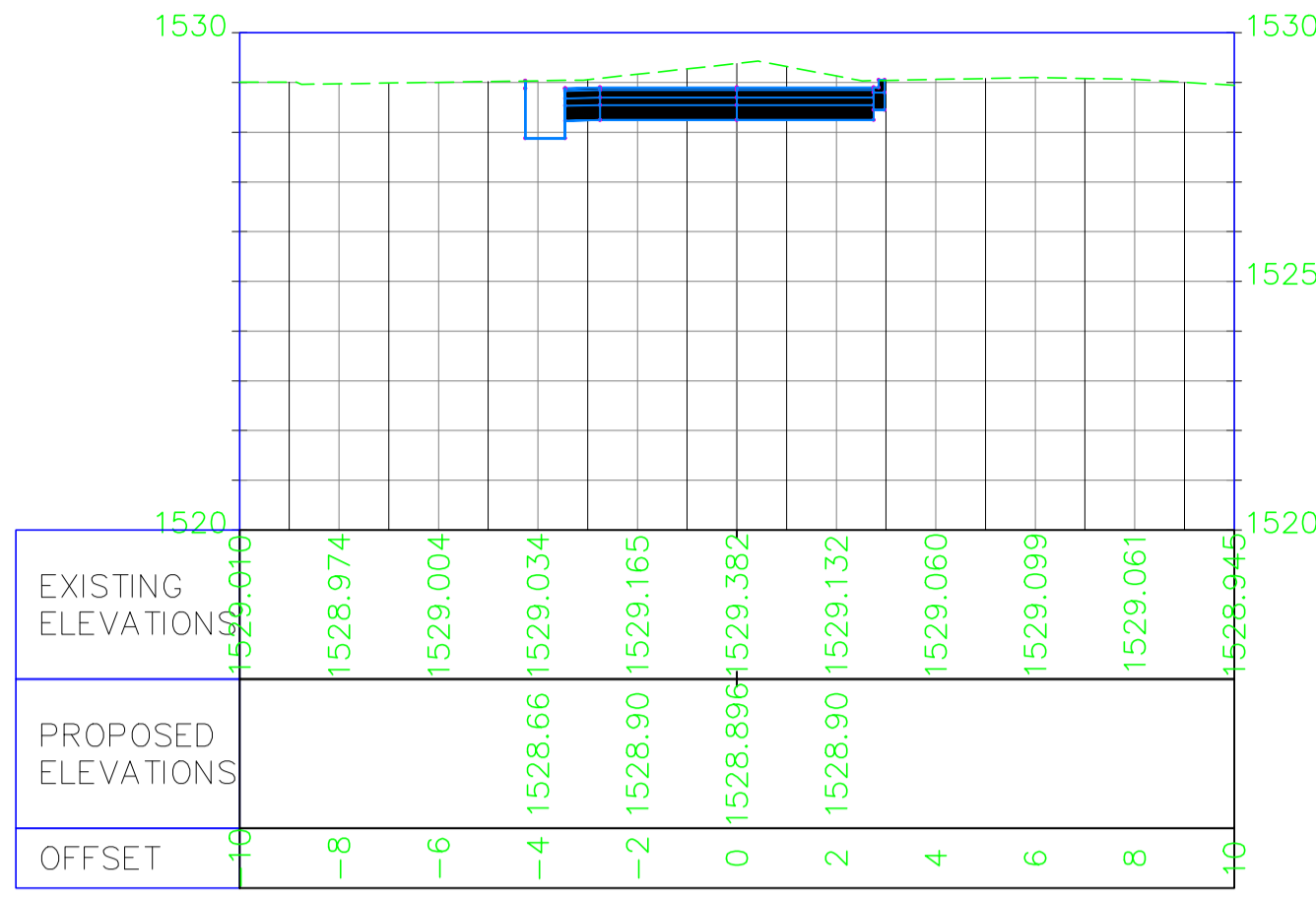
Drg. No. WMCL/CR214/FJ/PP/04	Sheet No. 4 of 5
Scale: H: 1:2000	Date: DECEMBER: 2023
V: 1:200	Stage: TENDER DRAWINGS
APPROVED BY: ENG. IKWM	DESIGNED BY: LWK
CHECKED BY: ENG. PNG	DRAWN BY: LWK

REVISIONS	
No.	Date

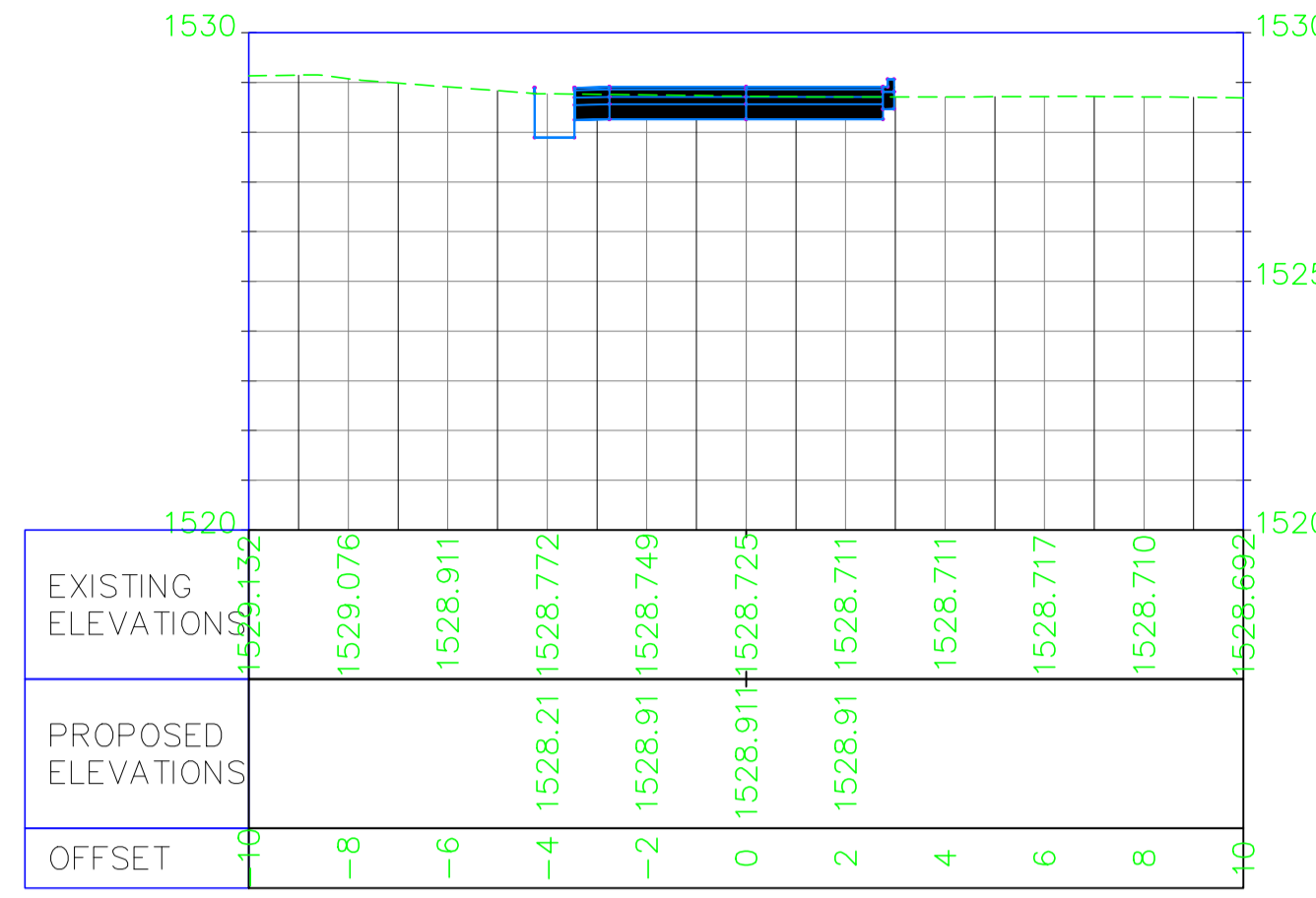
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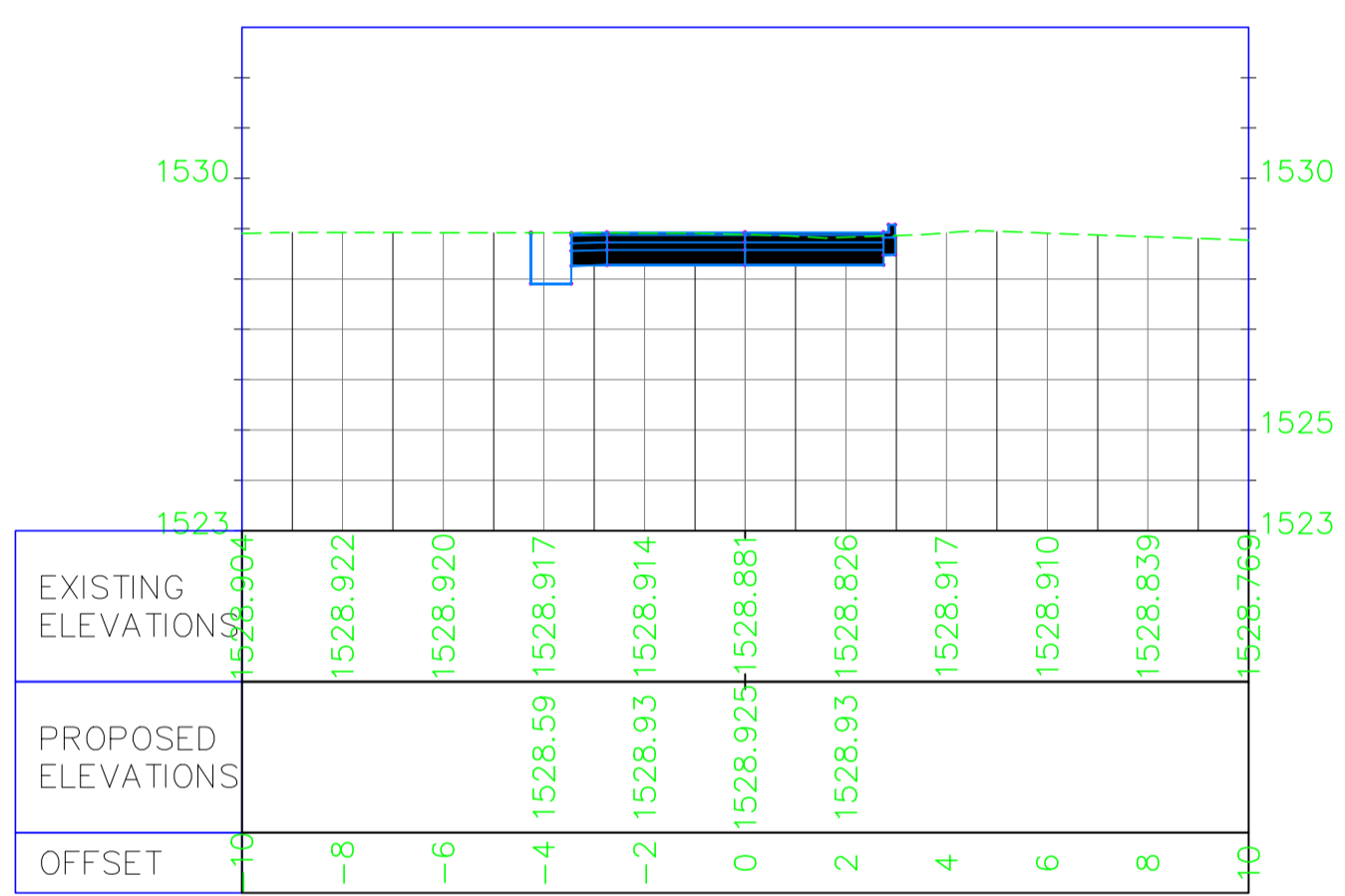
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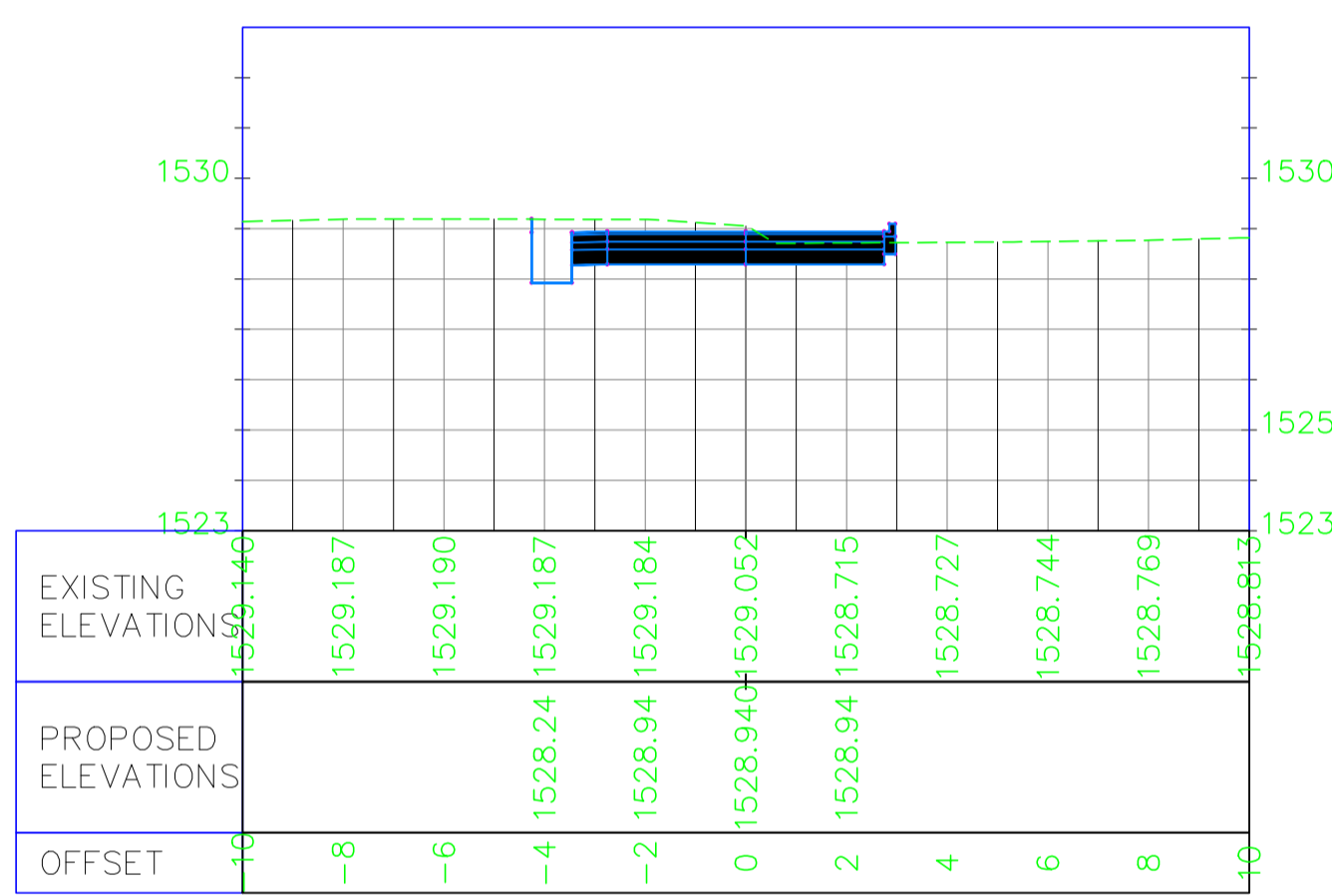
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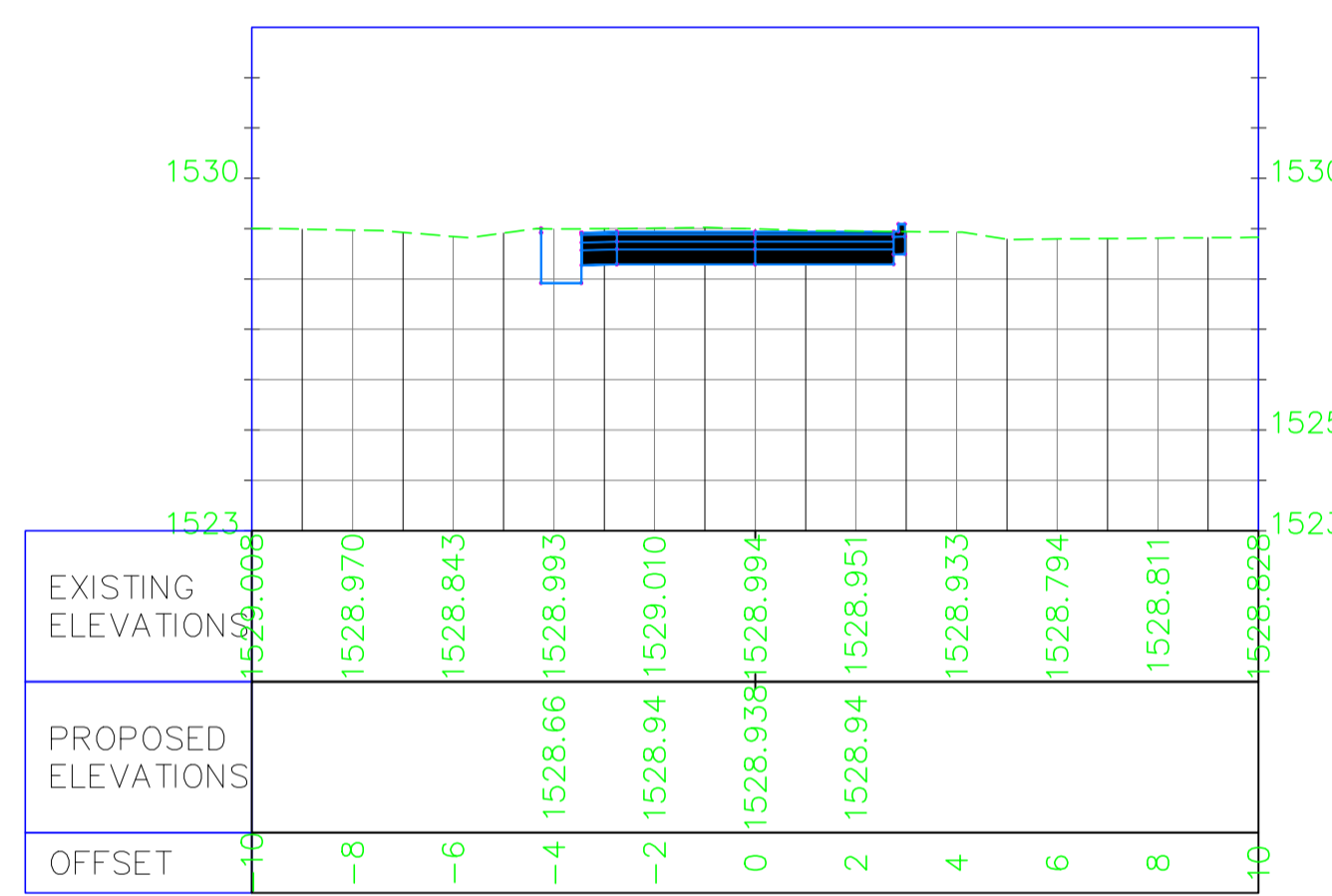
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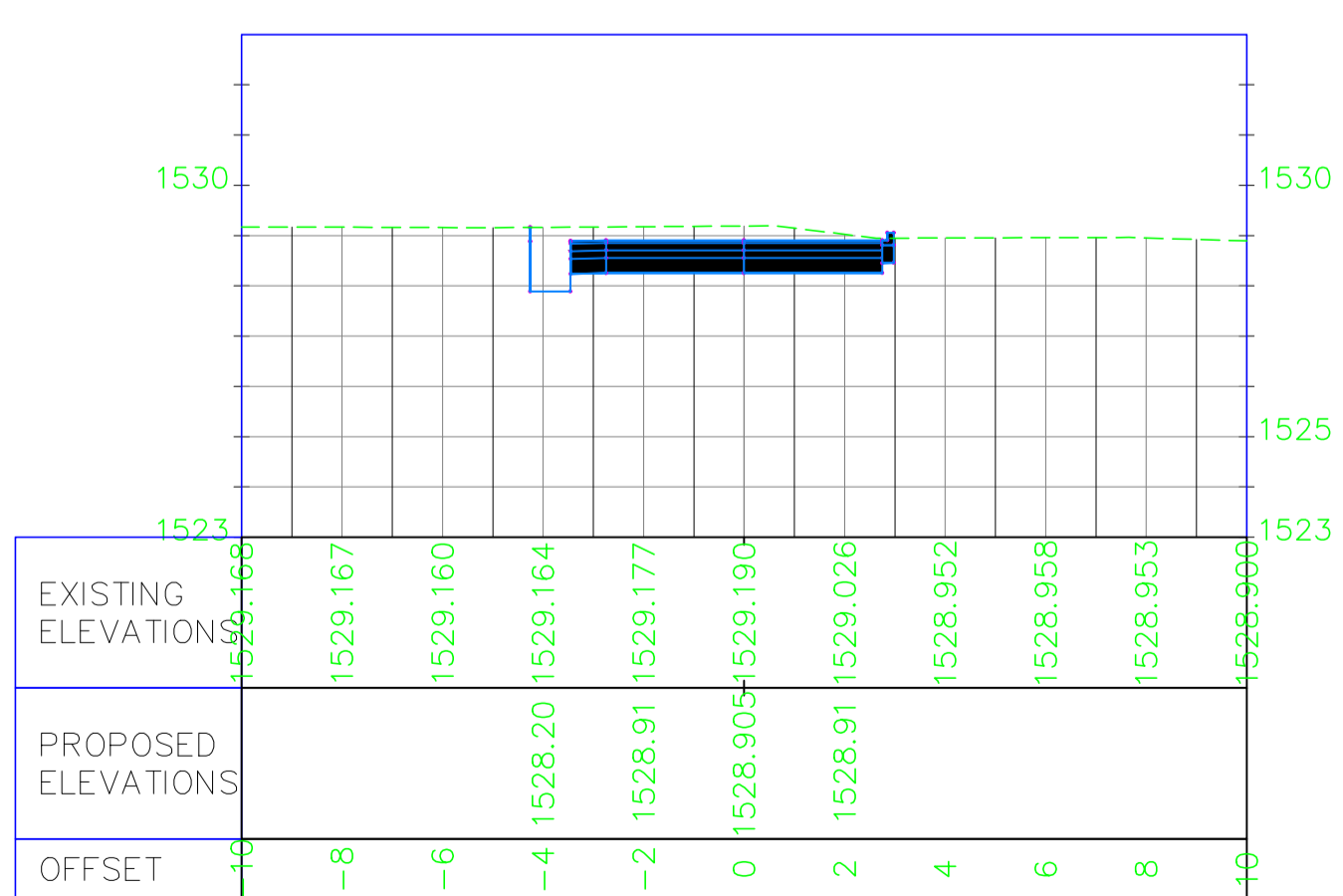
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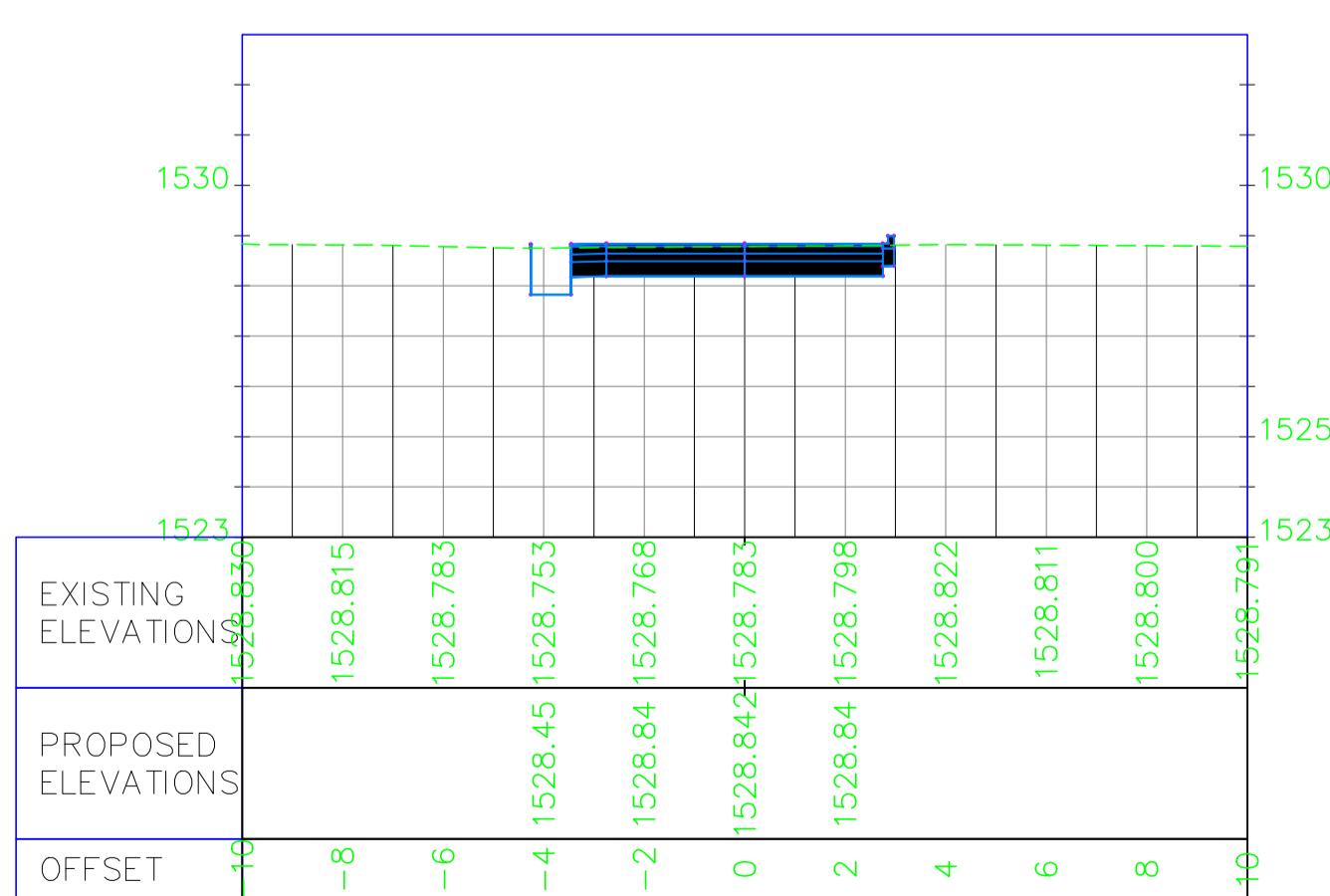
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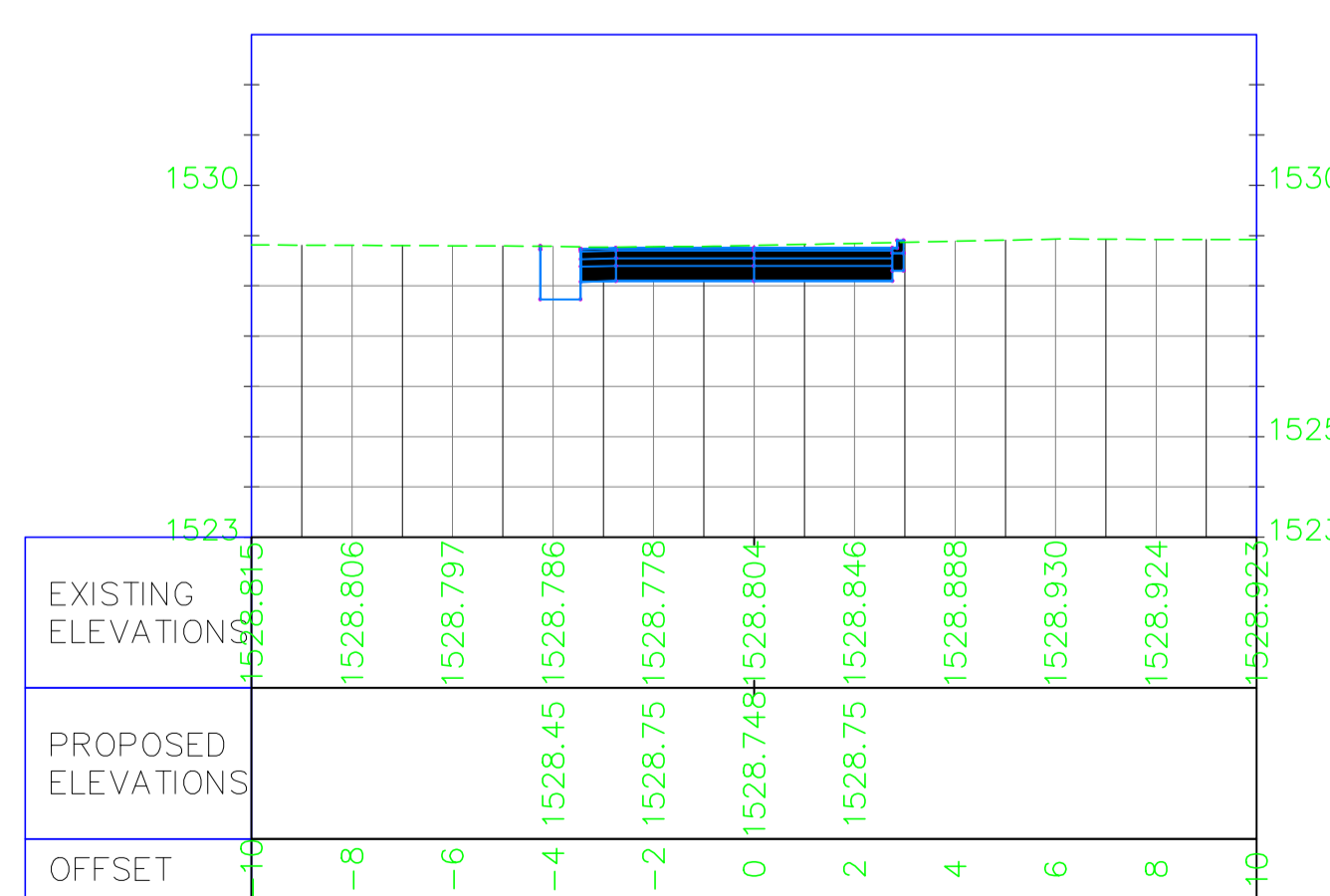
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0+160.00



0+180.00



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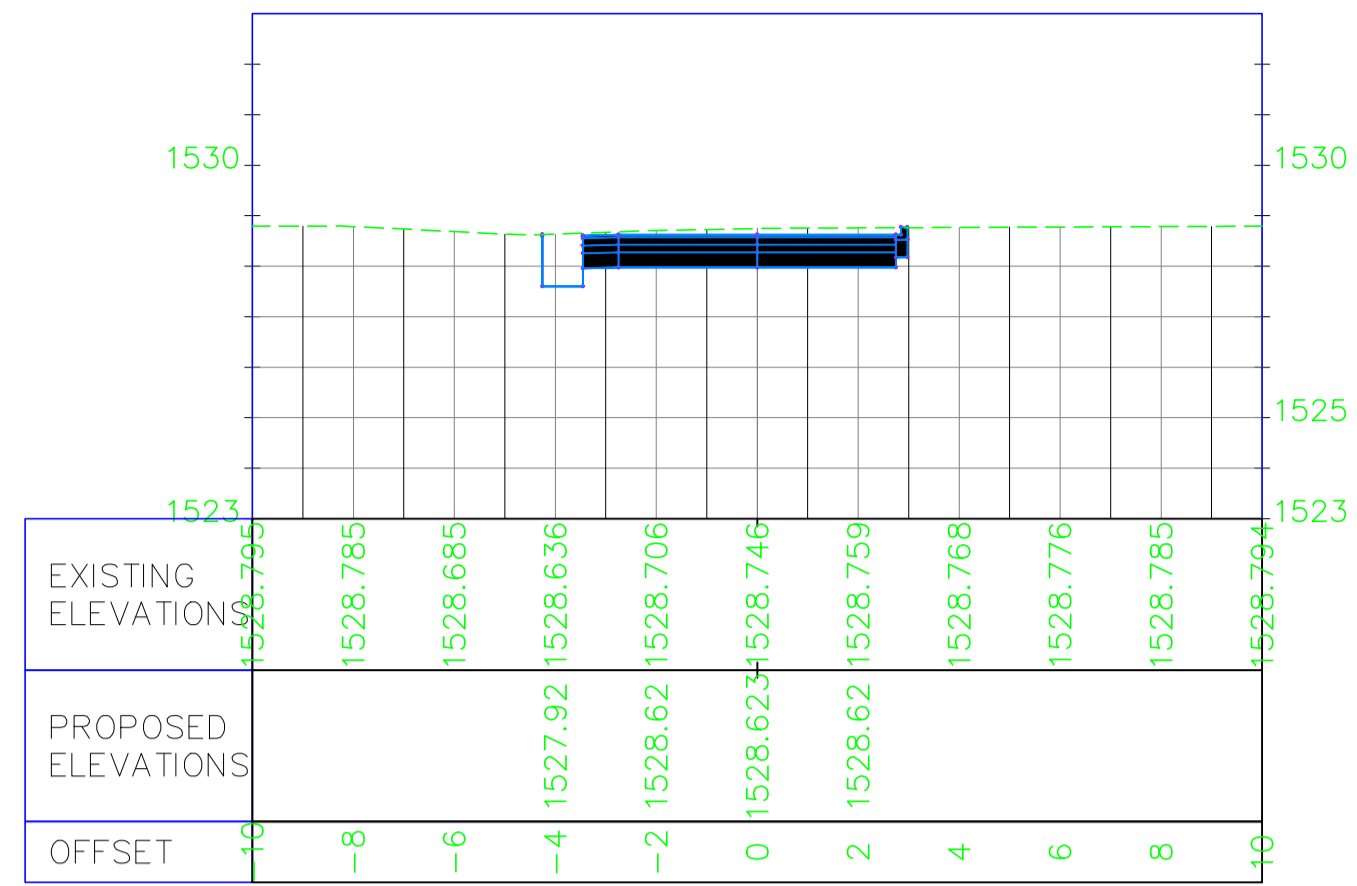
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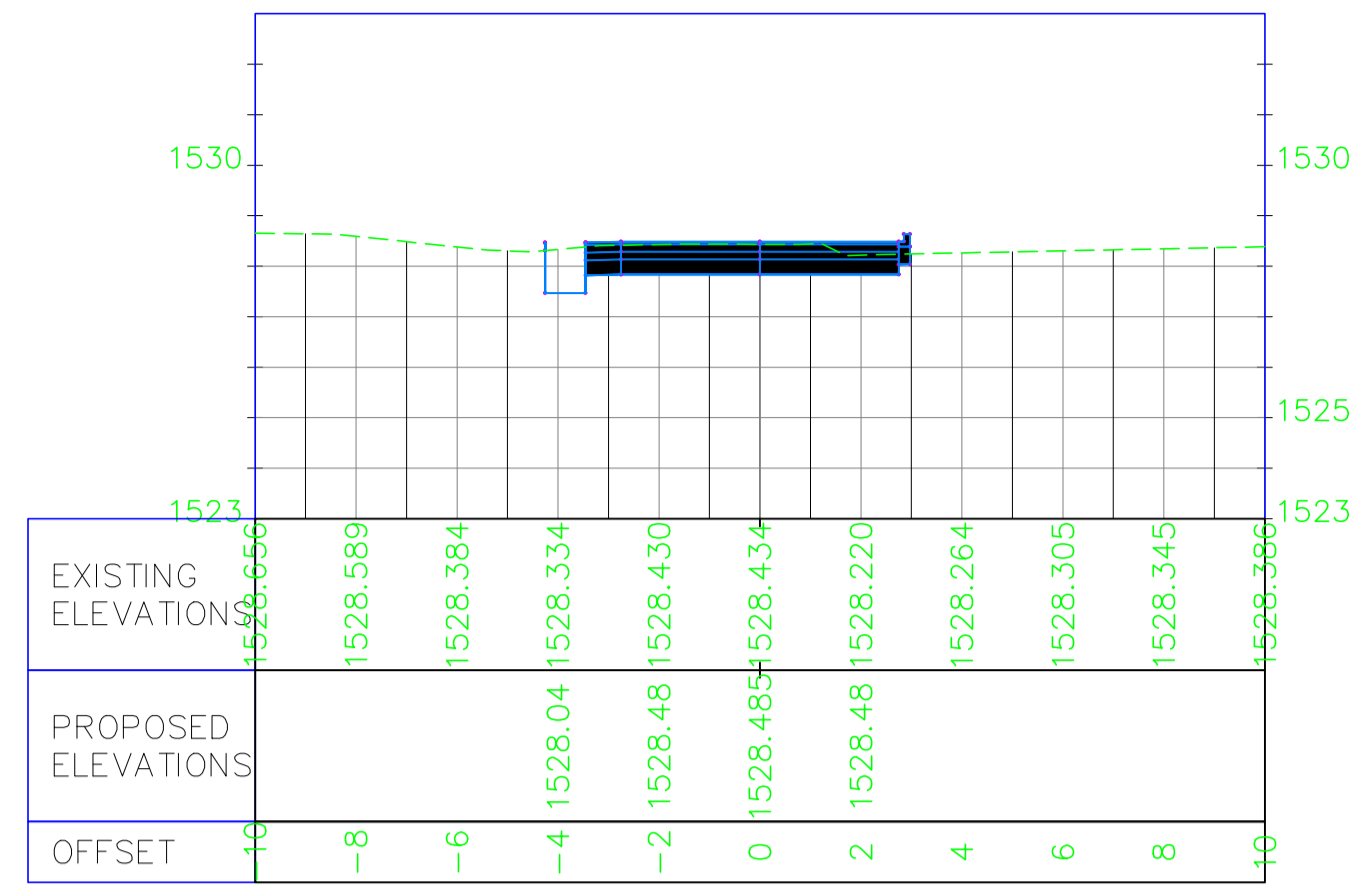
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD04 CROSS SECTIONS				REVISIONS	
Org. No: WMCL/CR214/FJ/DCS/01		Sheet No: 1 of 4			
Scale: H: 1: 2000		Date: DECEMBER: 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	

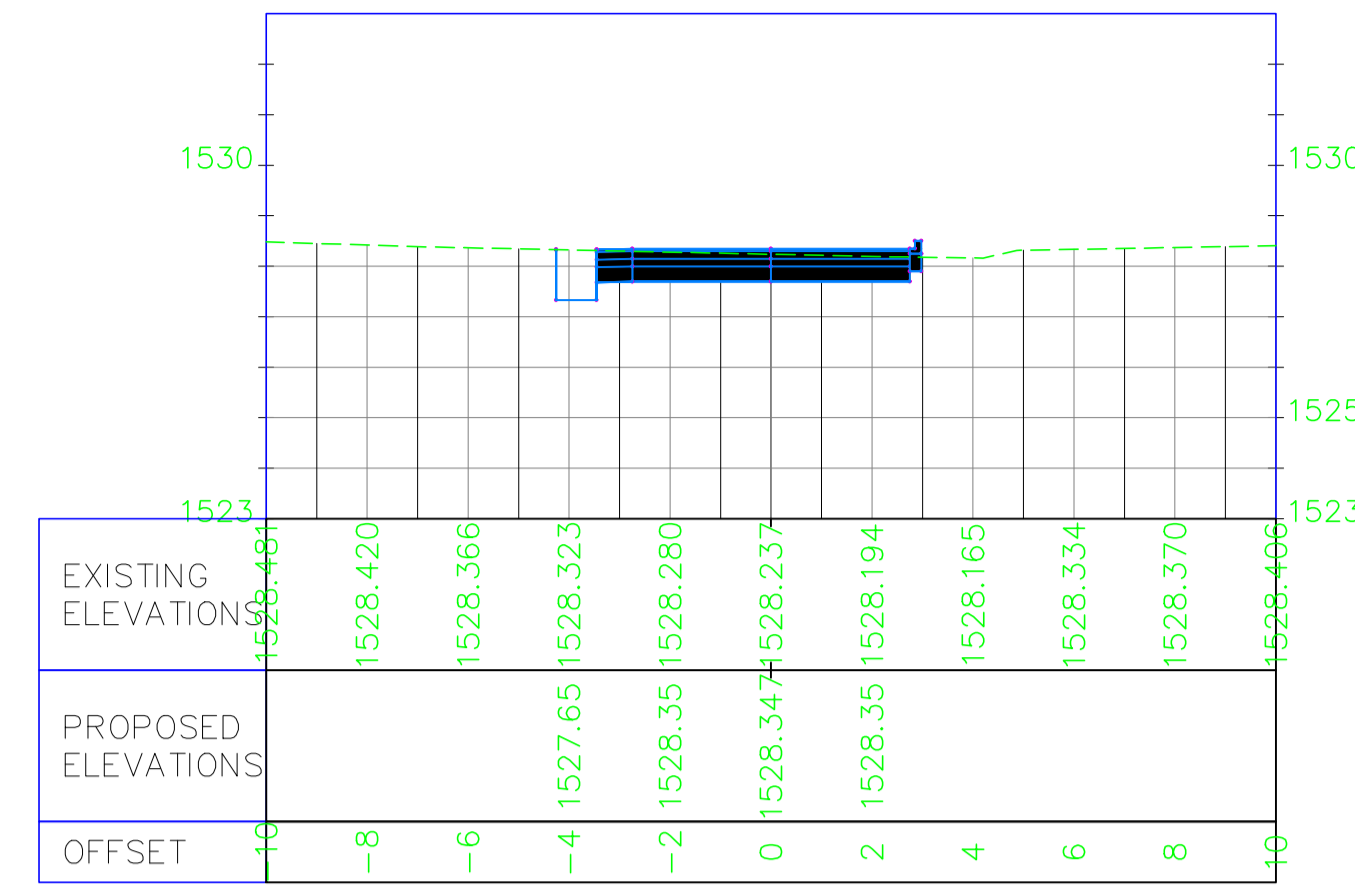
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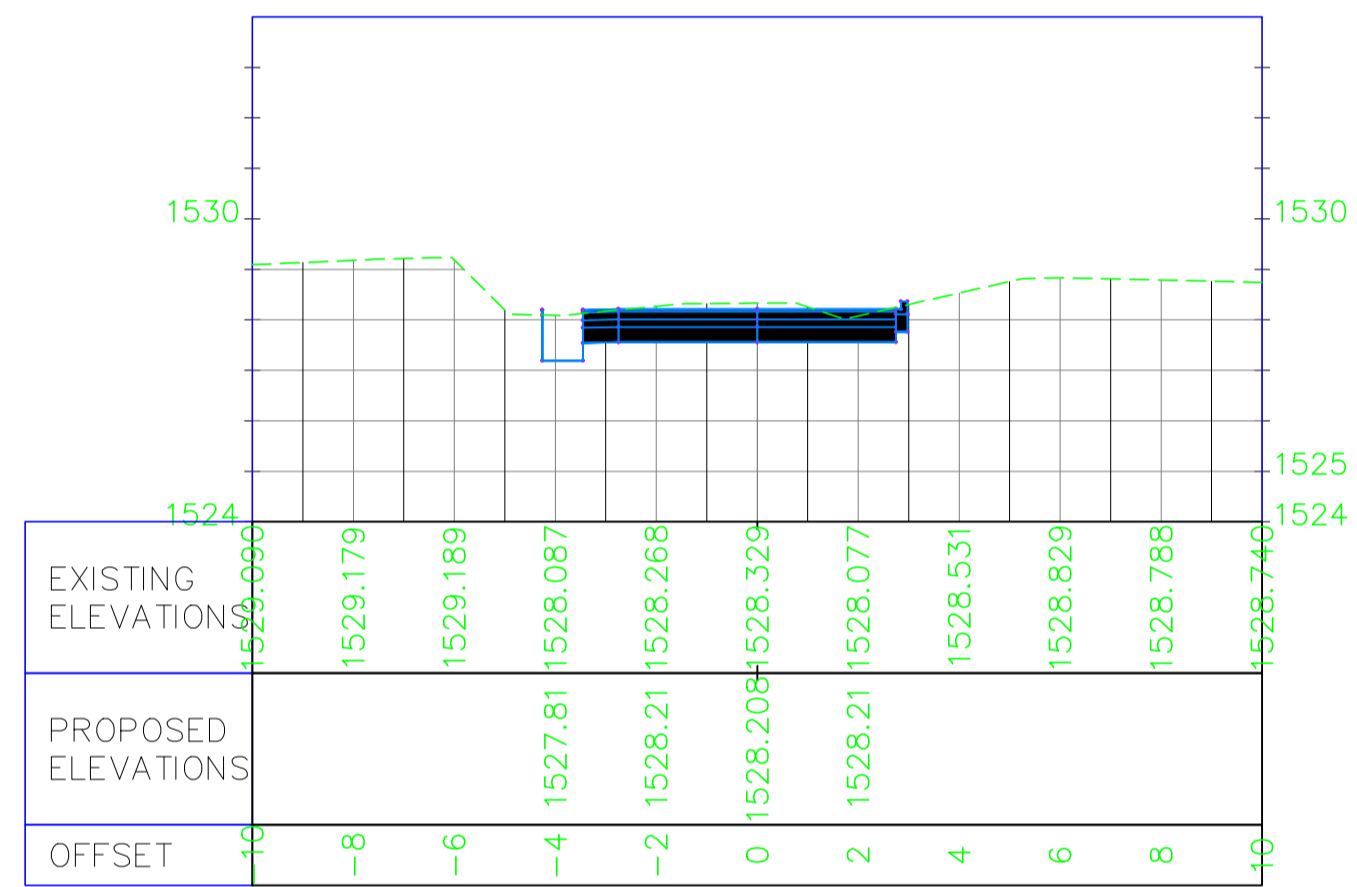
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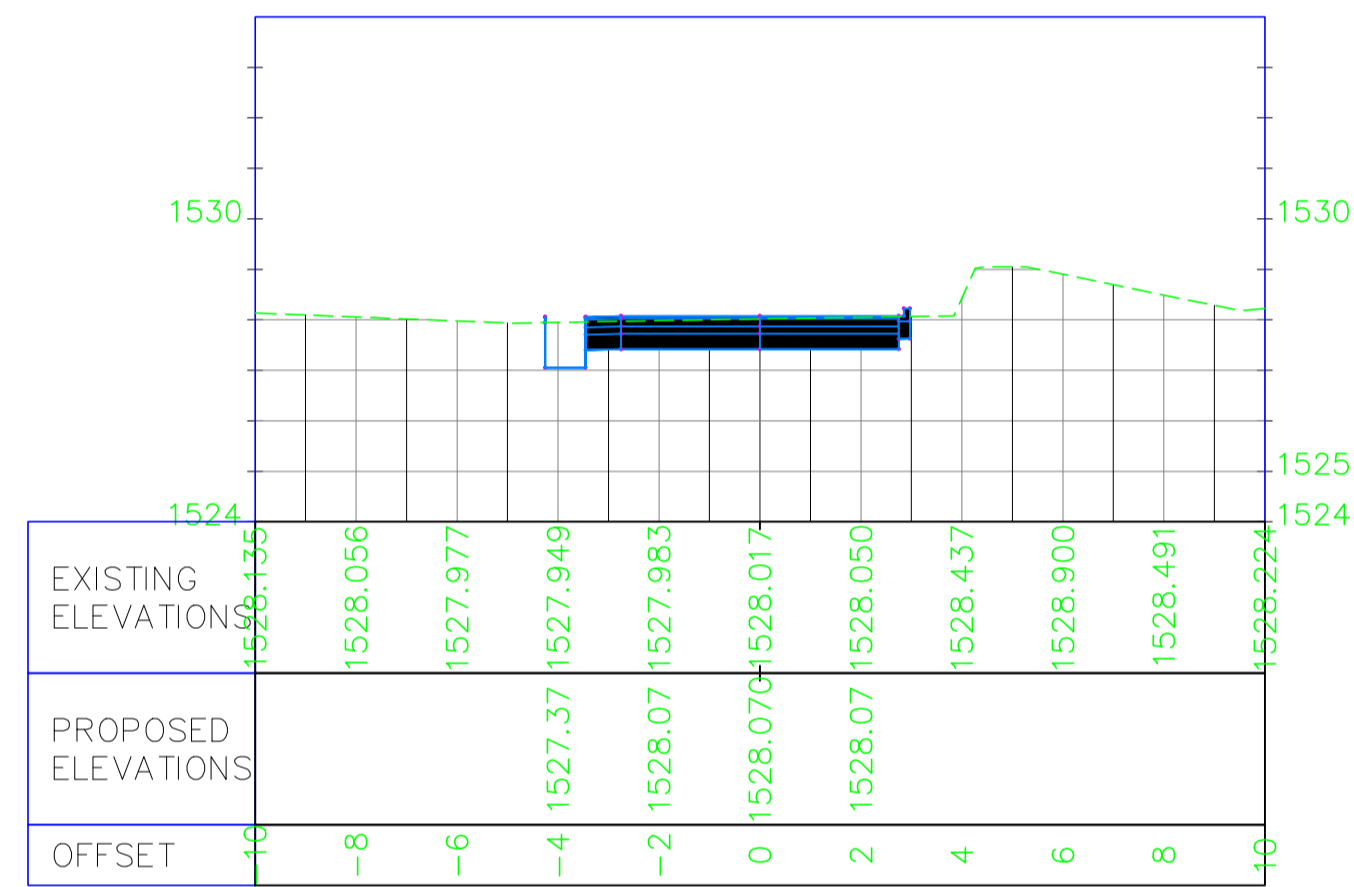
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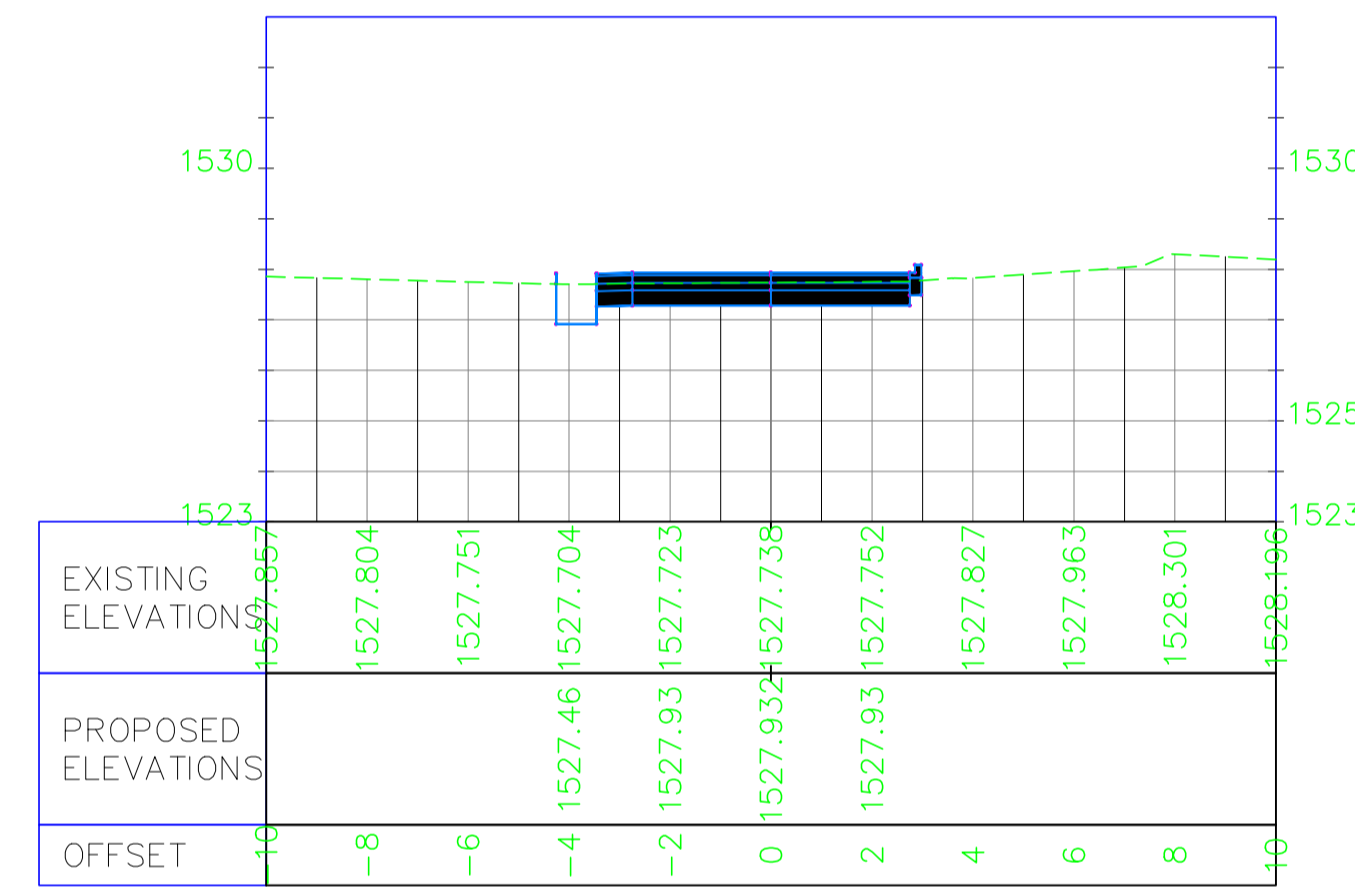
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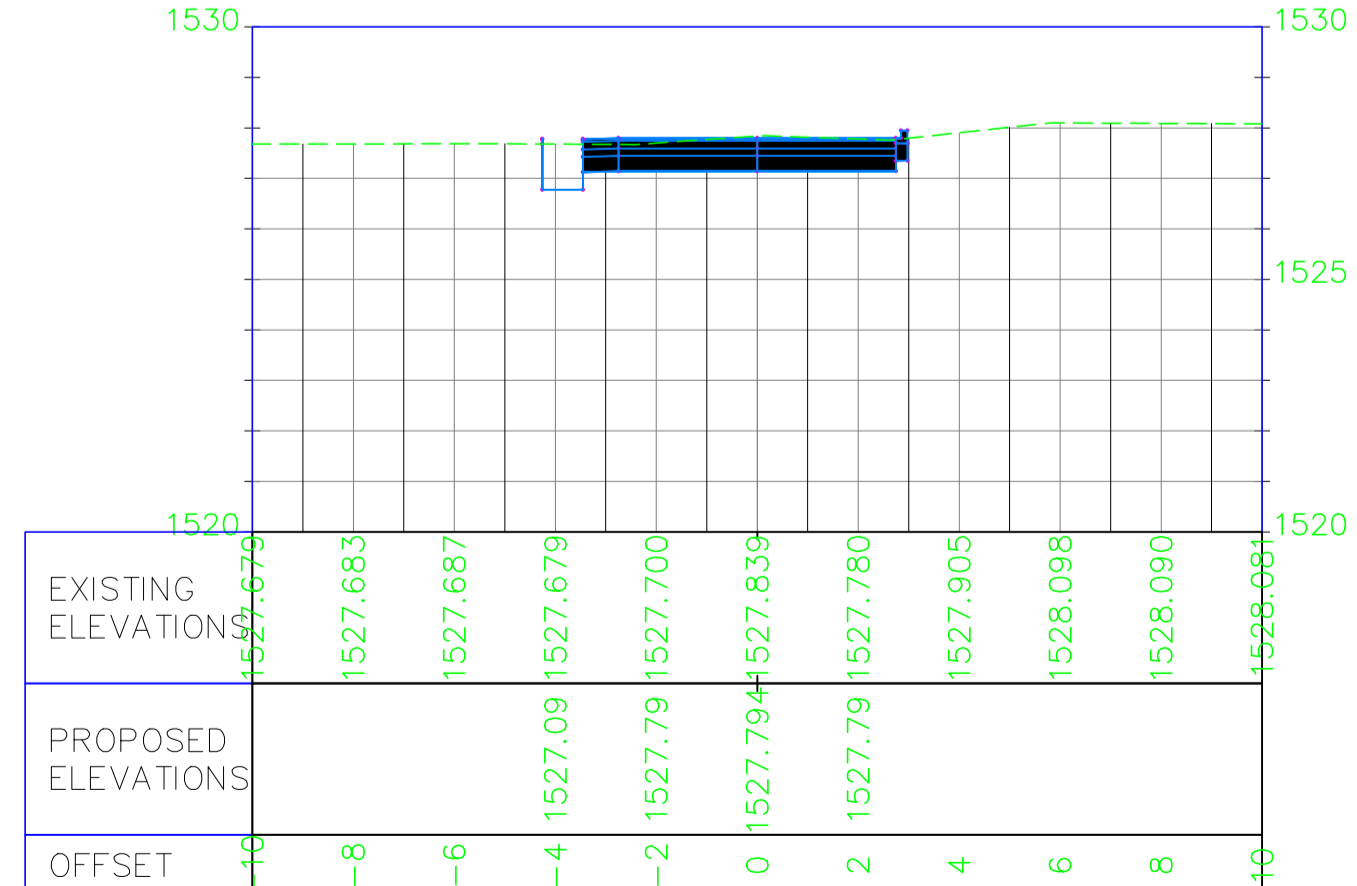
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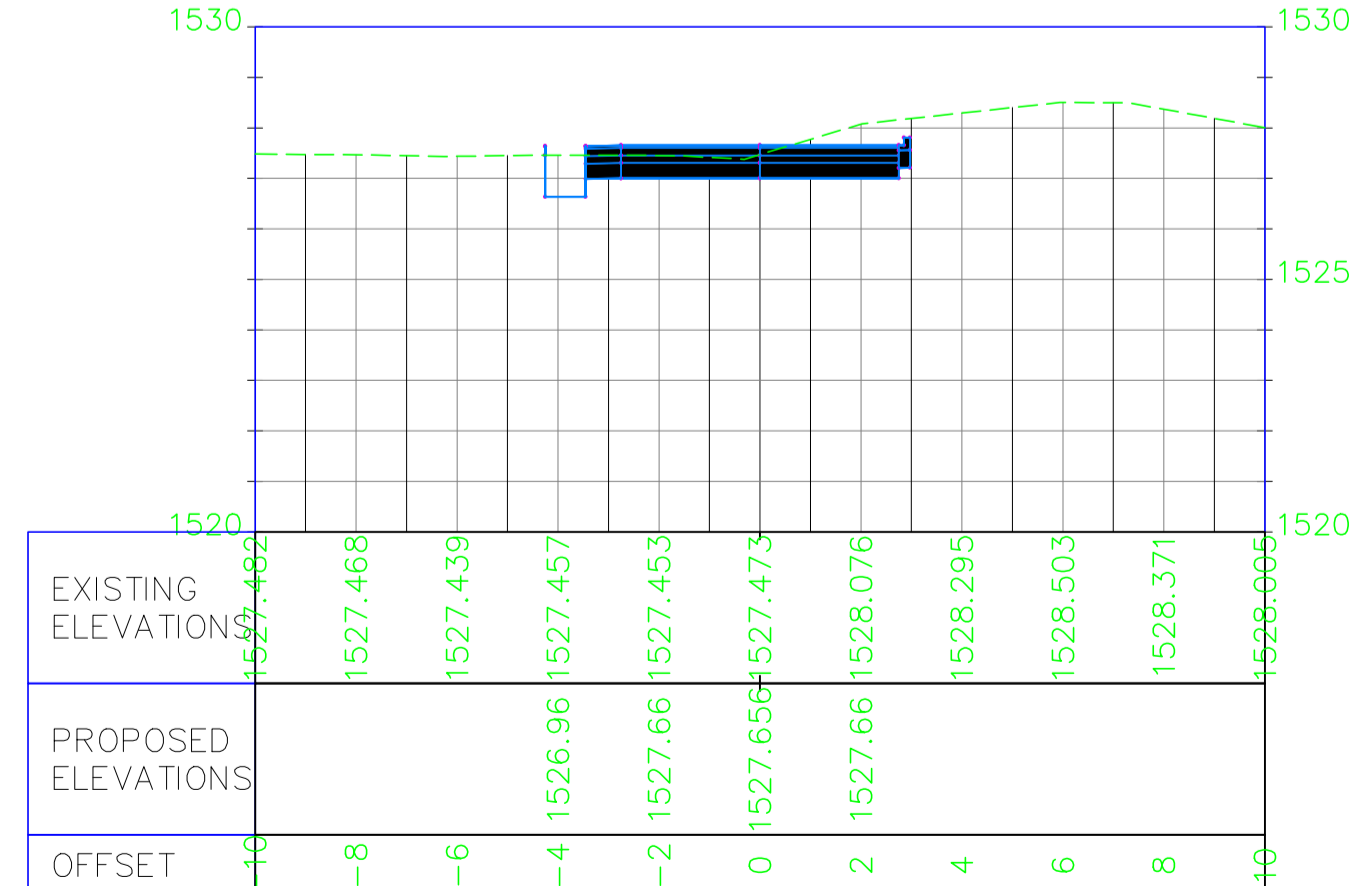
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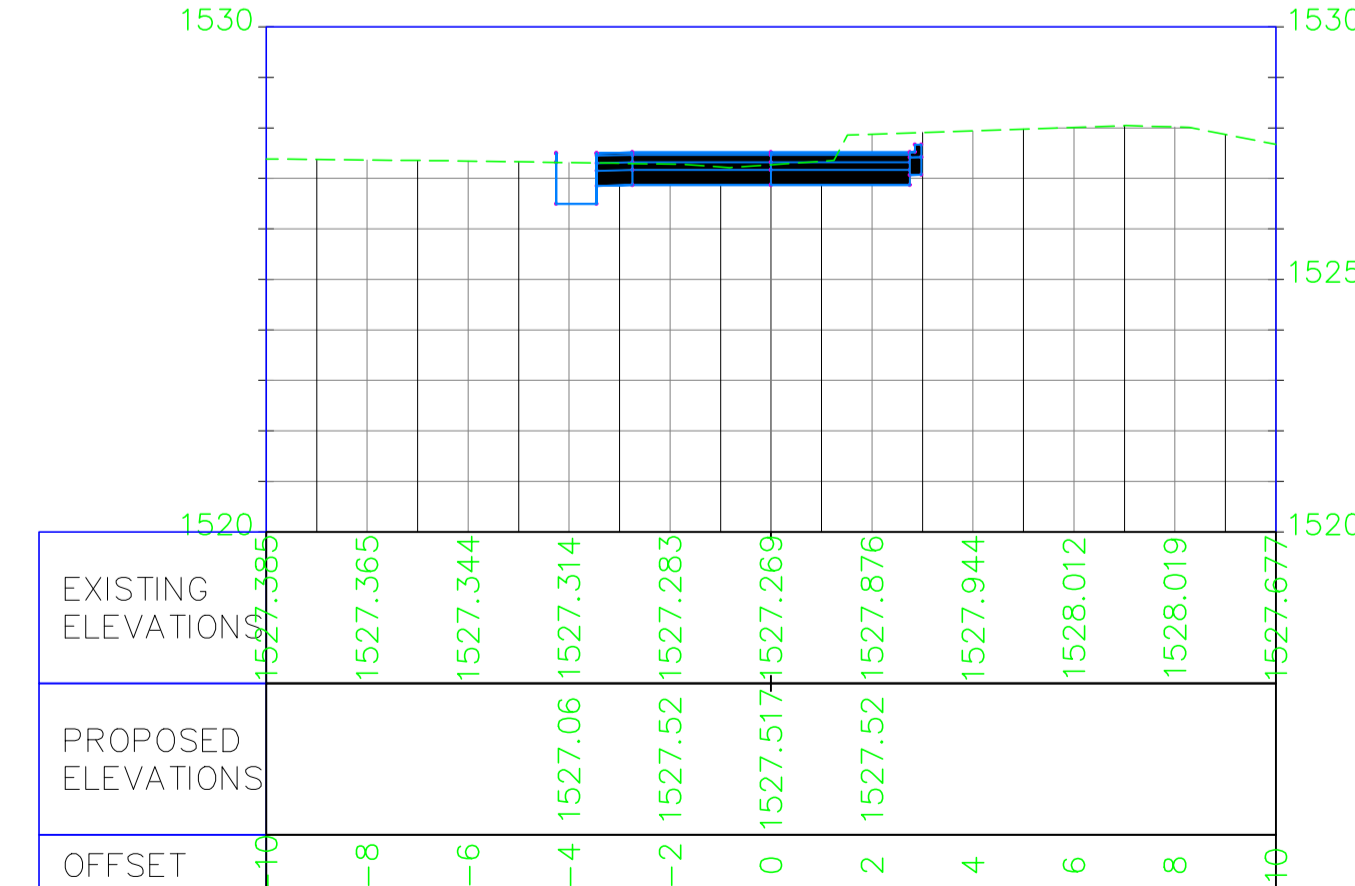
0+320.00



0+340.00



0+360.00



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 The Chief Officer,
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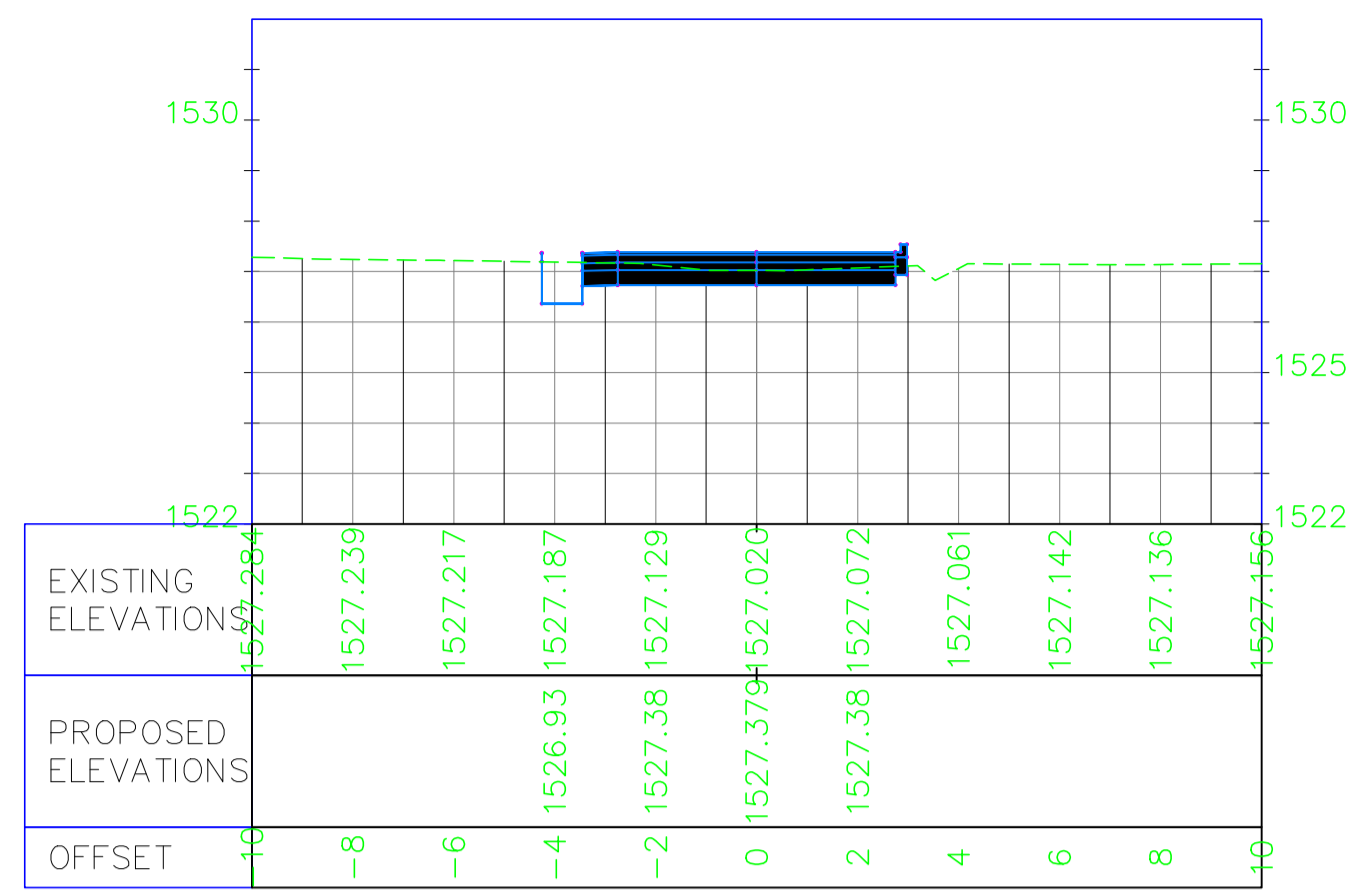
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 P.O. Box 21714-00505, Nairobi.

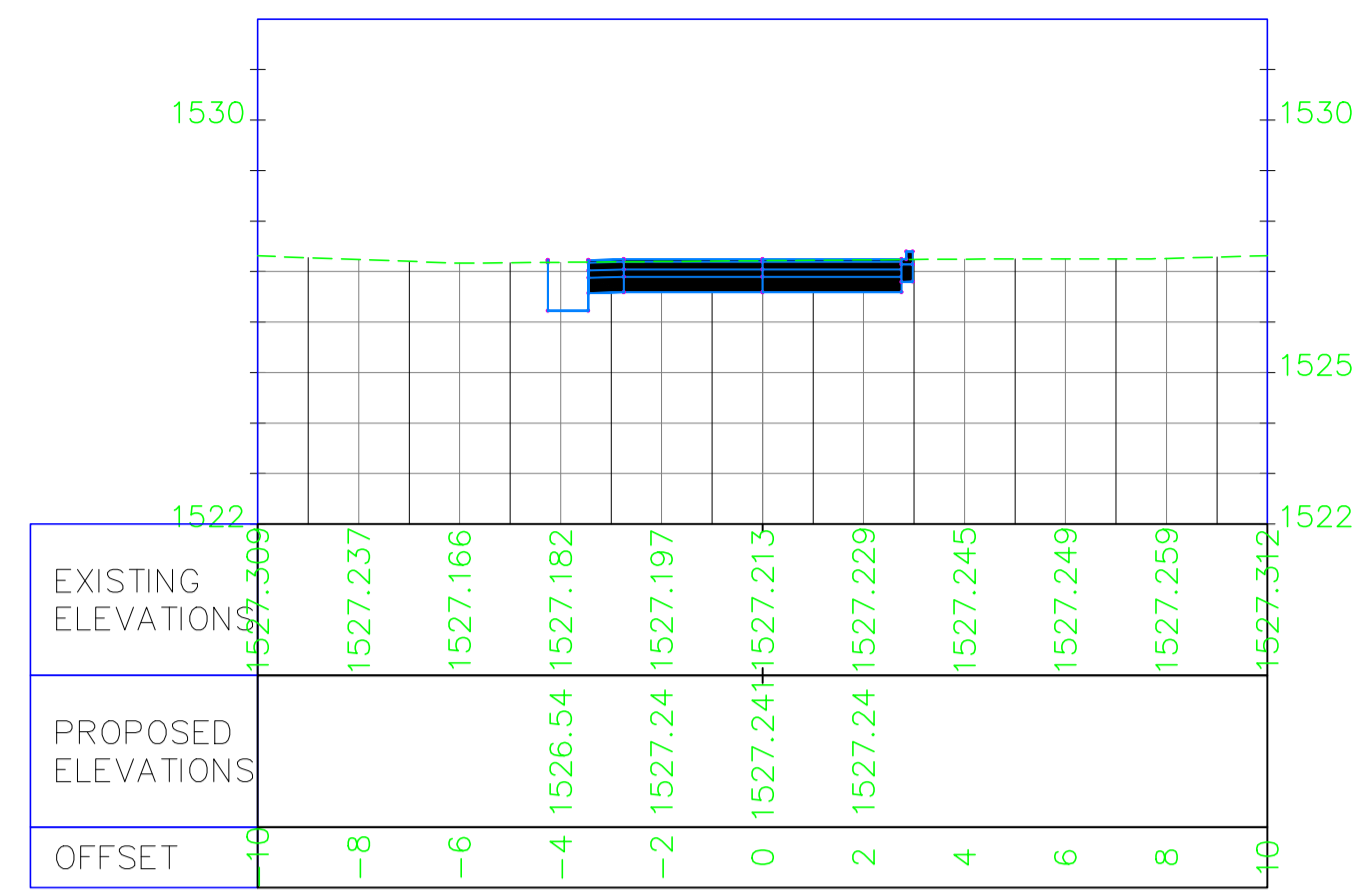
PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD04 CROSS SECTIONS				REVISIONS	
Org. No: WML/CR214/FJ/DCS/02 Sheet No. 2 of 4					
Scale: H: 1: 2000		Date: DECEMBER, 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	

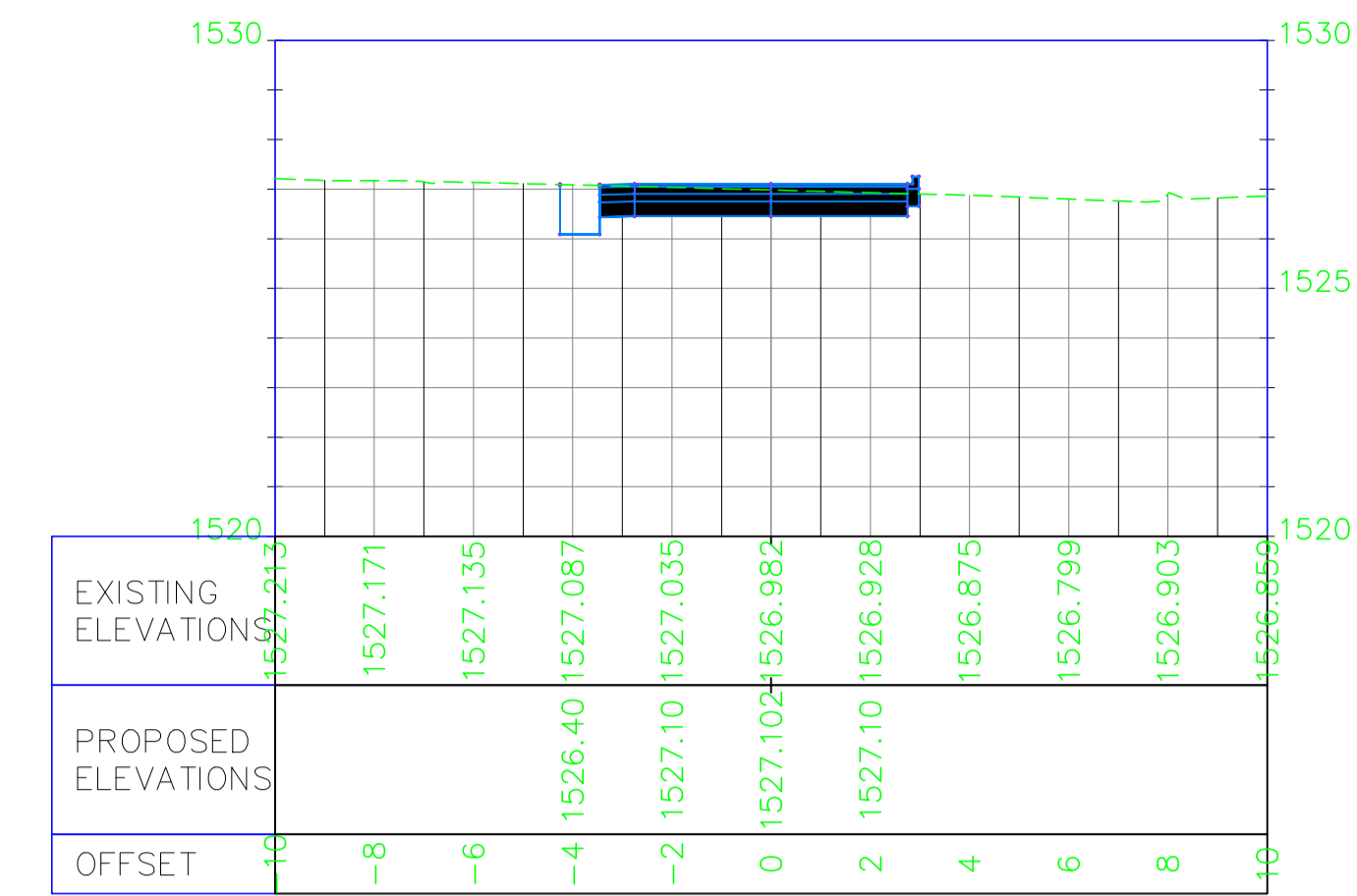
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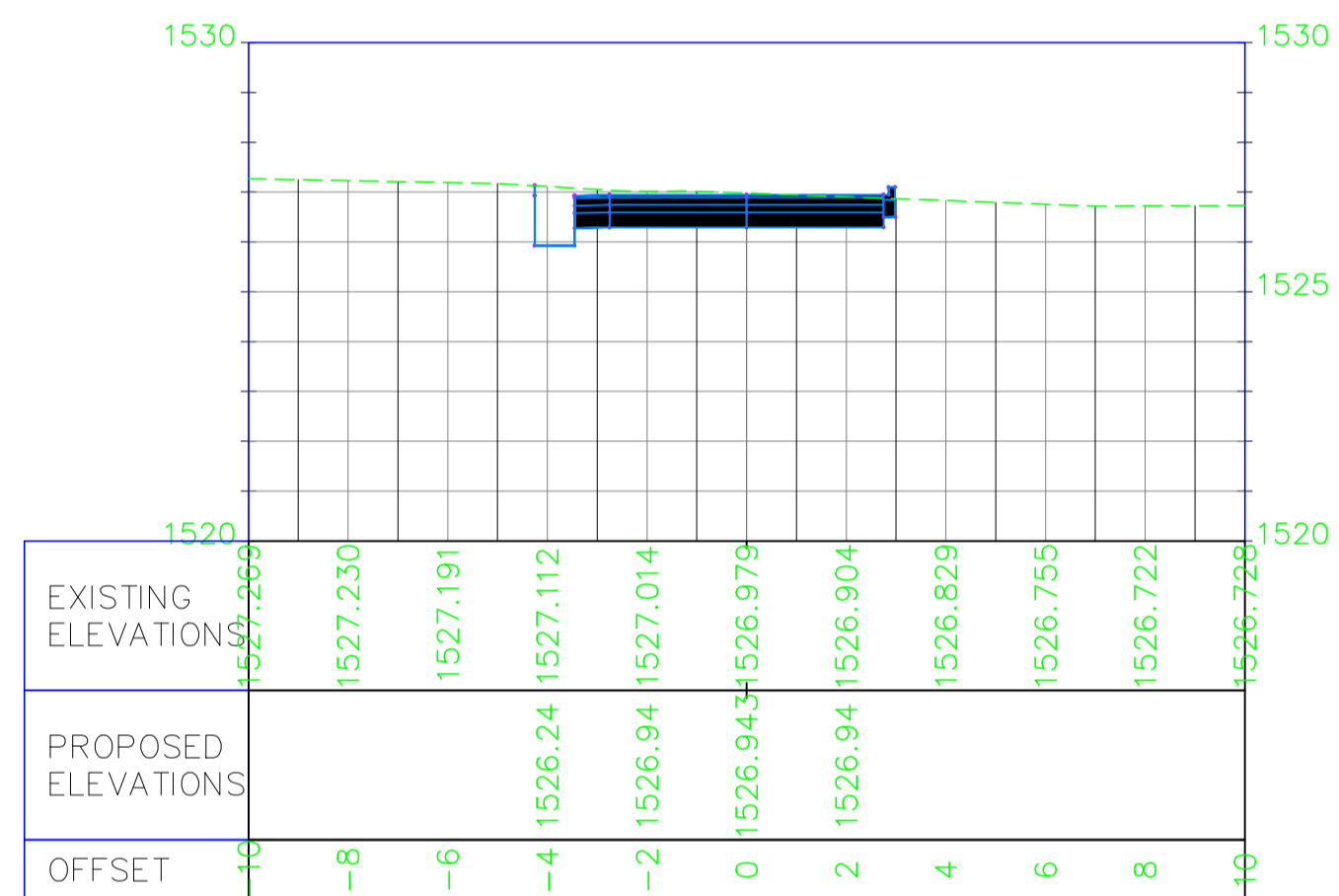
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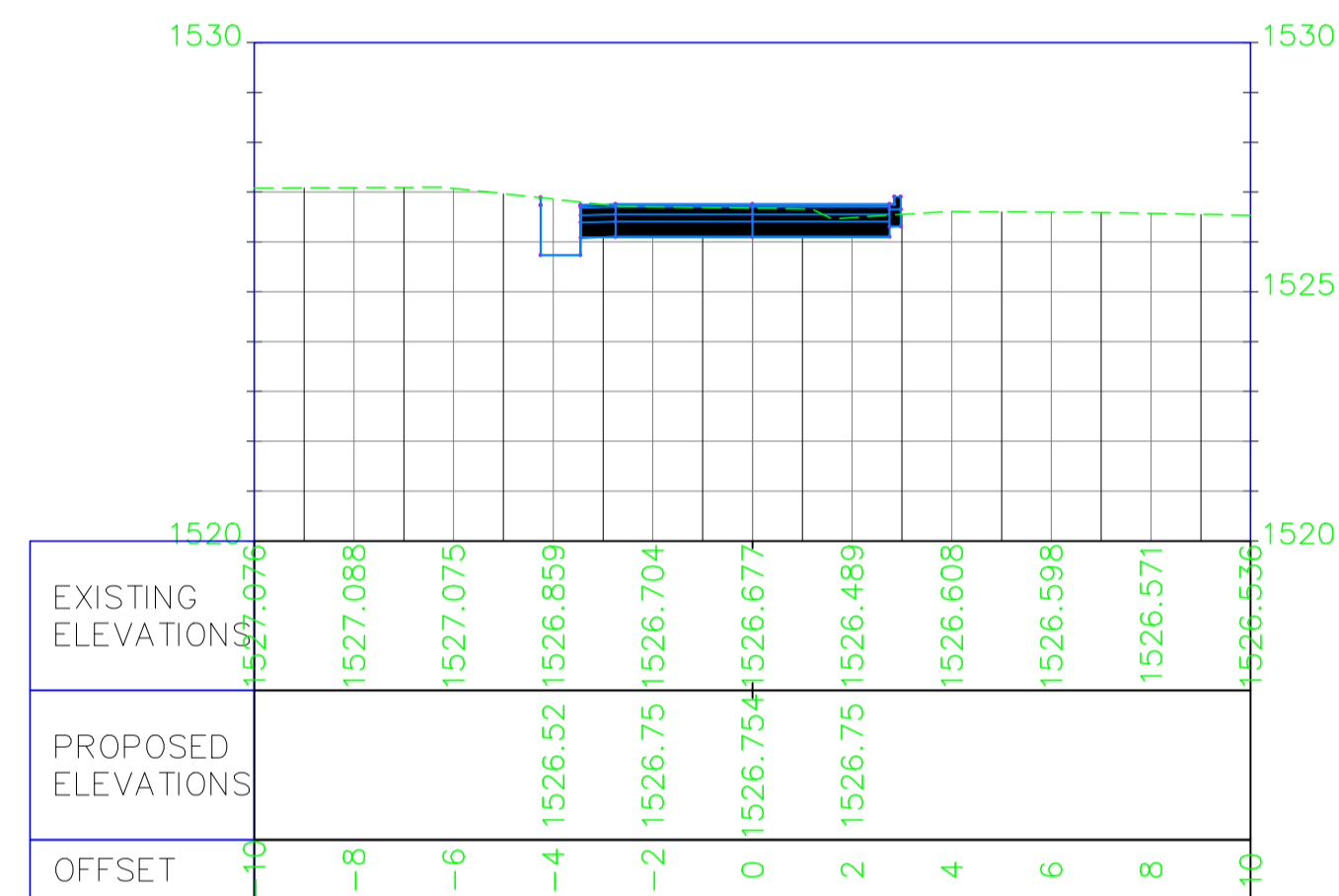
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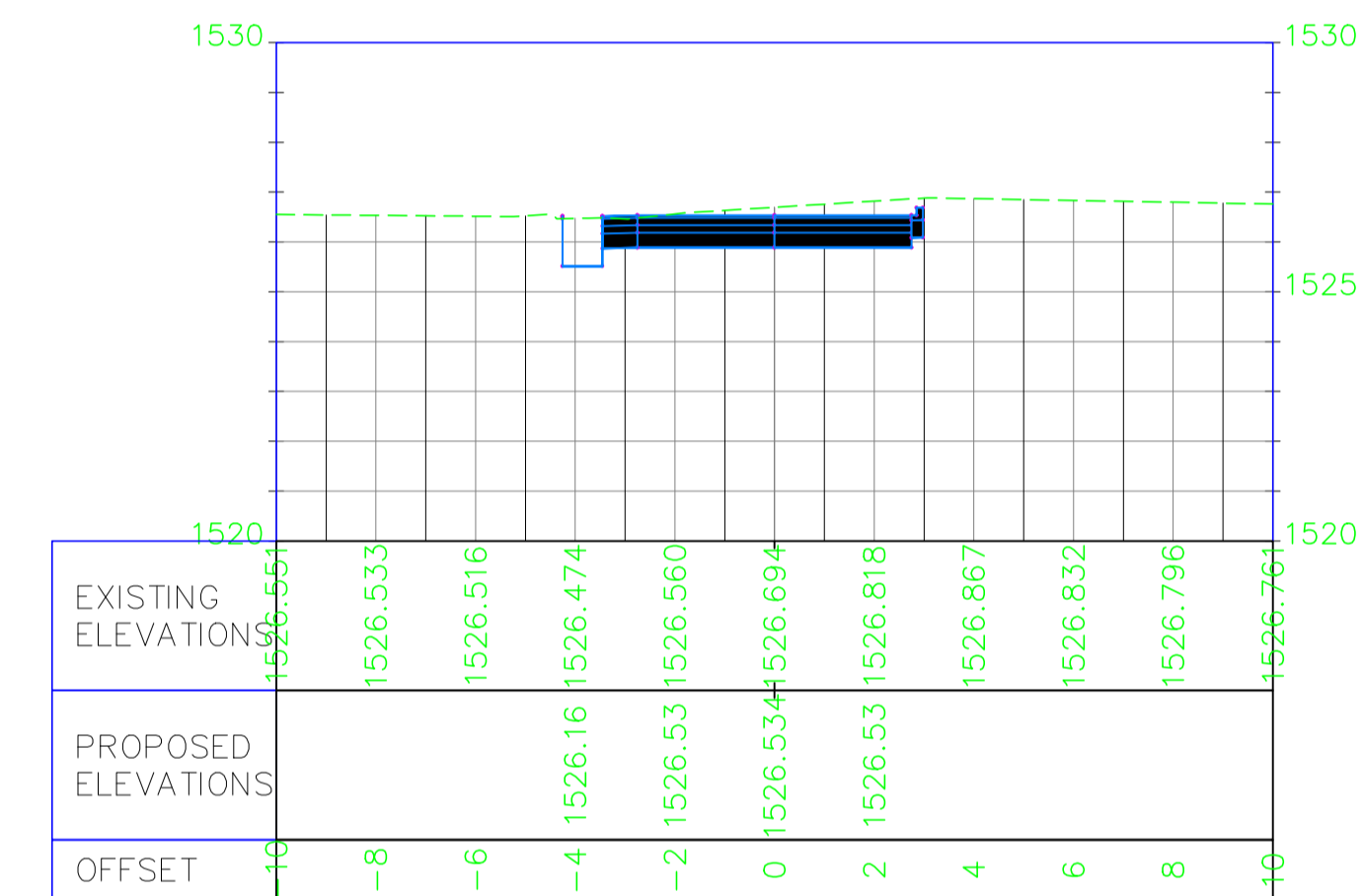
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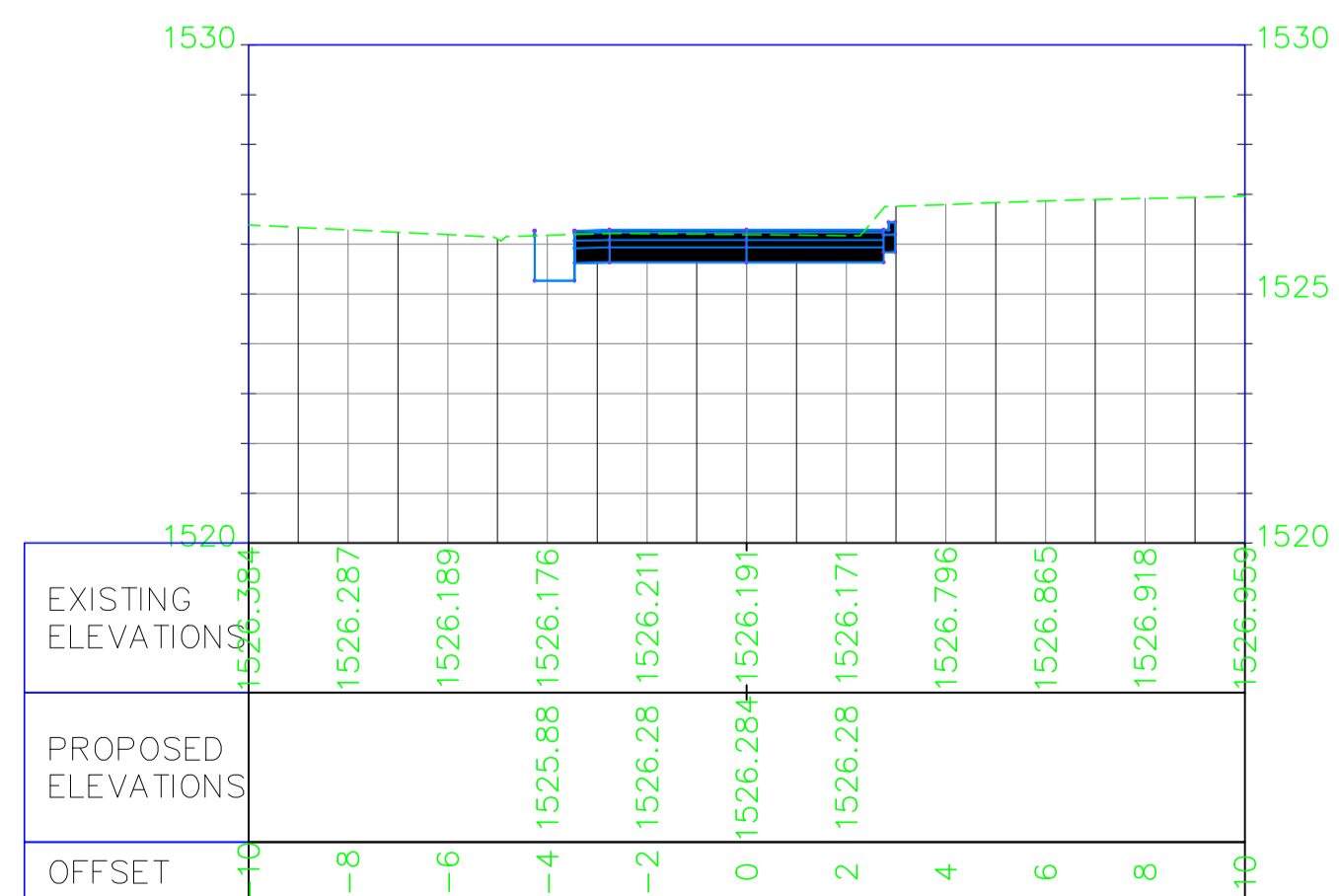
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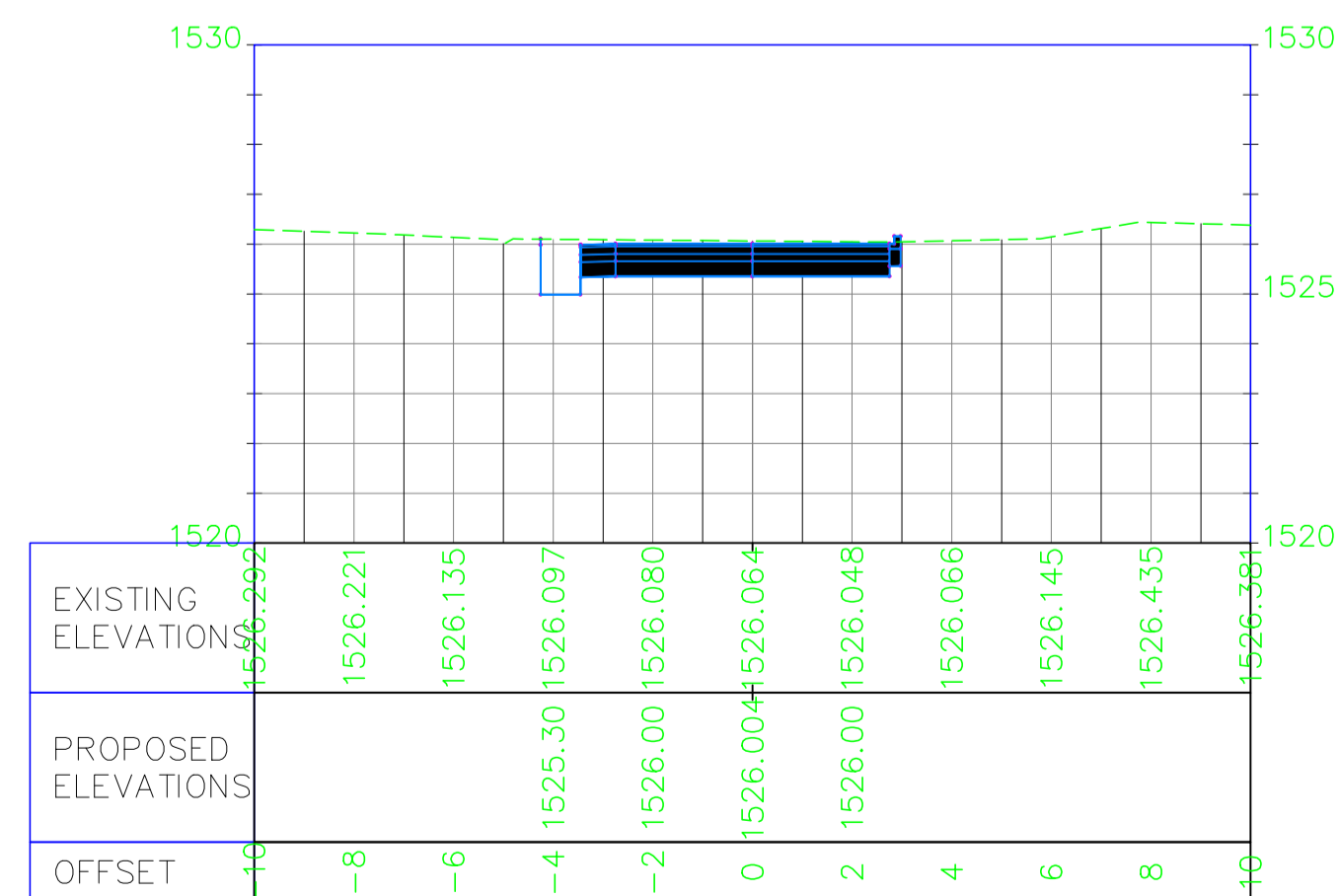
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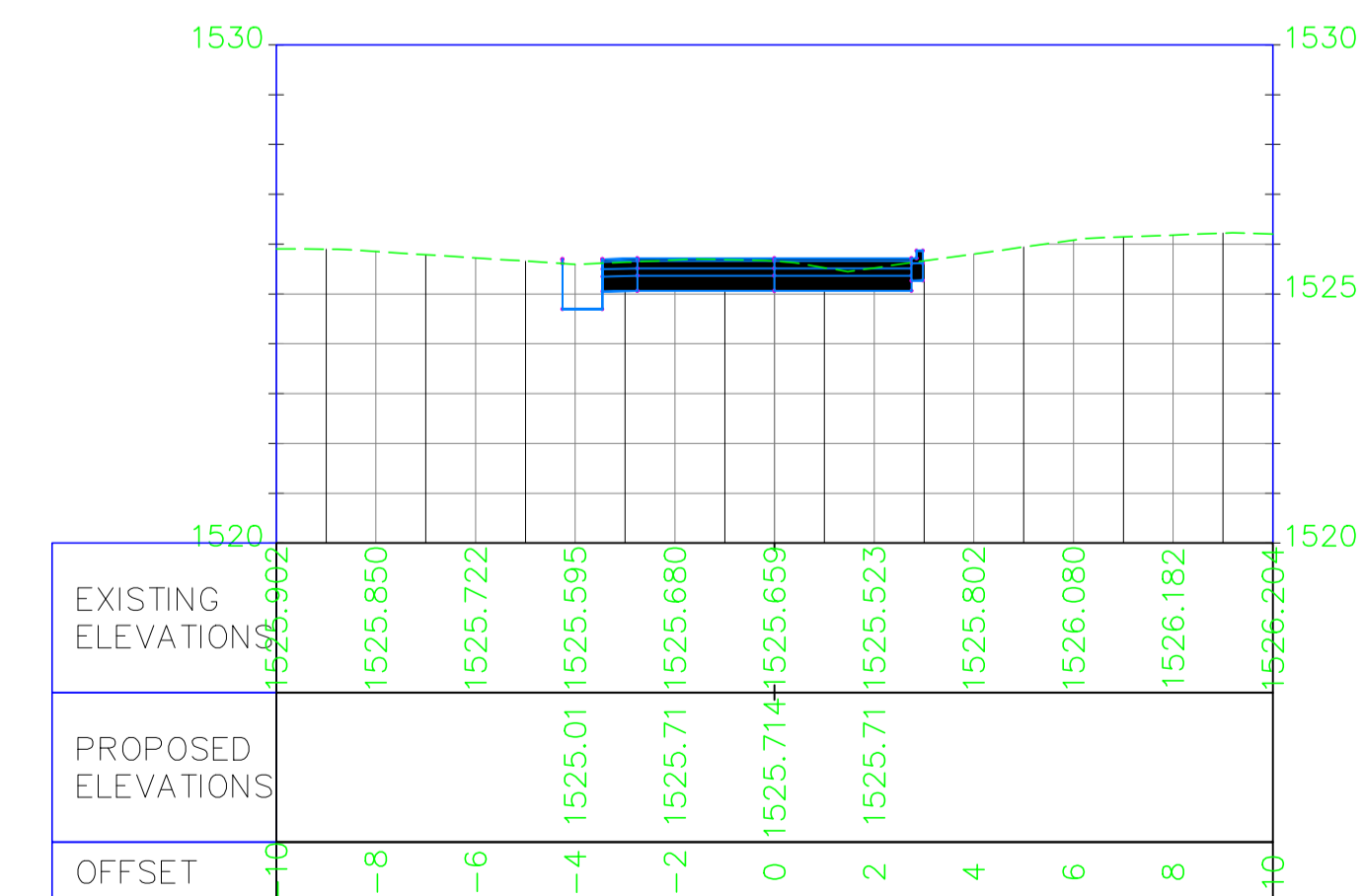
O+500.00



O+520.00



O+540.00



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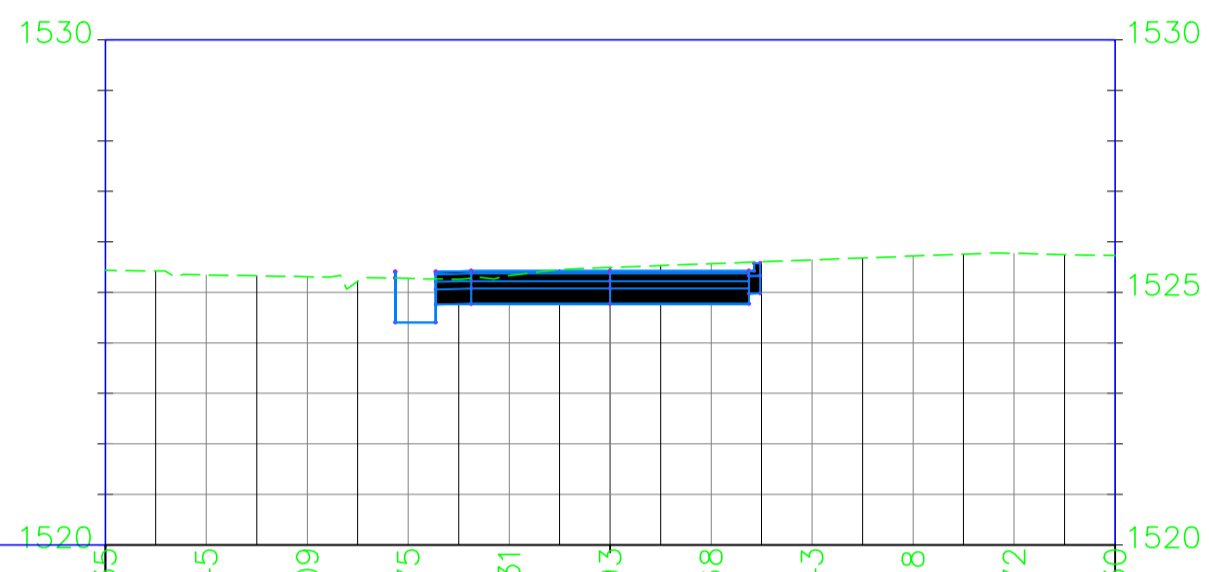
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PROJECT TITLE:
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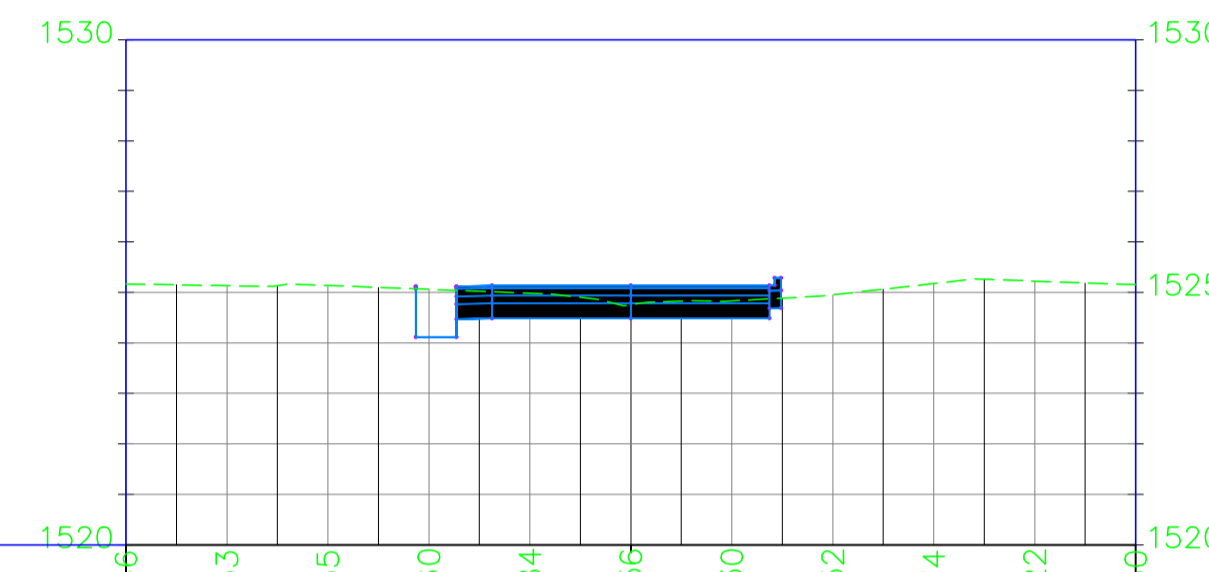
Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD04 CROSS SECTIONS				REVISIONS	
Org. No: WMCL/CR214/FJ/DCS/03		Sheet No. 3 of 4			
Scale: H: 1: 2000		Date: DECEMBER, 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	

0+560.00



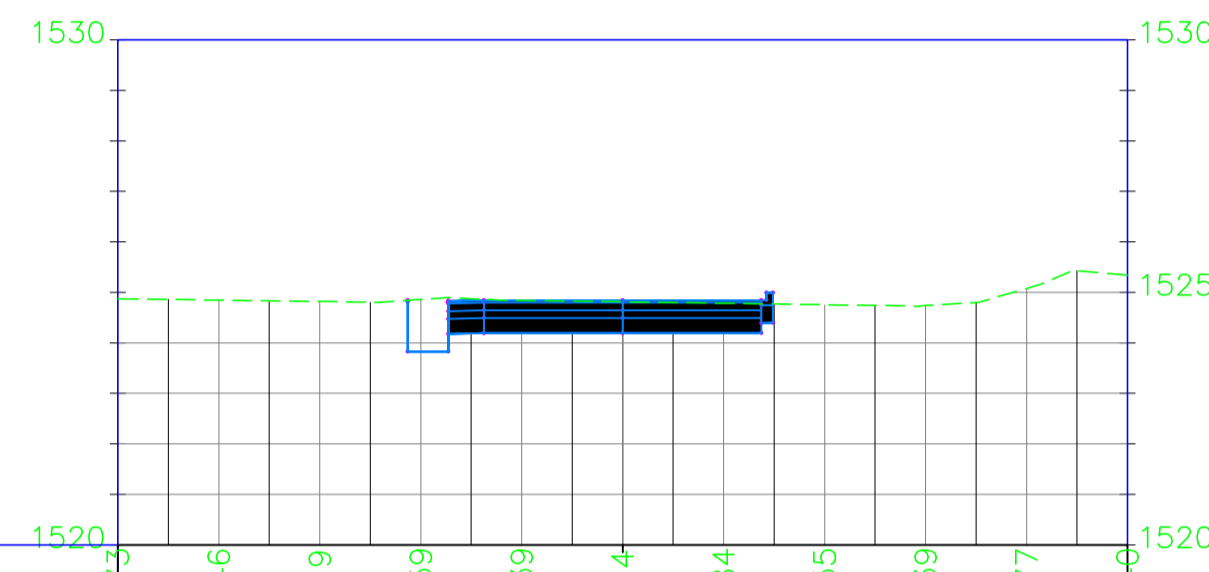
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PROPOSED ELEVATIONS				1524.72	1525.42	1525.493	1525.42	1525.643	1525.718	1525.772	1525.730
OFFSET	-10	-8	-6	-4	-2	0	2	4	6	8	+10

0+580.00



EXISTING ELEVATION	1525.166	1525.133	1525.135	1525.060	1524.984	1524.756	1524.830	1524.952	1525.174	1525.222	1525.150
PROPOSED ELEVATIONS				1524.76	1525.13	1524.756	1525.13	1524.830	1524.952	1525.174	1525.222
OFFSET	-10	-8	-6	-4	-2	0	2	4	6	8	+10

0+600.00



EXISTING ELEVATION	1524.873	1524.846	1524.819	1524.859	1524.839	1524.814	1524.784	1524.755	1524.739	1525.077	1525.546
PROPOSED ELEVATIONS				1524.52	1524.84	1524.814	1524.84	1524.784	1524.755	1524.739	1525.077
OFFSET	-10	-8	-6	-4	-2	0	2	4	6	8	+10

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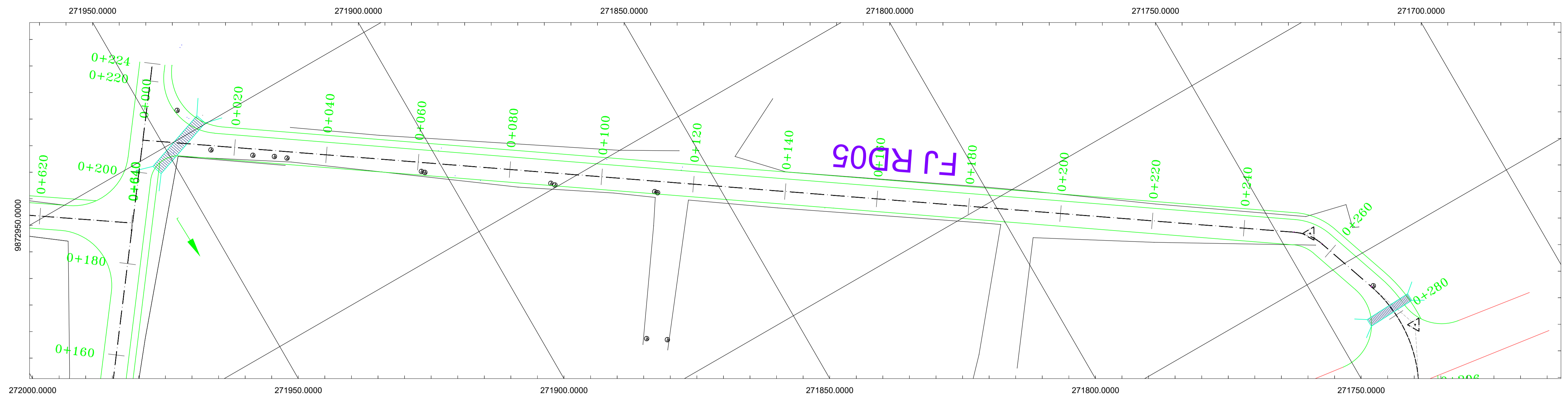

CONSULTANT

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Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

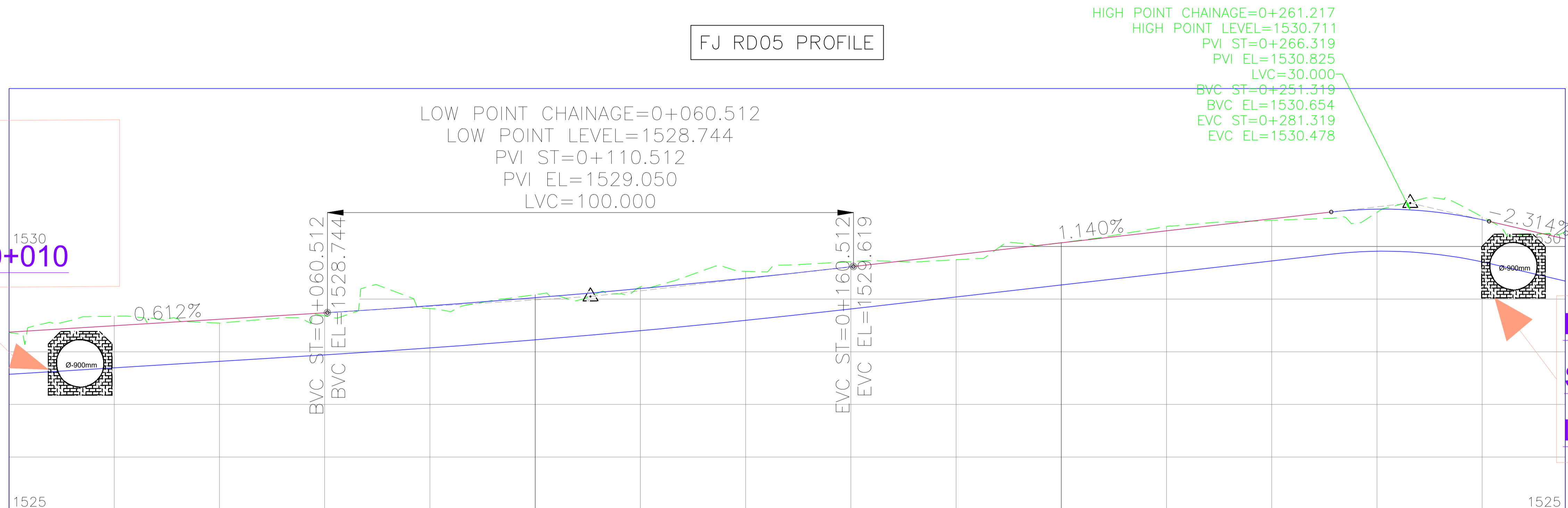
Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD04 CROSS SECTIONS				REVISIONS	
Org. No: WMCL/CR214/FJ/DCS/04		Sheet No. 4 of 4			
Scale: H: 1:2000		Date: DECEMBER: 2023			
V: 1:200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	



FJ RD05 PROFILE

PIPE CULVERT
 SIZE- 1X900
 LOCATION:KM 0+010

PIPE CULVERT
 SIZE- 1X900
 LOCATION:KM 0+274



STATION	0+000	0+100	0+200	0+296
FRL	1528.373	1528.496	1528.618	1528.740
OGL	1528.363	1528.676	1528.544	1528.682
Drain	1527.573	1527.696	1527.818	1527.940
HORIZONTAL ALIGNMENT	L=250.941m			
VERTICAL ALIGNMENT	L=60.513m, 0.612%, LVC=100m, K=189.618, L=90.813m, 1.140%, LVC=30m, K=8.686, L=14.487m, -2.314%			

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CONSULTANT
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PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
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 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: **FORT JESUS RUIRU SETTLEMENT : FJ RD05 PLAN & PROFILES**

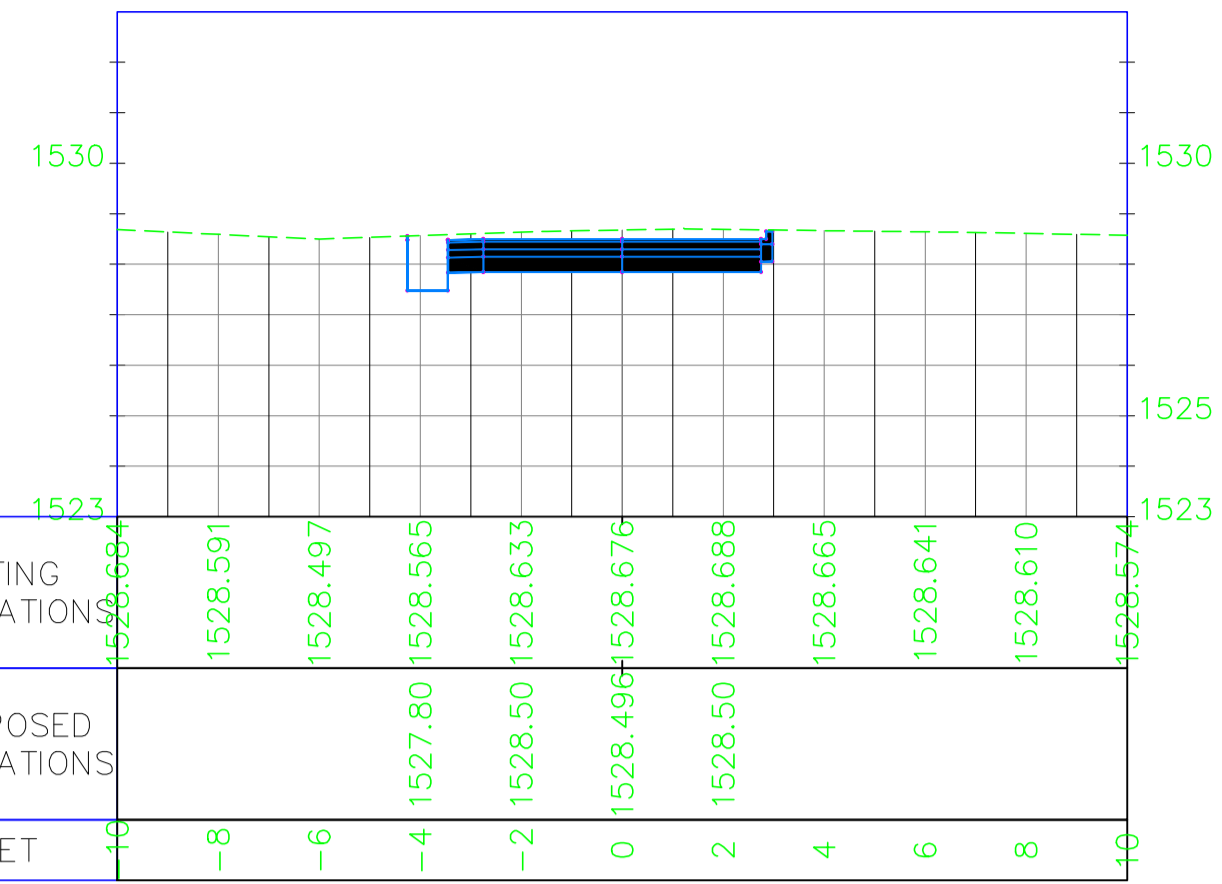
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APPROVED BY	ENG. IKWM	DESIGNED BY	LWK
CHECKED BY	ENG. PNG	DRAWN BY	LWK

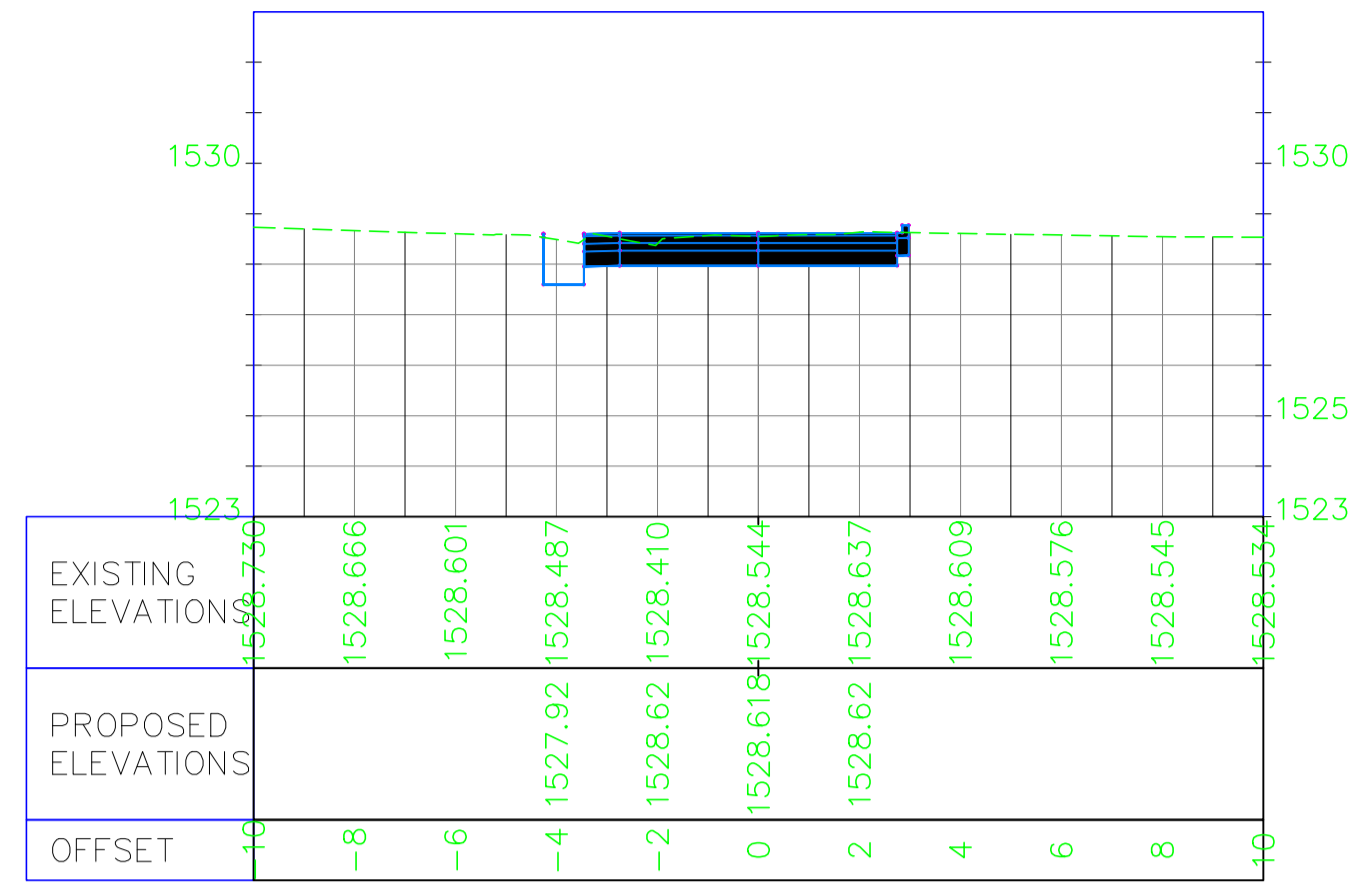
REVISIONS

No.	Date	AMMENDMENTS
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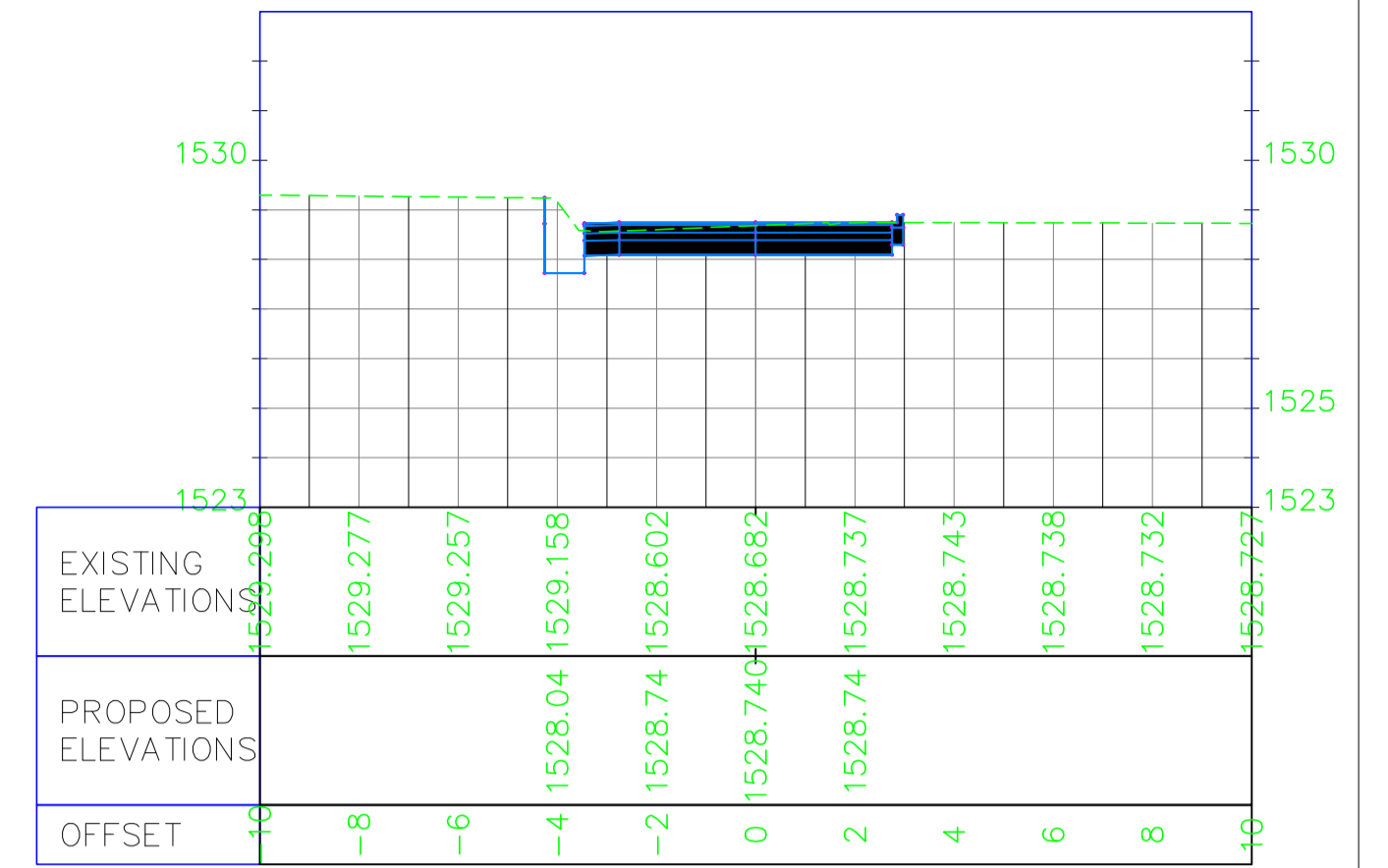
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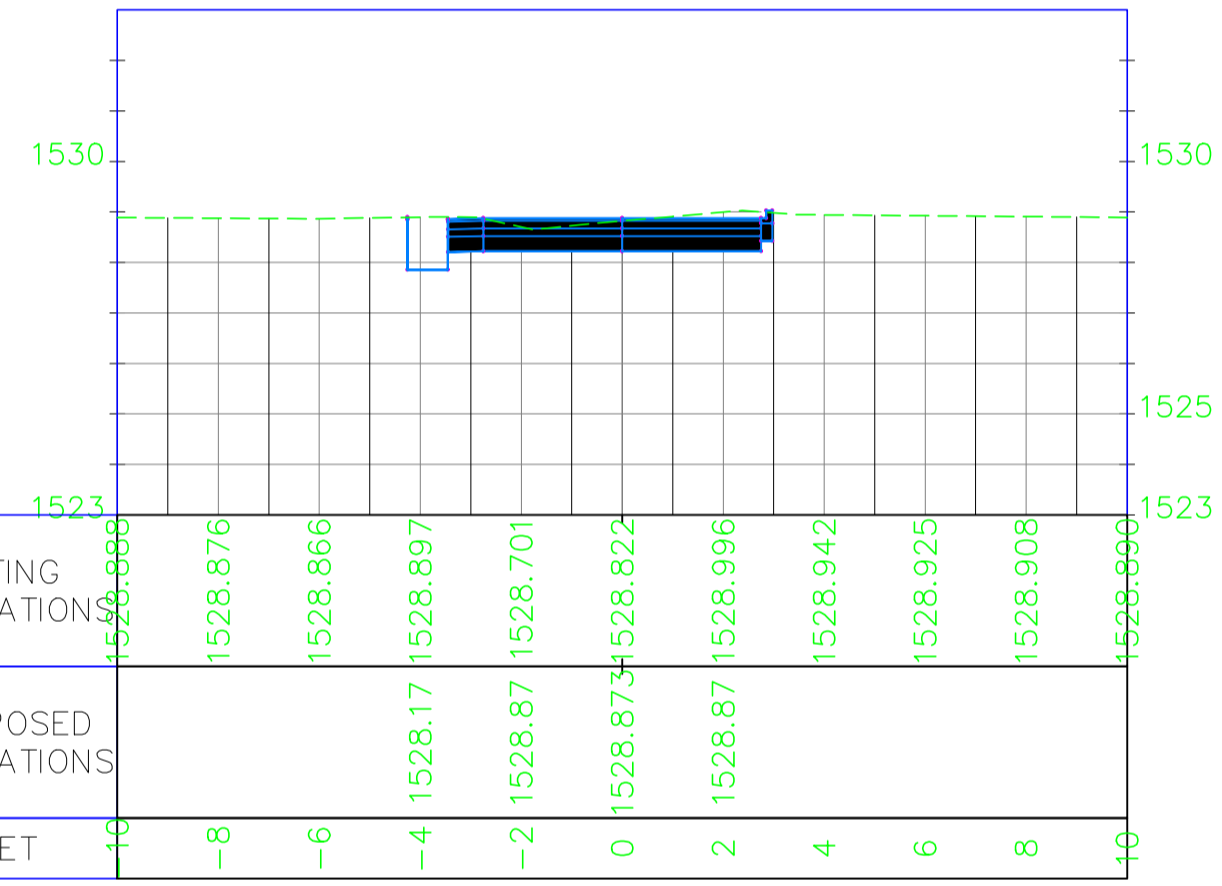
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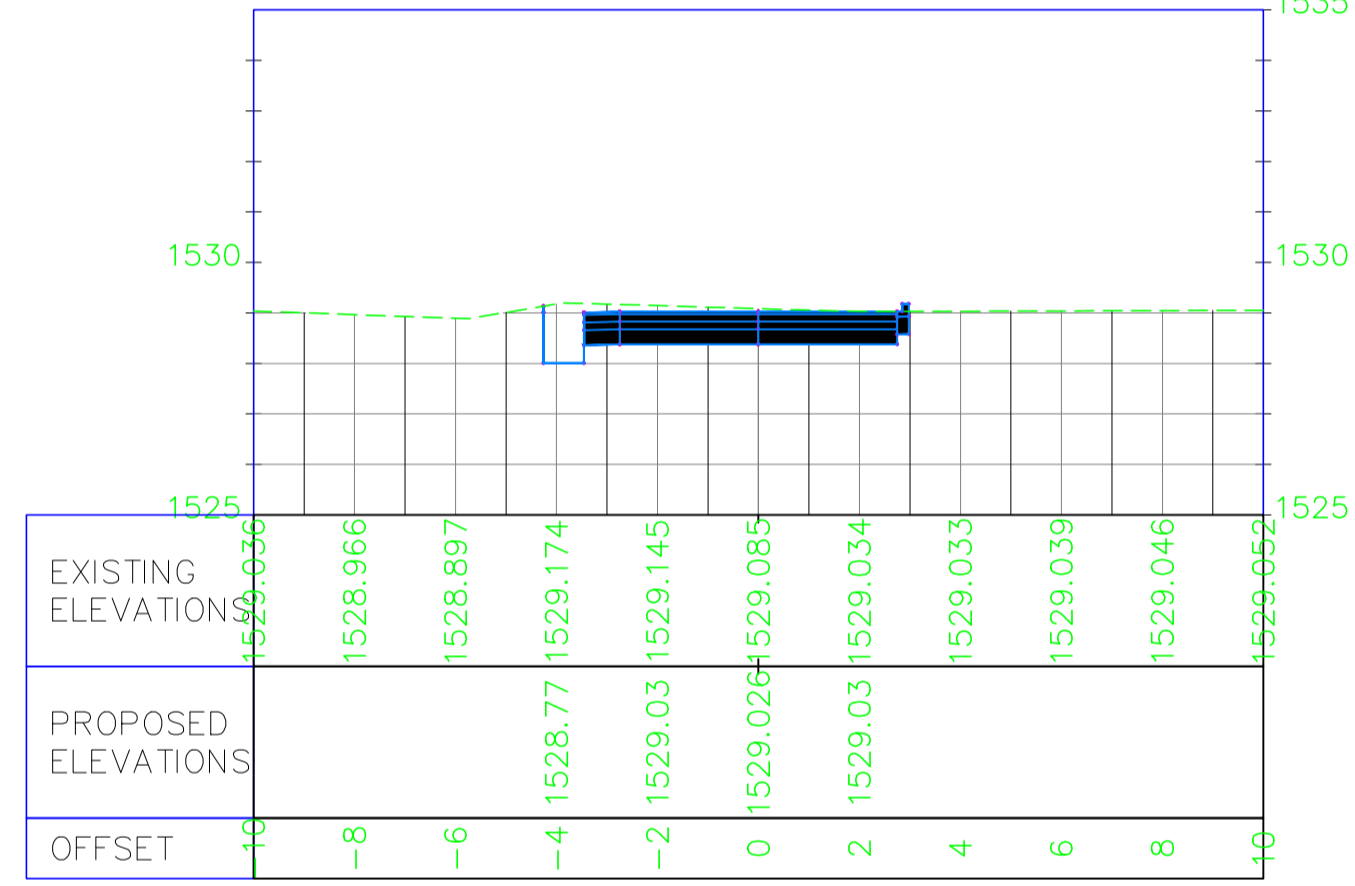
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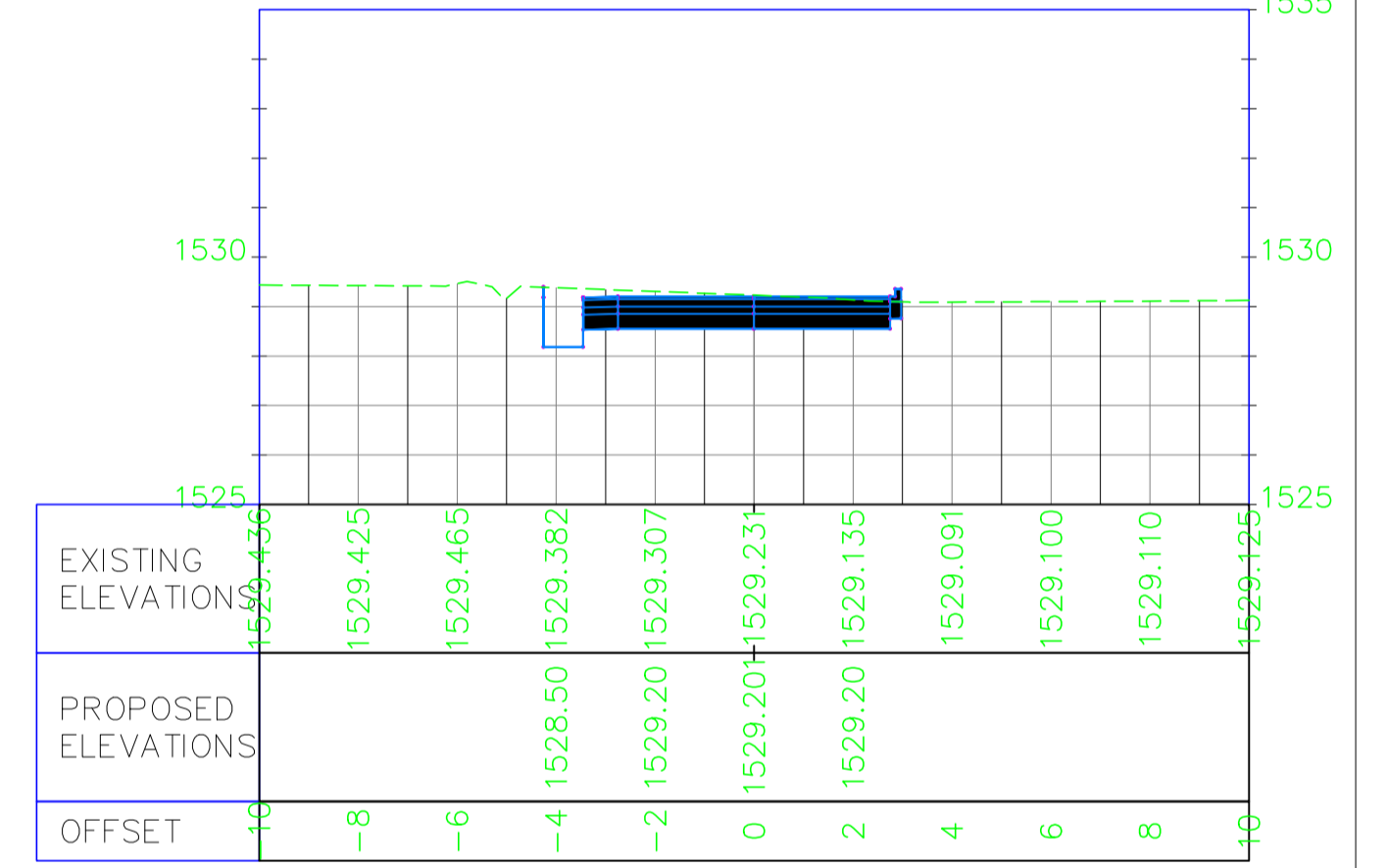
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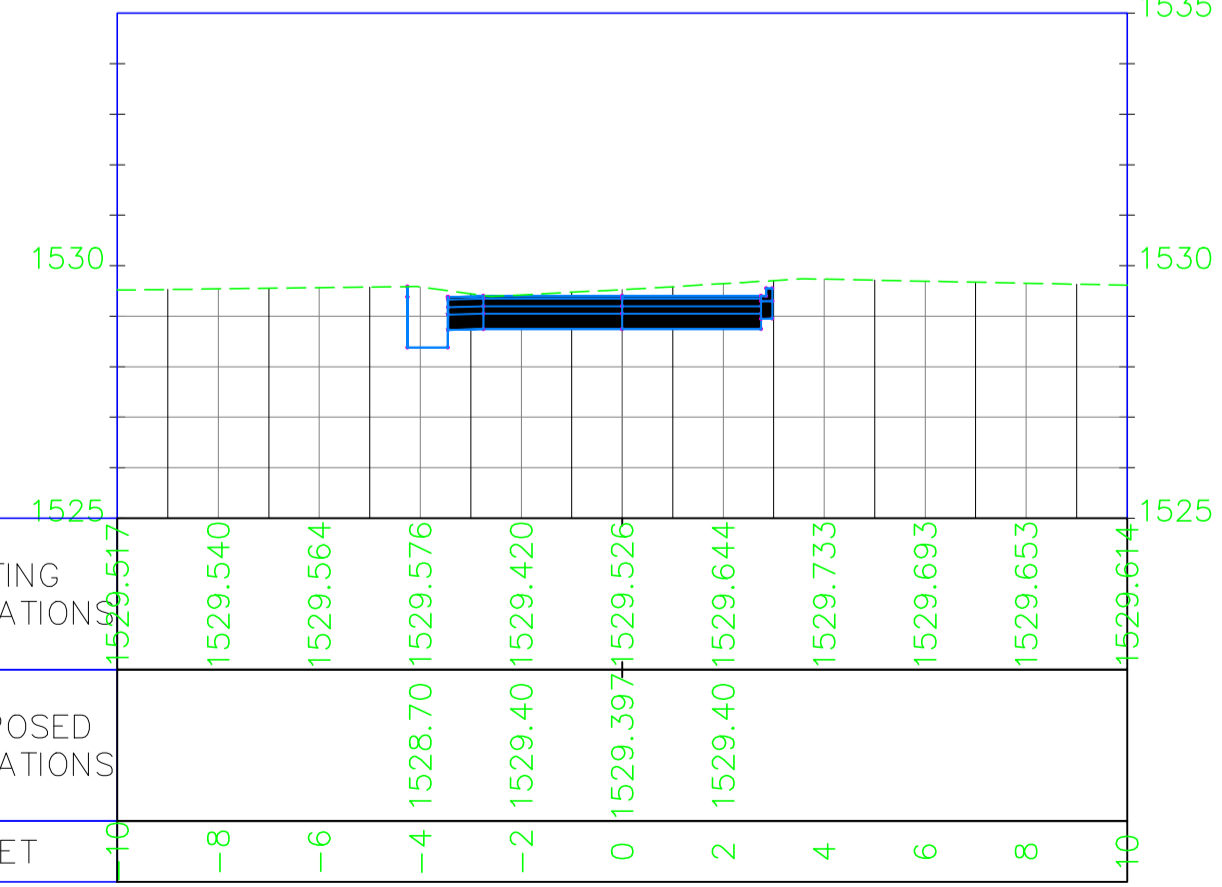
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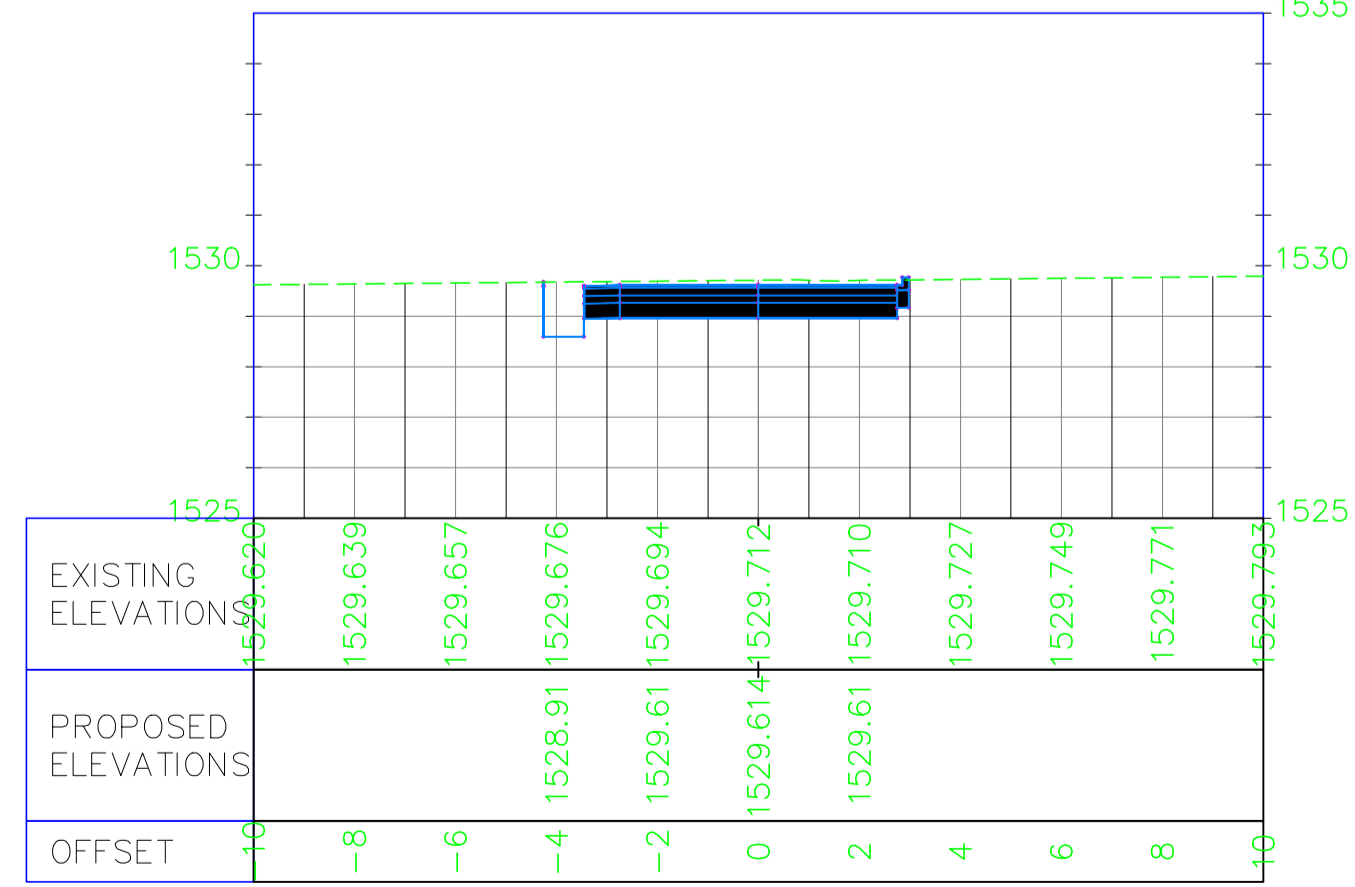
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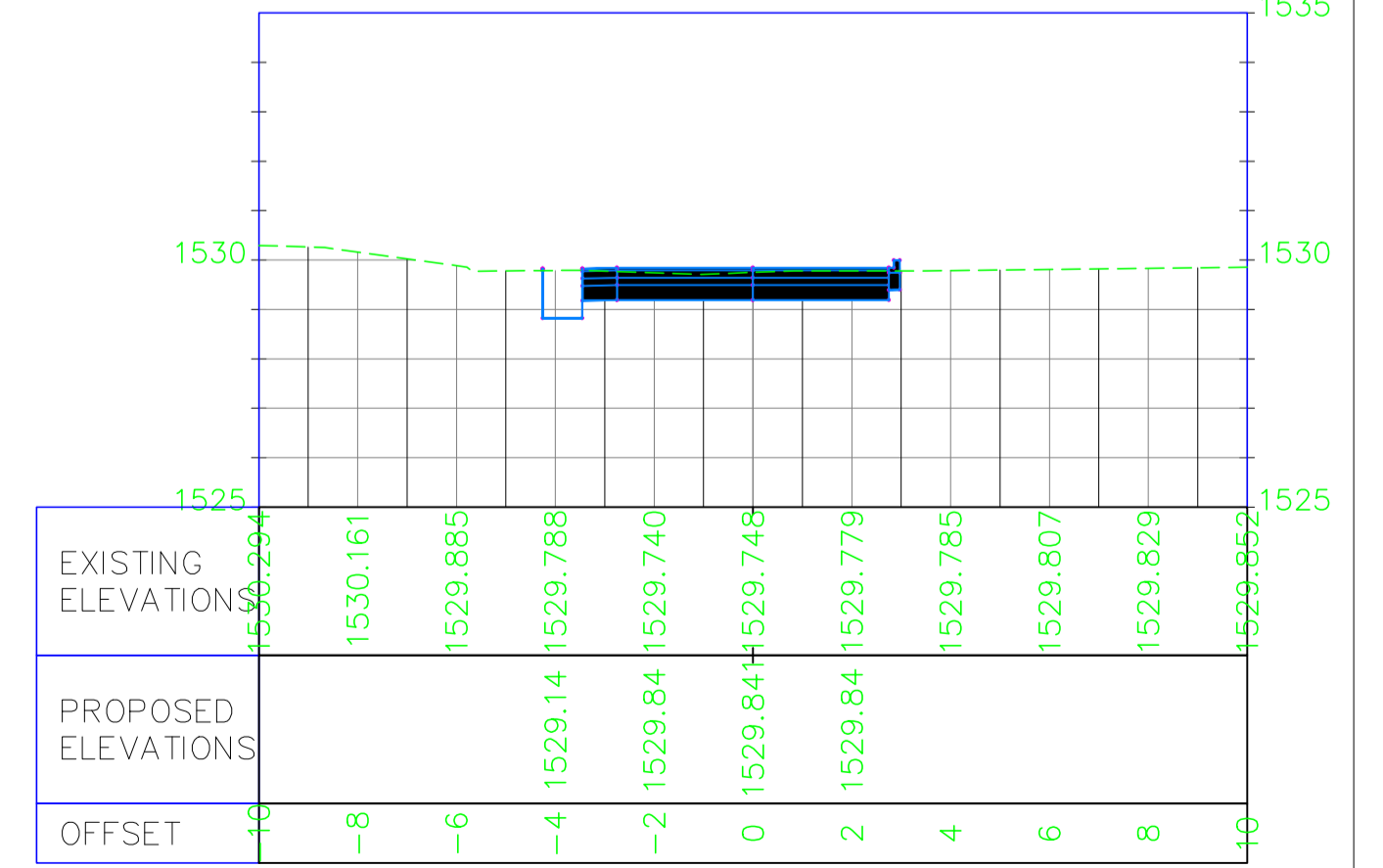
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0+160.00



0+180.00



EMPLOYER

 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

FINANCIER
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 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)
 

CONSULTANT

Wanjohi Mutonyi Consult Ltd.
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
 FOOTPATHS ,DRAINAGE SYSTEMS & PUBLIC LIGHTING
 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS (FORT JESUS RUIRU) IN KIAMBU COUNTY

Drawing Title: FORT JESUS RUIRU SETTLEMENT : FJ RD05 CROSS SECTIONS				REVISIONS	
Org. No. WMCL/CR214/FJ/DCS/01		Sheet No. 1 of 2			
Scale: H: 1: 2000		Date: DECEMBER, 2023			
V: 1: 200		Stage: TENDER DRAWINGS			
APPROVED BY	ENG. IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG. PNG	DRAWN BY	LWK	No.	Date
				AMMENDMENTS	



STANDARD DETAILS

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Lands, Physical Planning, Urban Development,
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County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT
Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.



PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: STANDARD DETAILS				REVISIONS	
Drg. No.	Date: DECEMBER:2023				
Scale:	Stage: TENDER DRAWINGS				
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK		
CHECKED BY	ENG.PNG	DRAWN BY	SM	No.	Date
AMMENDMENTS					

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
<p>TYPES OF CROSS SECTIONS SCALE 1:50</p> <p>CARRIAGE WAY - 5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.5 METERS 1.5 METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<ol style="list-style-type: none"> 1. KYA RD 01 2. KYA RD 02 3. KYA RD 03 4. KYA RD 04
<p>TYPES OF CROSS SECTIONS SCALE 1:50</p> <p>CARRIAGE WAY - 3 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>ONE WAY CARRIAGEWAY, SINGLE LANES OF 4 METRES 1.5 METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<ol style="list-style-type: none"> 1. UMJ RD 01 2. UMJ RD 02 3. UMJ RD 03 4. UMJ RD 04 5. UMJ RD 05 6. UMJ RD 06

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
<p>TYPES OF CROSS SECTIONS SCALE 1:50 CARRIAGE WAY - 5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.5 METERS 1.5 METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<p>1. MSR RD 01 2. MSR RD 02</p>
<p>TYPES OF CROSS SECTIONS SCALE 1:50 CARRIAGE WAY - 3 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>ONE WAY CARRIAGEWAY, SINGLE LANES OF 4 METRES 1.5 METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<p>1. MSR RD 04 2. MSR RD 05 3. MSR RD 06 4. MSR RD 07</p>
<p>TYPES OF CROSS SECTIONS SCALE 1:50 CARRIAGE WAY - 5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.5 METERS 1.5 METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<p>1. RVRS RD 01 2. RVRS RD 02 3. RVRS RD 03</p>

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
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FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT



Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: ROAD CROSS SECTION 2.

Drg. No. WMCL/CR214/SD/02 Sheet No. 2 of 14

Scale: 1:100 Date: DECEMBER:2023

Stage: TENDER DRAWINGS

APPROVED BY ENG. IKWM DESIGNED BY LWK

CHECKED BY ENG. PNG DRAWN BY SM

REVISIONS

No.	Date	AMMENDMENTS

TYPES OF CROSS SECTIONS	DESCRIPTION	ROAD NAME
<p>TYPES OF CROSS SECTIONS SCALE 1:50 CARRIAGE WAY - 5.5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.75METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS</p>	<p>FORTJESUS FJ RD01A FJ RD01B FJ RD03 FJ RD05</p>
<p>TYPES OF CROSS SECTIONS SCALE 1:50 CARRIAGE WAY - 5.5 METRES FOOTPATH/SLOTTED SIDE DRAIN (NMT)= 1.5METRES</p>	<p>TWO WAY SINGLE CARRIAGEWAY, TWO LANES EACH 2.75METERS 1.5METRES FOOTPATH INCLUSIVE OF THE COVERED SLOTTED CONCRETE DRAINS ON ONE SIDE AND 1.2M FOOTPATH ONE THE OTHER SIDE</p>	<p>FORTJESUS FJ RD04</p>

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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CONSULTANT

Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.**

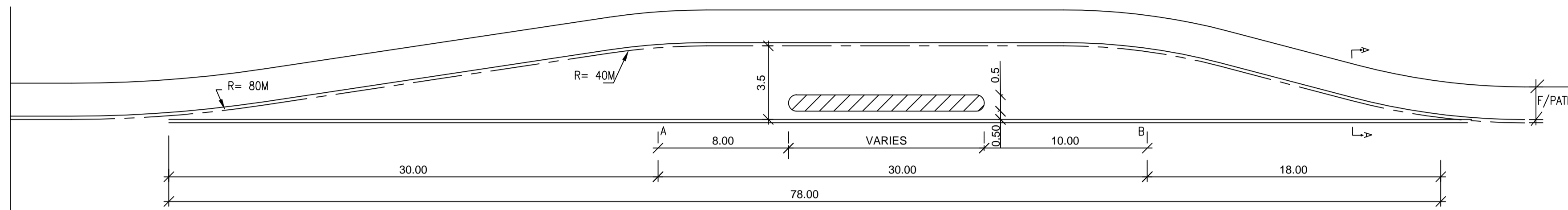
Drawing Title: **ROAD CROSS SECTION 3.**

Drg. No. WMCL/CR214/SD/02A Sheet No. 2A of 14
Scale: 1:100 Date: DECEMBER:2023
Stage: TENDER DRAWINGS

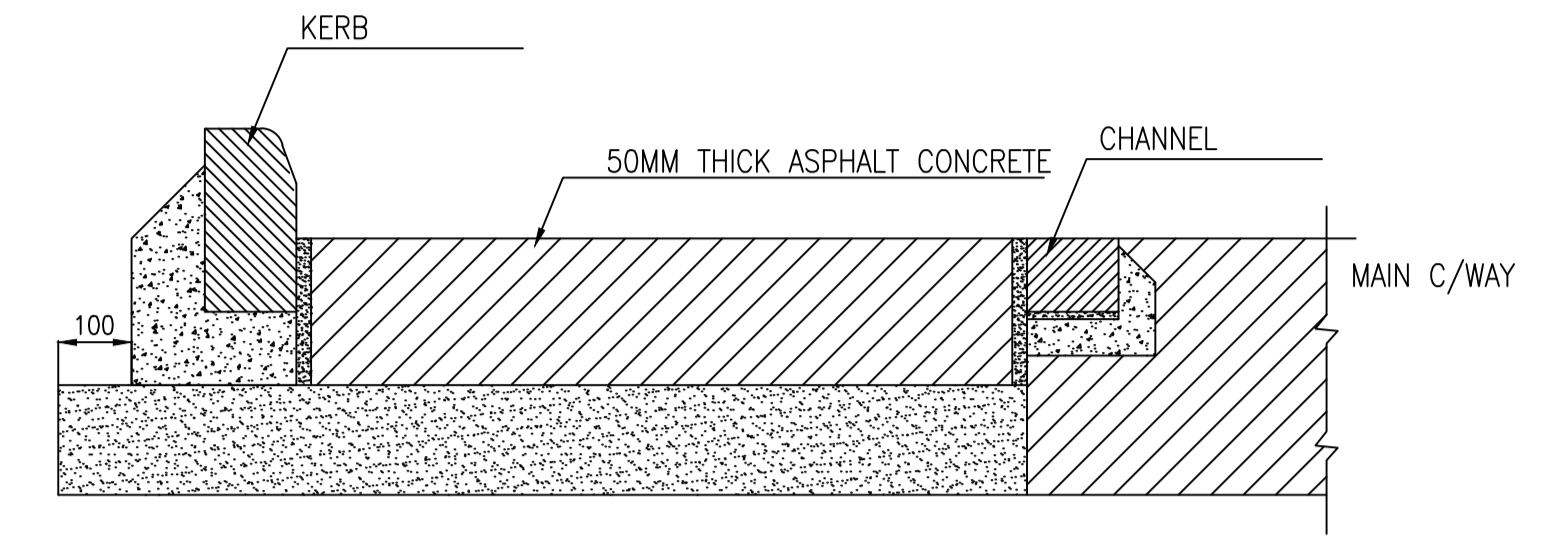
APPROVED BY ENG. IKWM DESIGNED BY LWK
CHECKED BY ENG. PNG DRAWN BY SM

REVISIONS

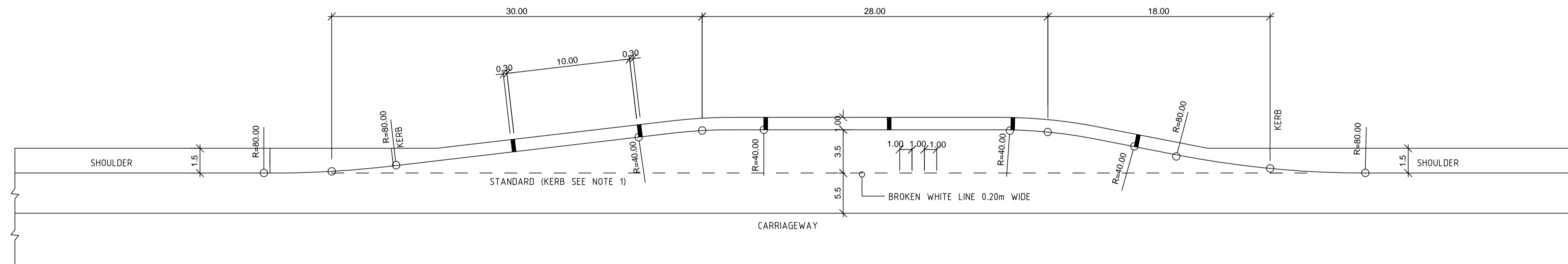
No. Date AMMENDMENTS



DETAILS OF STANDARD BUS LAY-BY
SCALE 1:200



SECTION A-A
SCALE 1:10



BUS-BAY DETAILS
1:200

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



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Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

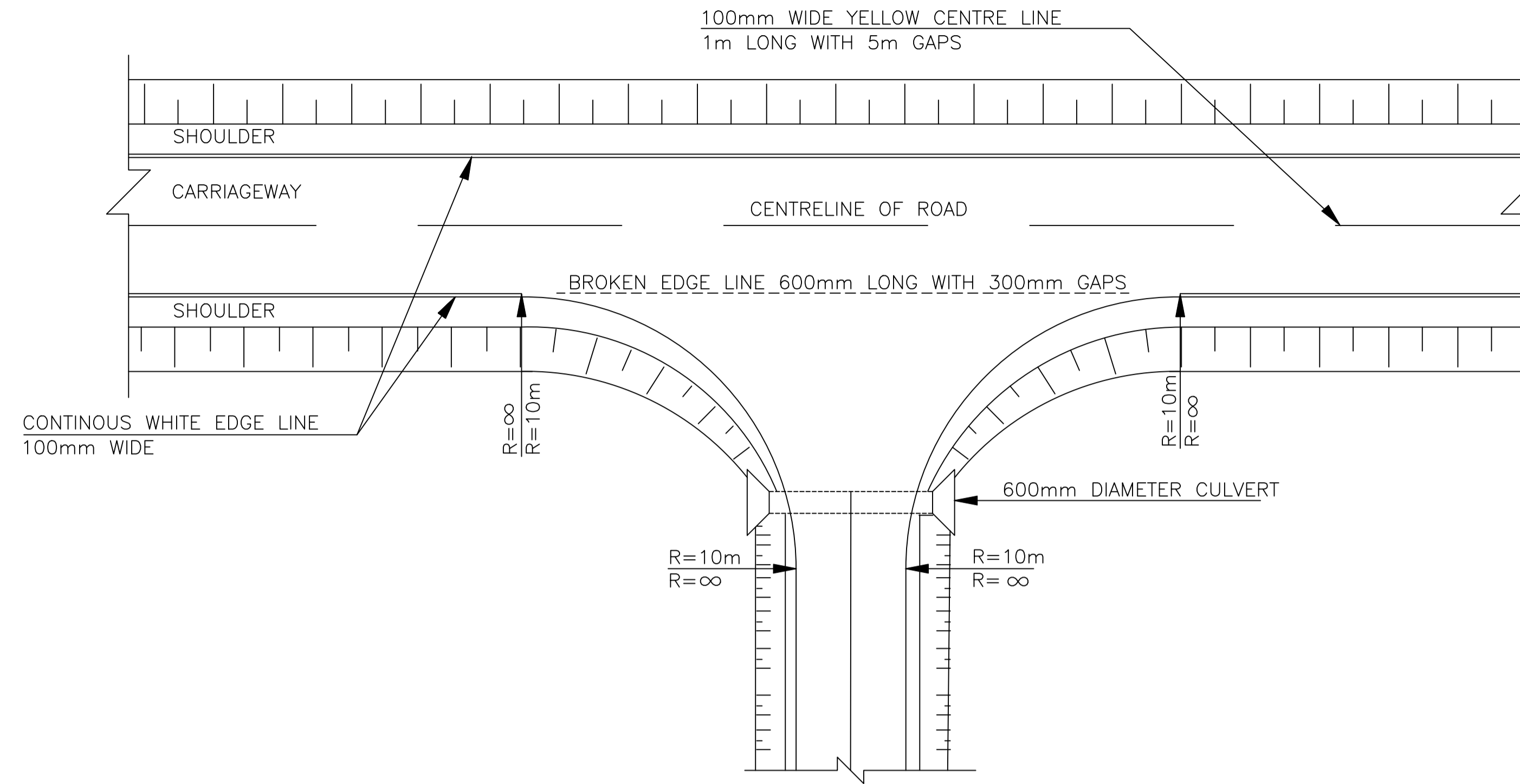
Drawing Title: TYPICAL BUS BAY DETAILS.

Drg. No. WMCL/CR214/SD/03 Sheet No. 3 of 14
Scale: 1:200, 1:10 Date: DECEMBER:2023
Stage: TENDER DRAWINGS

APPROVED BY ENG. IKWM DESIGNED BY LWK
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REVISIONS

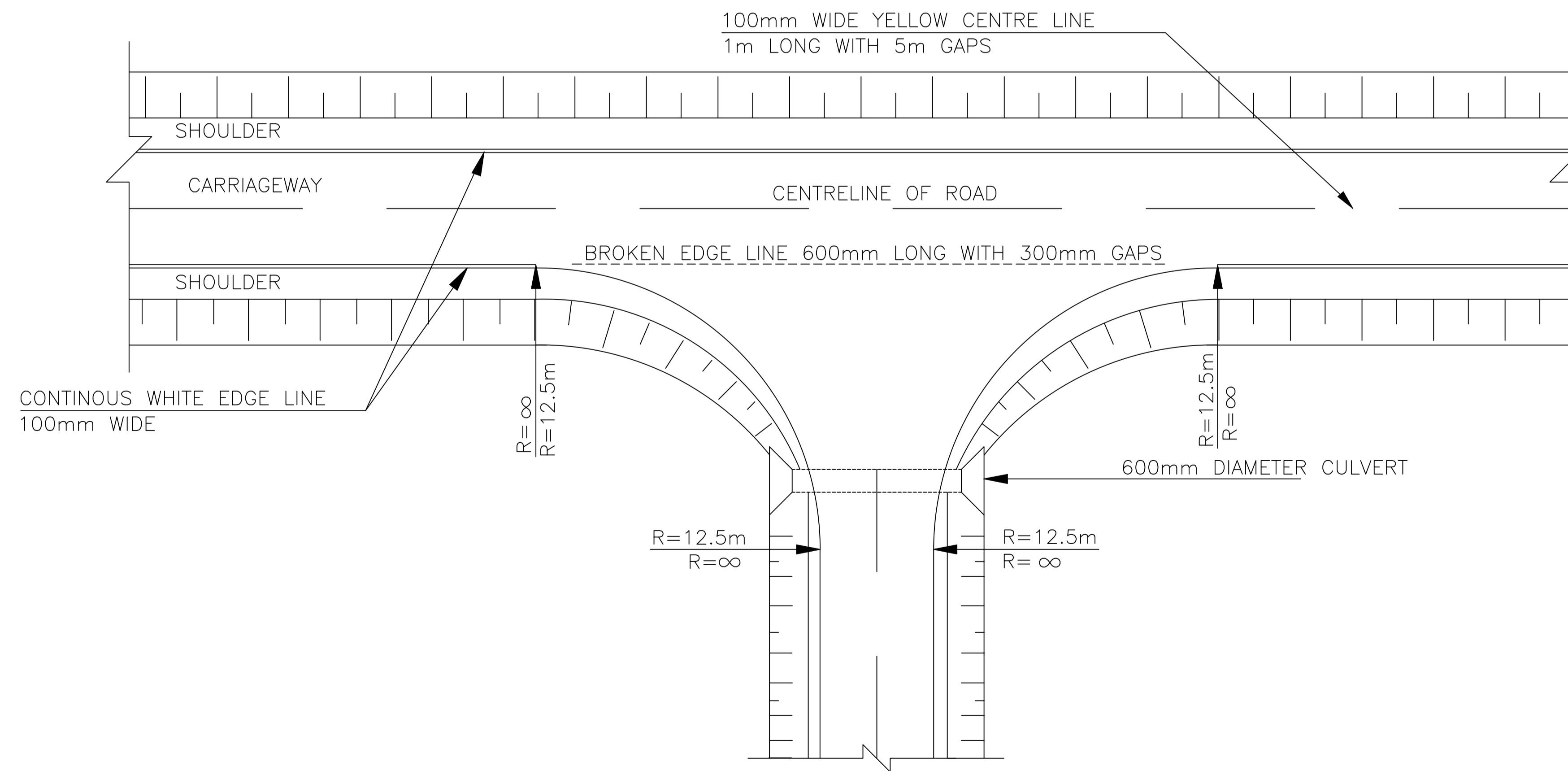
No. Date AMMENDMENTS



NOTES:
 1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.
 2. THE ACTUAL LOCATION OF PRIVATE ACCESS TO BE AS DIRECTED

JUNCTION A : R=10M

SCALE 1:100



JUNCTION B : R=12.5M

SCALE 1:100

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The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O. Box 2344-00900, Kiambu

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CONSULTANT



Wanjohi
 Mutonyi
 Consult Ltd.
 Engineers, Environmentalists, Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
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 INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
 SETTLEMENTS IN KIAMBU COUNTY.**

Drawing Title: **TYPICAL JUNCTION DETAILS.**

Drg. No. WMCL/CR214/SD/04 Sheet No. 4 of 14

Scale: 1:100 Date: DECEMBER:2023

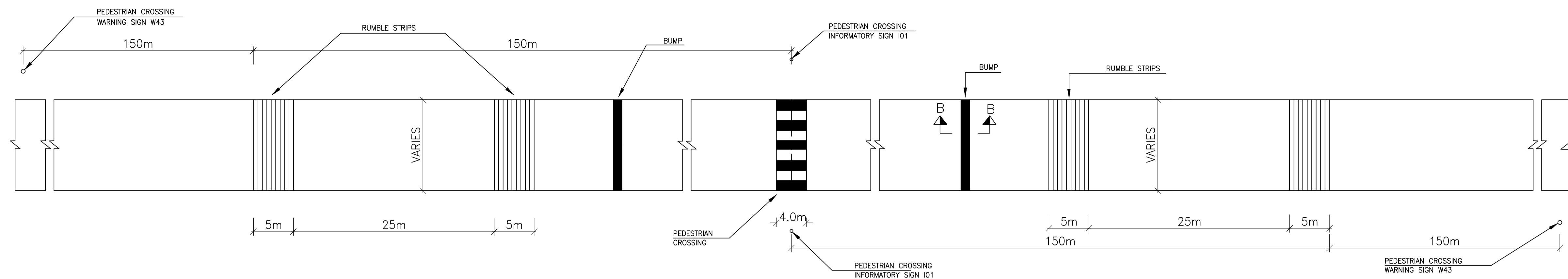
Stage: TENDER DRAWINGS

APPROVED BY ENG. IKWM DESIGNED BY LWK

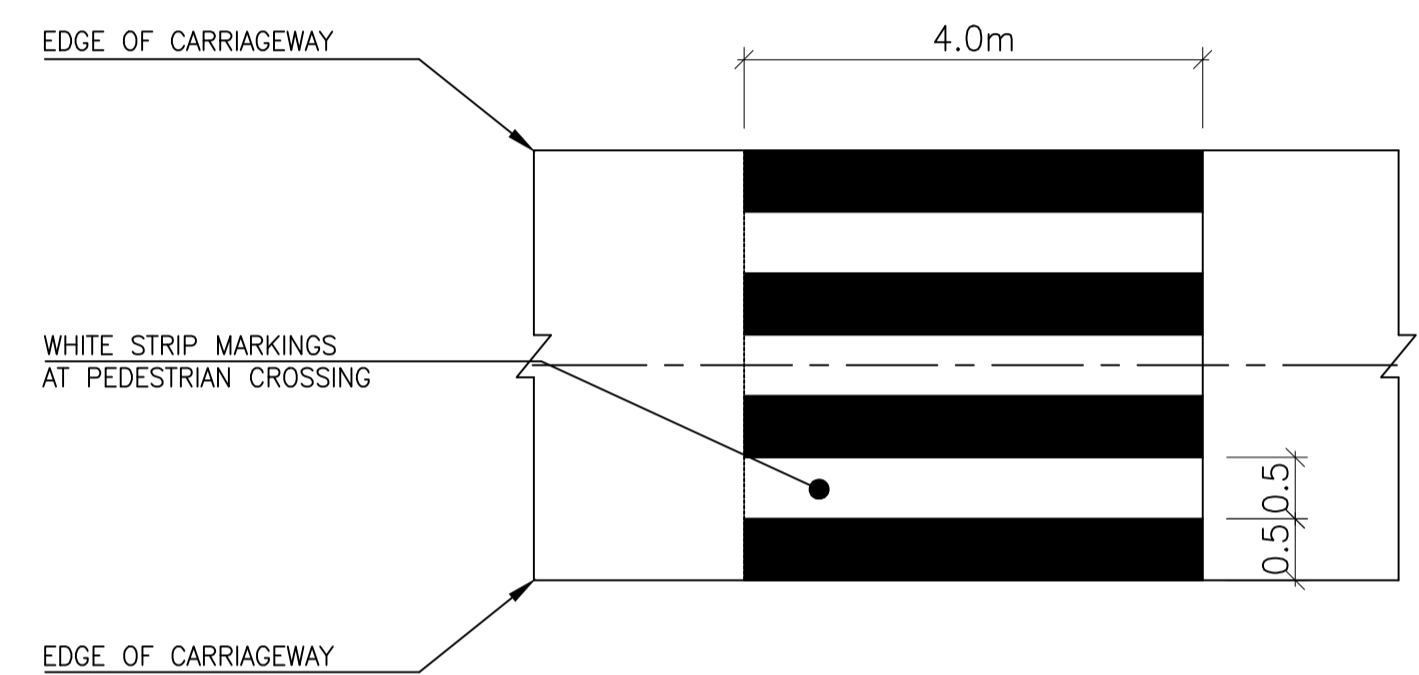
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REVISIONS

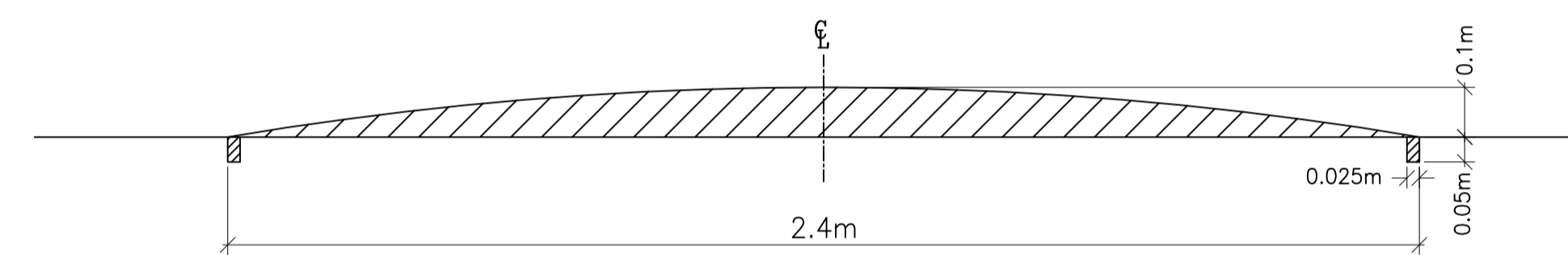
No.	Date	AMMENDMENTS



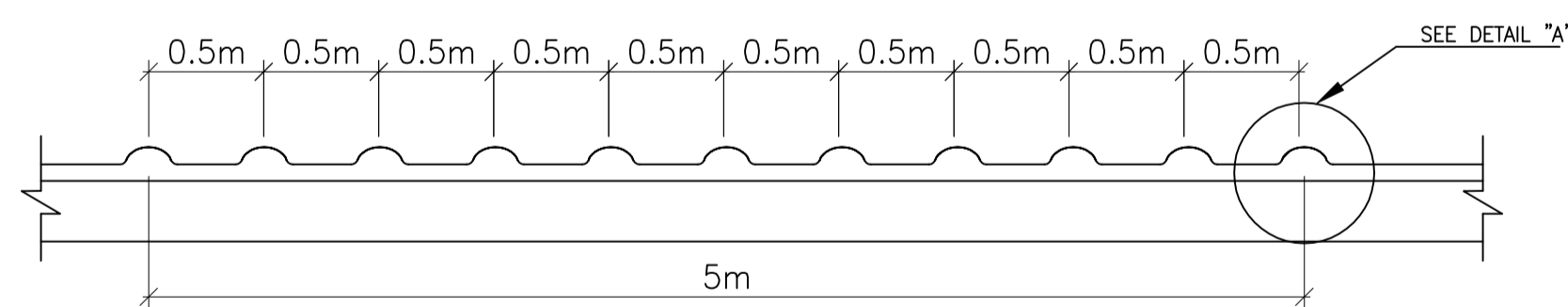
LAYOUT PLAN : RAISED PEDESTRIAN CROSSING
SCALE 1:150



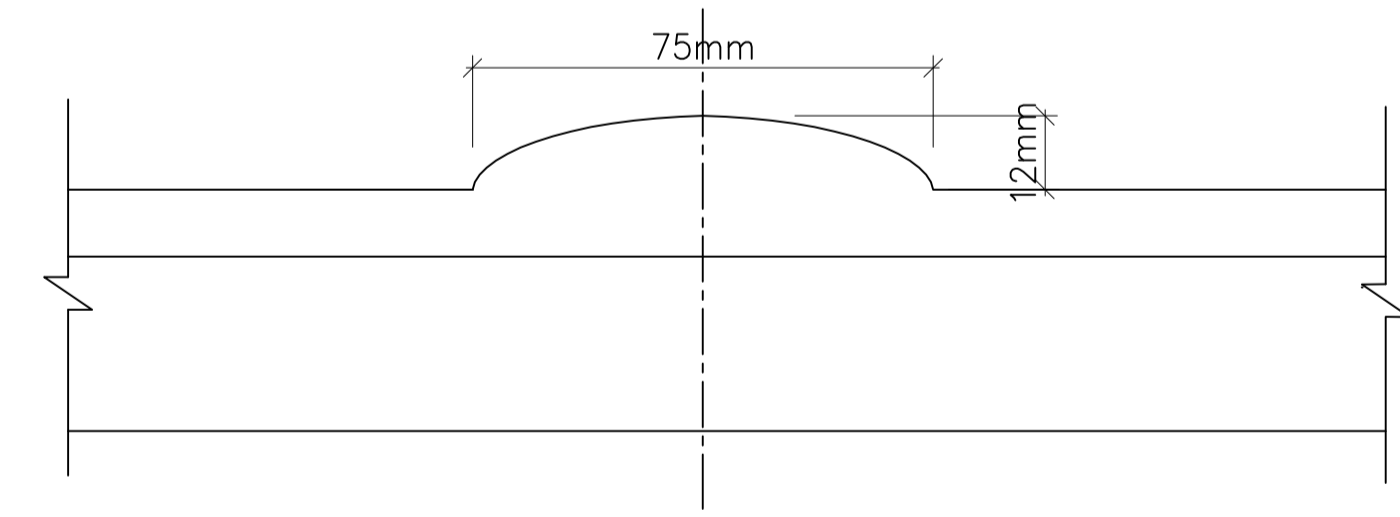
ROAD MARKING FOR PEDESTRIAN CROSSING
SCALE 1:20



SECTION B-B
BUMP CROSSING DETAILS
SCALE 1:5



RUMBLE STRIPS



NOTES:

1. ALL UNITS ARE IN METRES UNLESS STATED OTHERWISE.
2. BUMP CROSSING TO BE CONSTRUCTED USING ASPHALT CONCRETE OR COLD PREMIX.
3. PEDESTRIAN CROSSING MARKINGS TO BE 0.5m WIDE STRIPS, 3.7m LONG AS SHOWN.
4. PEDESTRIAN CROSSING WARNING SIGNS SHALL BE INSTALLED 300m IN ADVANCE OF THE CROSSING AND INFORMATORY SIGN SHALL BE INSTALLED AT THE CROSSING ON EITHER SIDE.
5. TWO SETS OF RUMBLE STRIPS SHALL BE CONSTRUCTED ON EITHER SIDE OF THE RAISED CROSSING.
6. LOCATION FOR PEDESTRIAN CROSSING TO BE DETERMINED ON SITE.

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
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Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

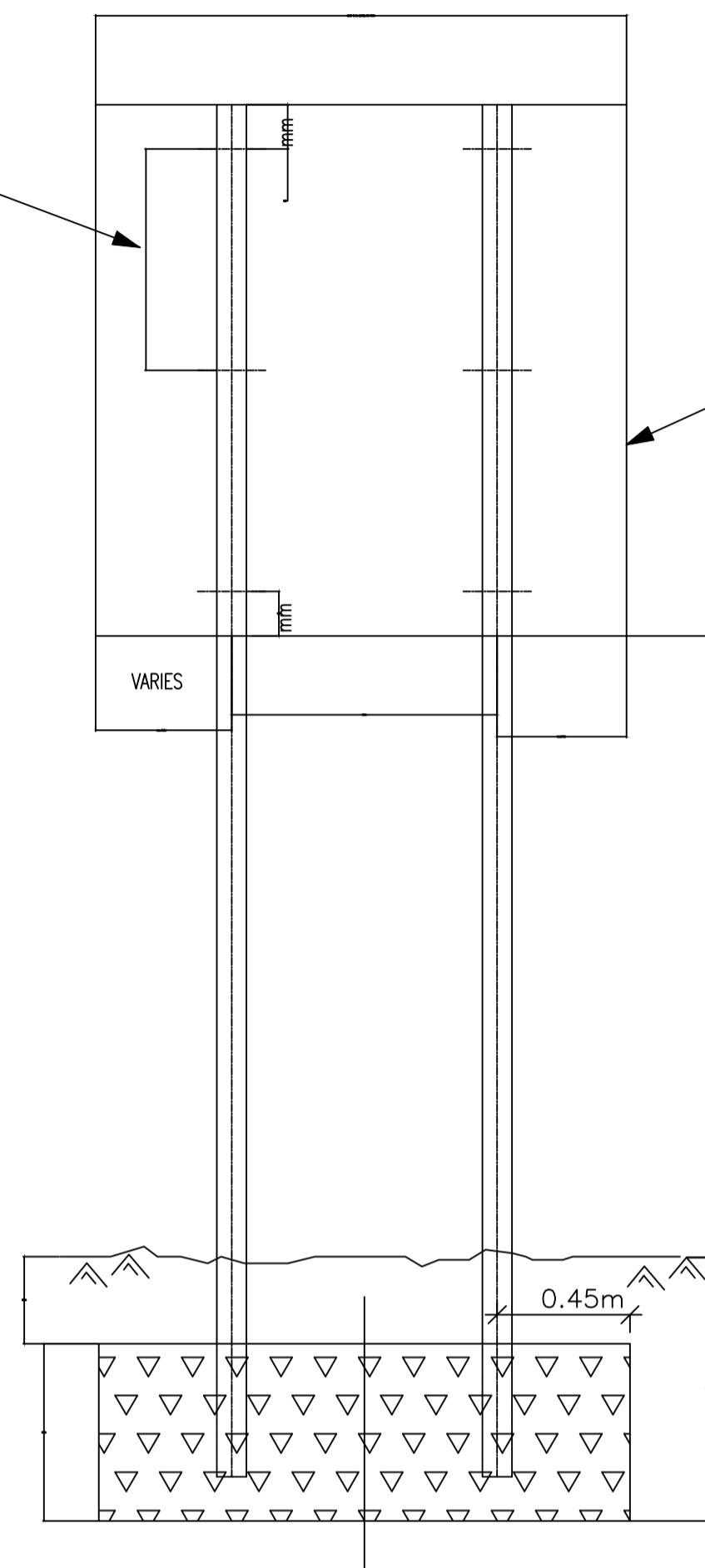
Drawing Title: TYPICAL ROAD SAFETY DETAILS.

Drg. No. WMCL/CR214/SD/05	Sheet No. 5 of 14
Scale: AS SHOWN	Date: DECEMBER:2023
APPROVED BY	ENG. IKWM
DESIGNED BY	LWK
CHECKED BY	ENG. PNG
DRAWN BY	SM

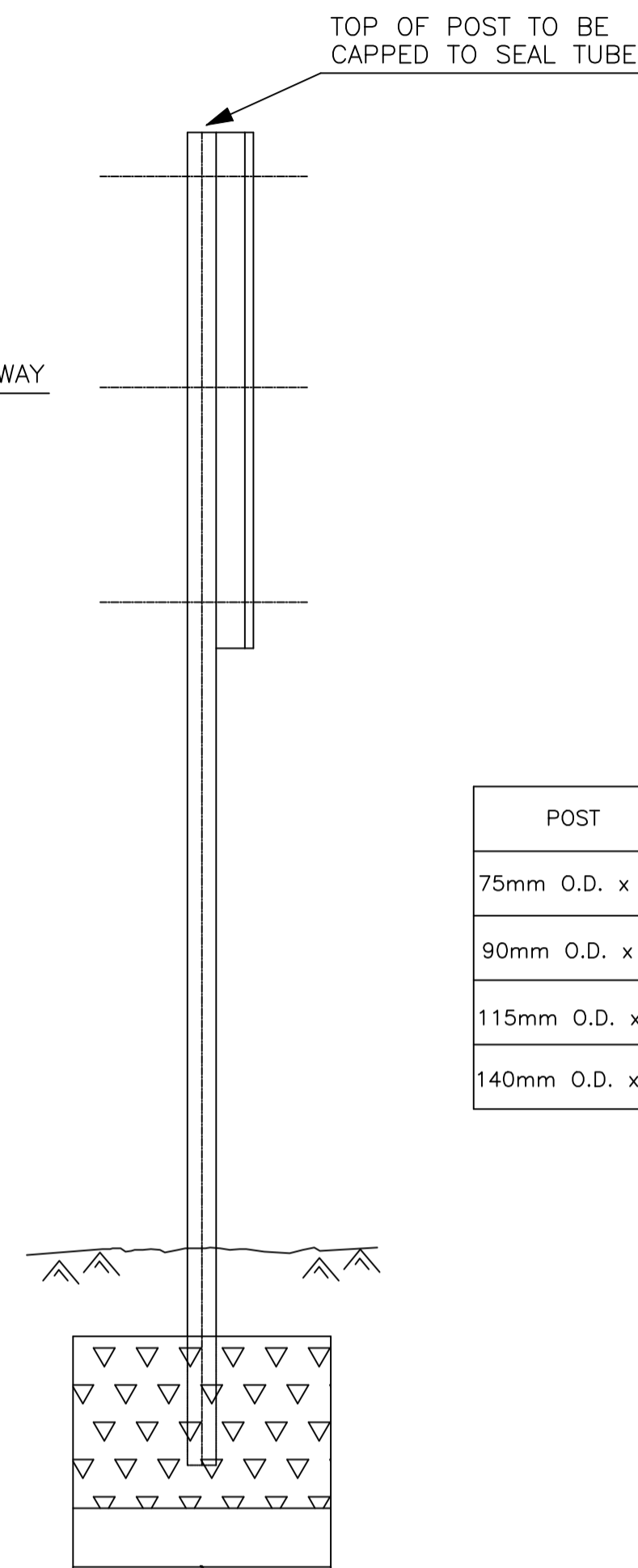
REVISIONS

No.	Date	AMMENDMENTS

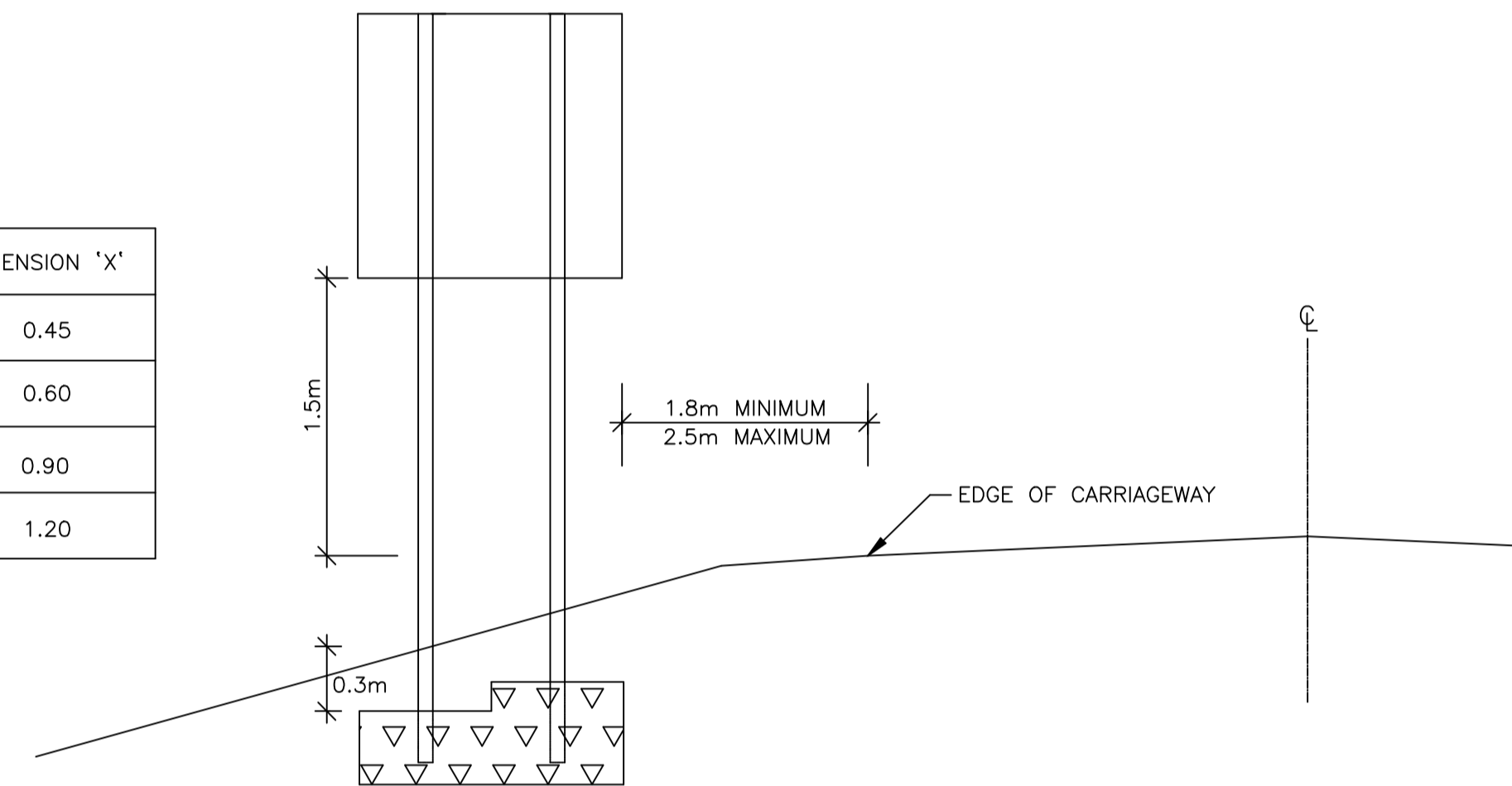
SIGN TO BE BOLTED TO POST AT MAX. SPACING OF 0.90m



NEAR EDGE OF SIGN TO BE 1.8m & MAX.2.5m FROM CARRIAGEWAY EDGE



POST	DIMENSION 'X'
75mm O.D. x 10G	0.45
90mm O.D. x 8G	0.60
115mm O.D. x 7G	0.90
140mm O.D. x 5G	1.20

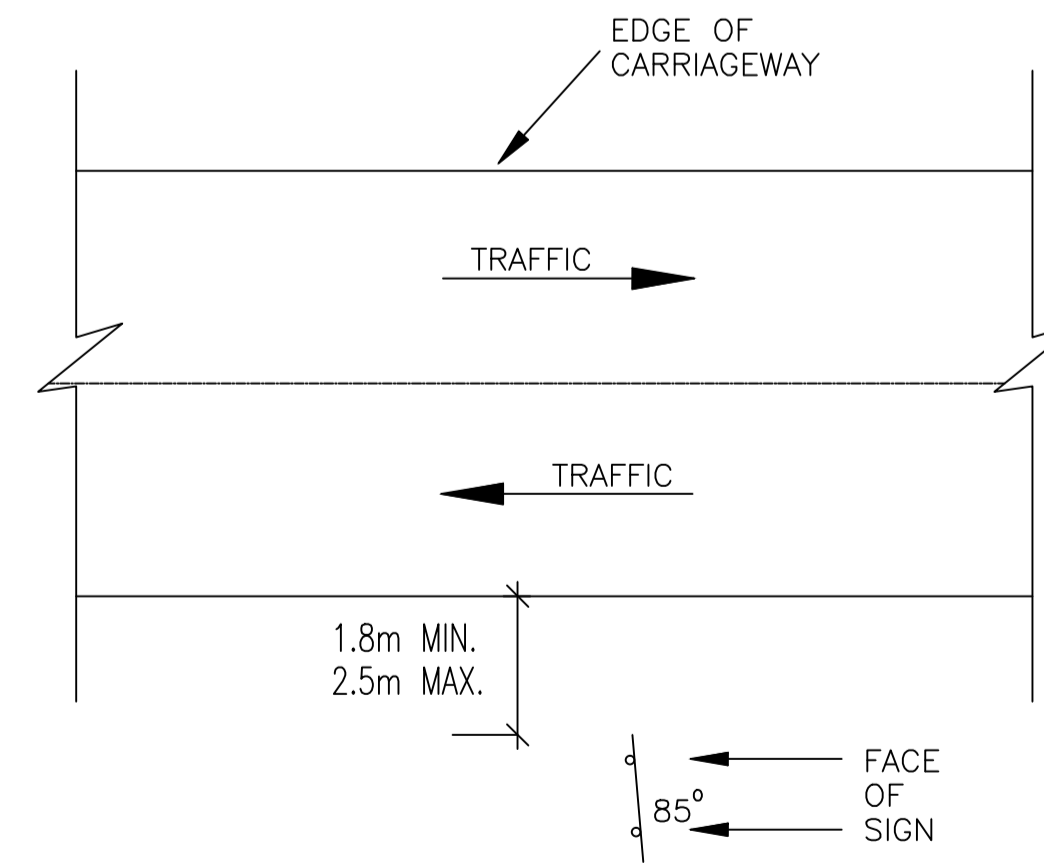
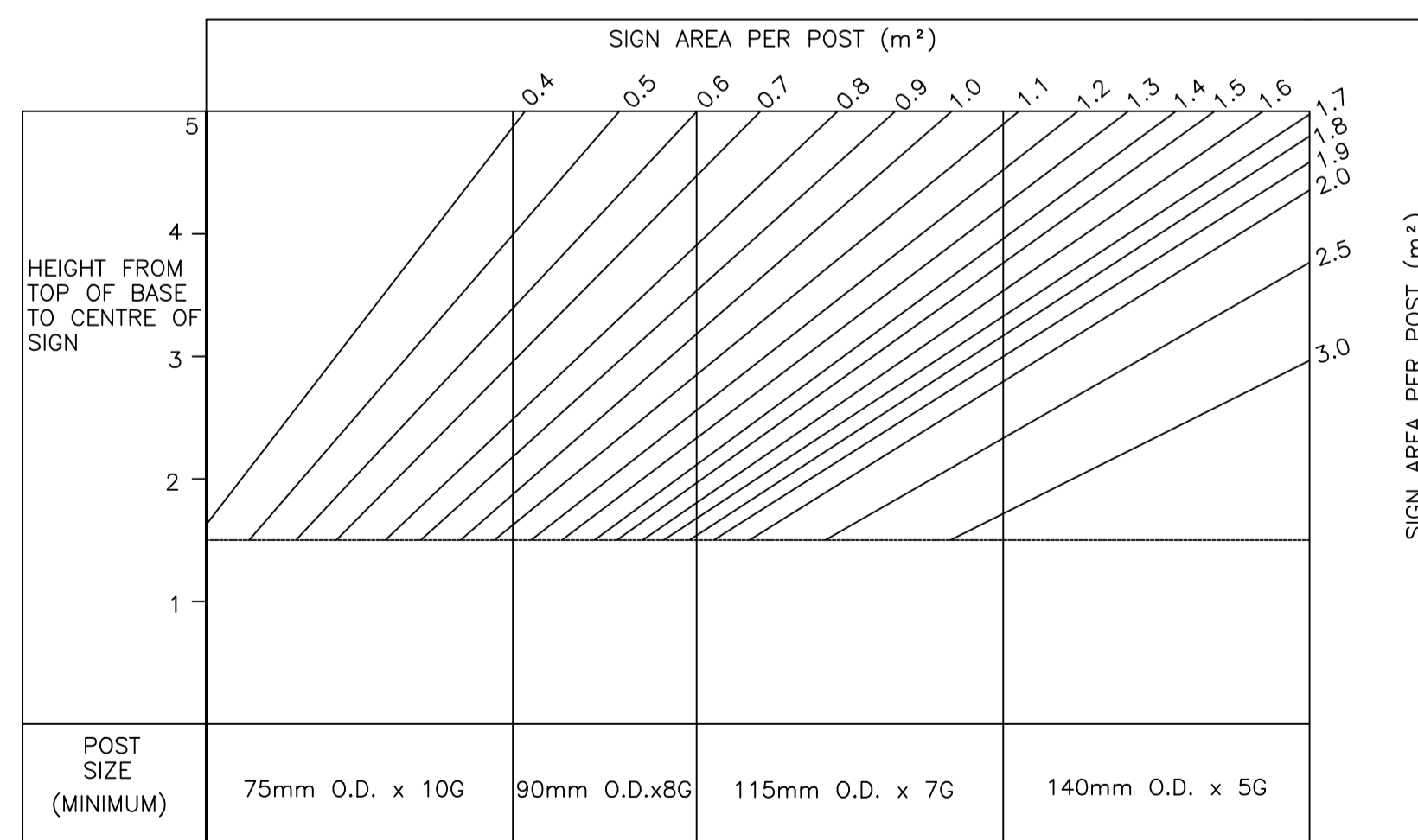


SIGN PLACEMENT

SCALE 1:50

STANDARD SIGN POST DETAILS

SCALE 1:20



PLAN

NOTES:

- WHERE POSTS ARE ON DIFFERENT LENGTH, FOOTING TO BE STEPPED AT POINT MIDWAY BETWEEN POSTS TO GIVE 0.3m COVER OF SOIL AT POST
- FOOTING TO BE CLASS 15 CONCRETE
- FOR A SINGLE POST THE SIZE IN THE CONCRETE FOOTING WILL BE 0.9m x 0.6m x'X'm
- FOR PROHIBITORY, WARNING, MANDATORY AND PRIORITY SIGNS THE SIZE OF THE CONCRETE FOOTING WILL BE 0.45m x 0.45m
- SIGN POST SHALL BE CYLINDRICAL, GALVANIZED WROUGHT IRON TUBES OR SIMILAR APPROVED BY THE ENGINEER, OF SIZES IN ACCORDANCE WITH THE DESIGN TABLE BELOW

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

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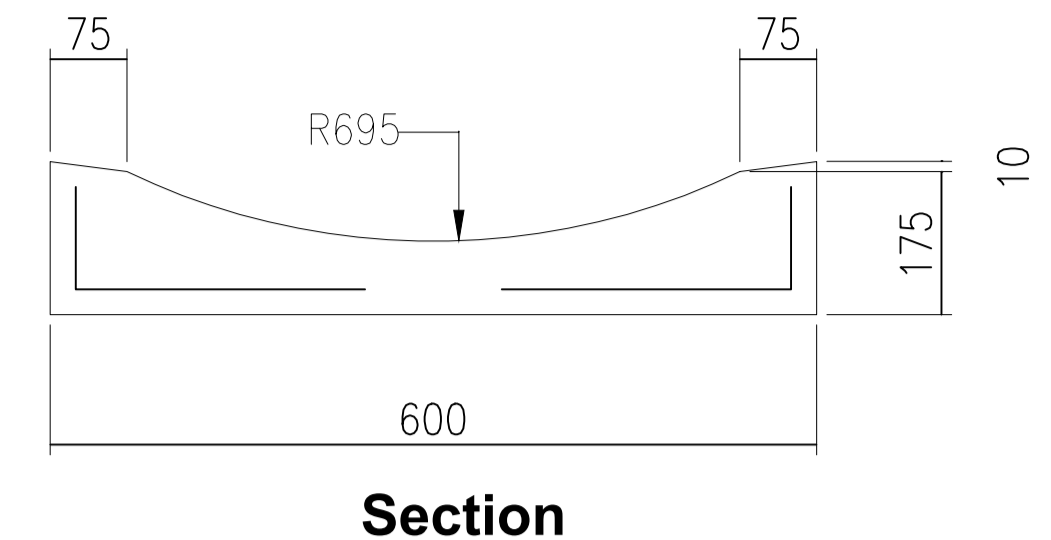
Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.

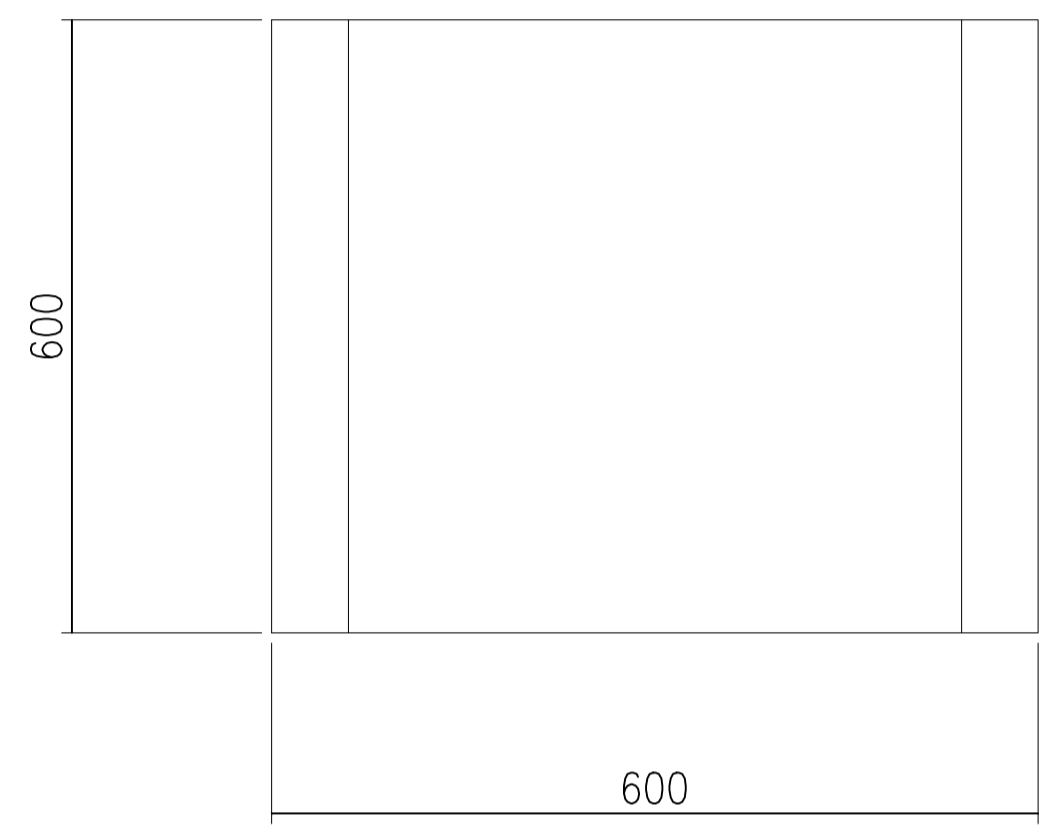
Drawing Title: TYPICAL TRAFFIC SIGNS FIXING DETAILS.			
Drg. No. WMCL/CR214/SD/06	Sheet No. 6 of 14		Date: DECEMBER:2023
Scale: 1:1	Stage: TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM

REVISIONS

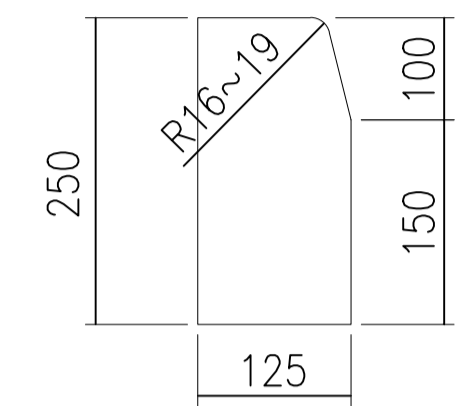
No.	Date	AMMENDMENTS



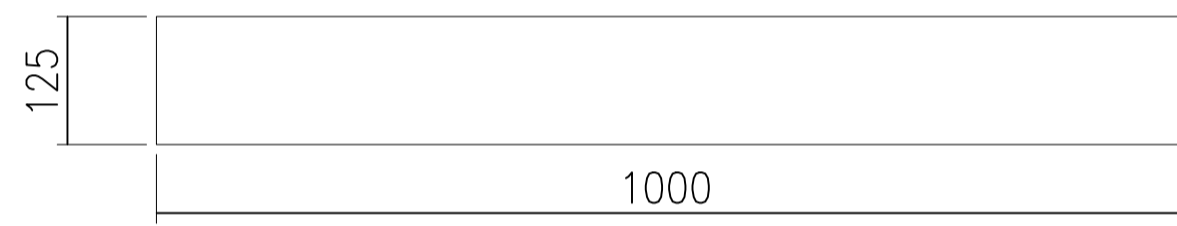
Section



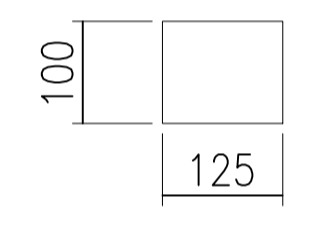
Plan
DISHED CHANNEL



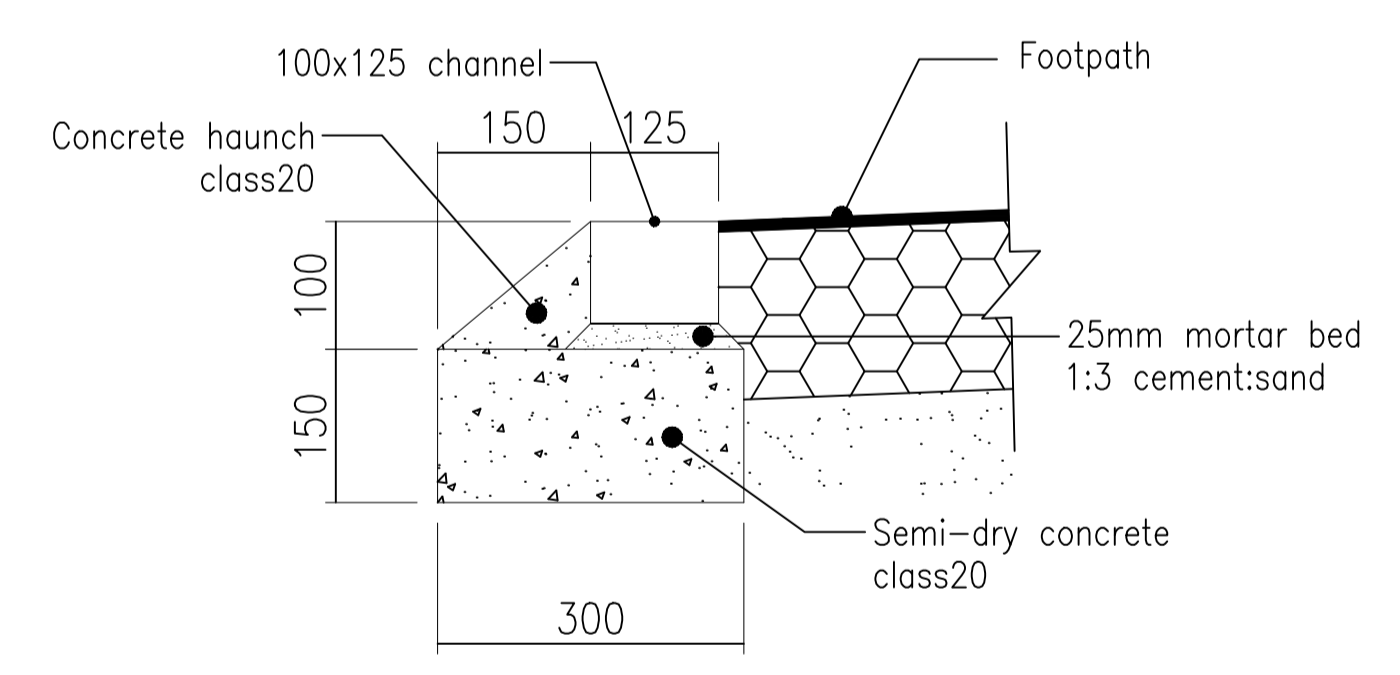
HALF BATTERED KERB



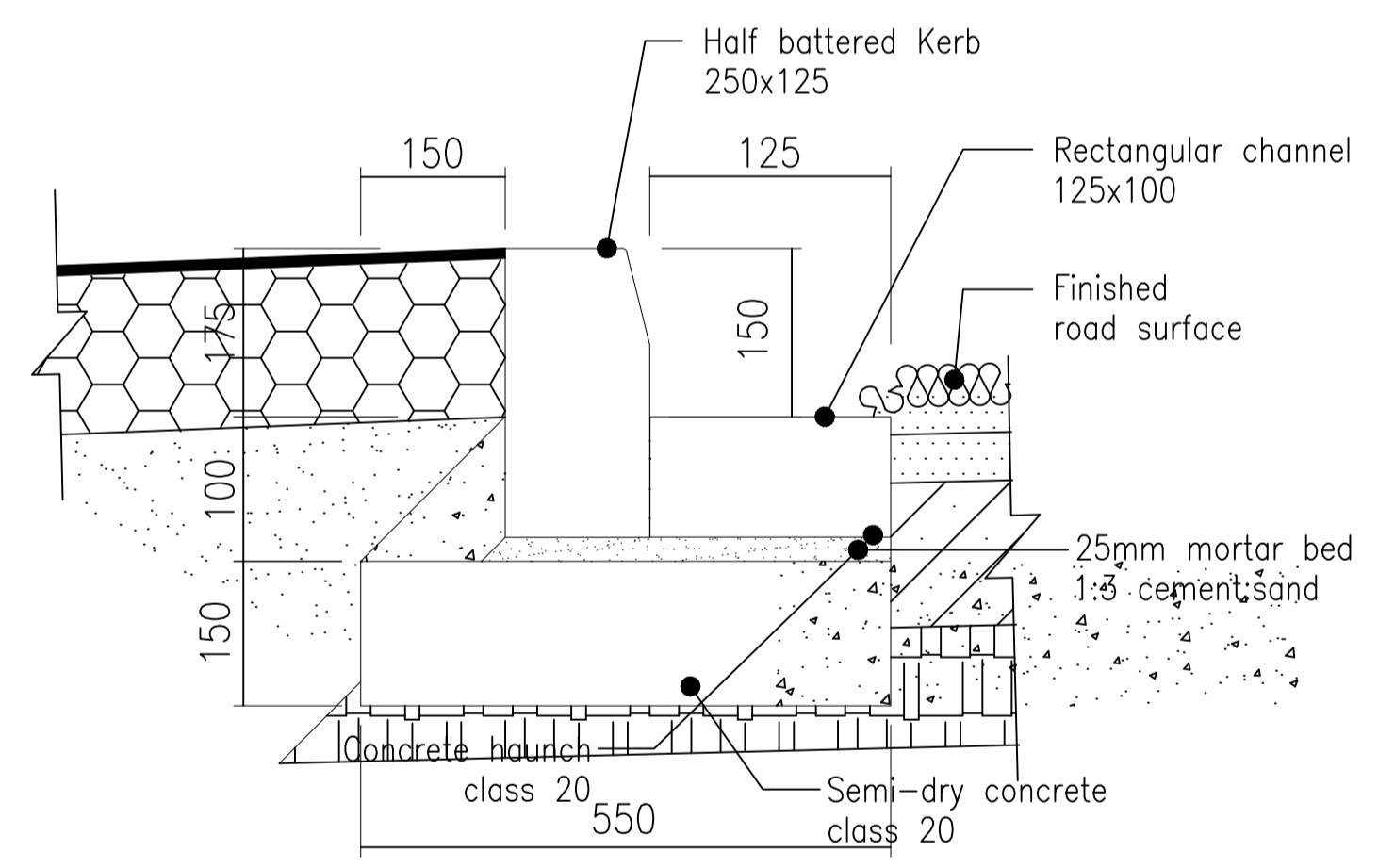
Plan
RECTANGULAR CHANNEL



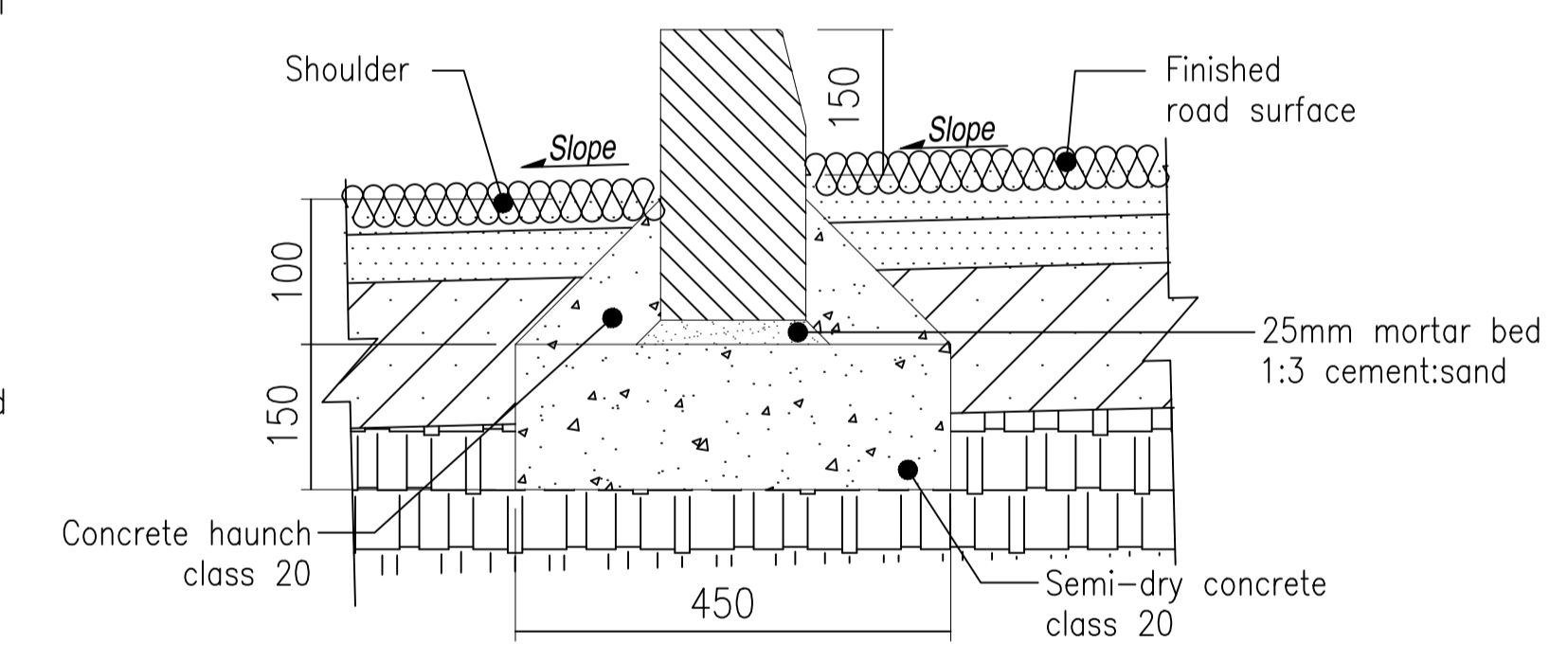
Section



**TYPICAL BEDDING AND BACKING
DETAIL FOR CHANNELBLOCK**



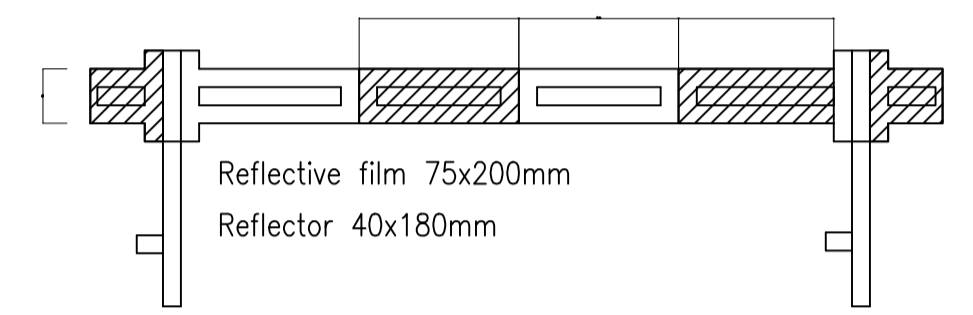
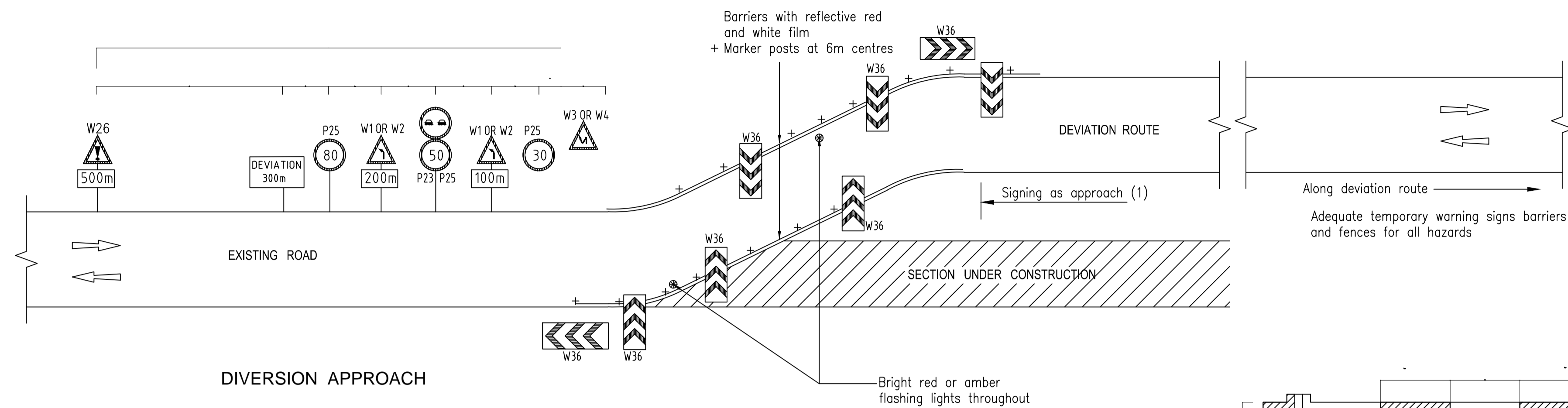
**TYPICAL BEDDING AND BACKING
DETAIL FOR KERB - ONE SIDE
RAISED FOOTPATH**



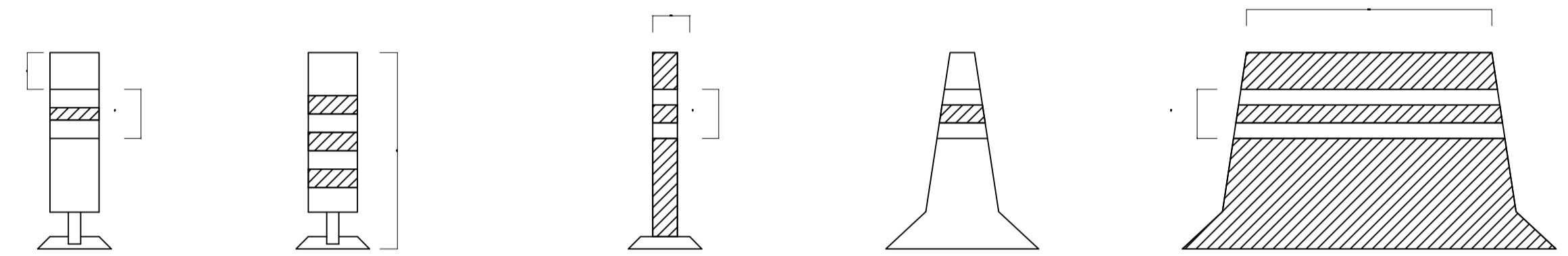
**TYPICAL BEDDING AND BACKING
DETAIL FOR KERB AT BUS STOP**

Notes:

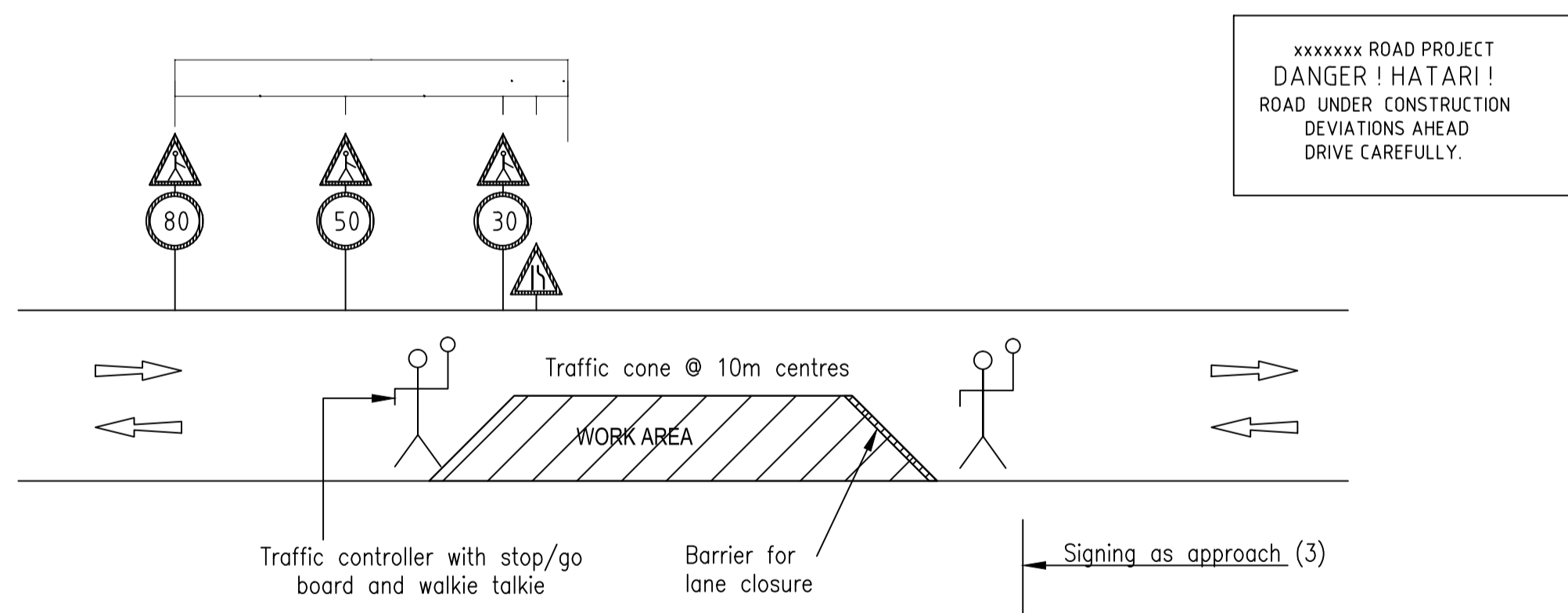
(1). Dimensions are in millimetres, unless otherwise indicated.



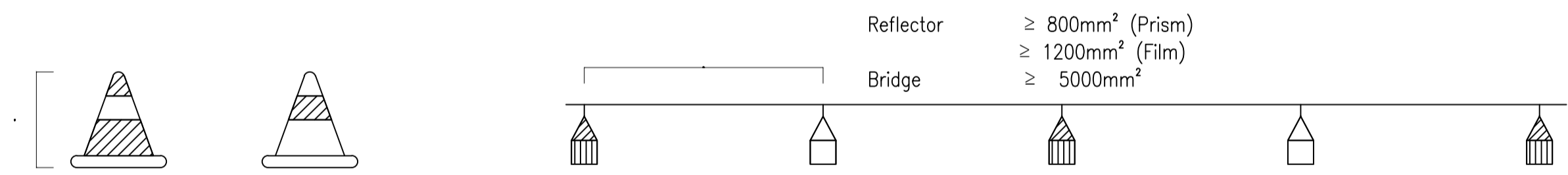
BARRIER



SAFETY POST

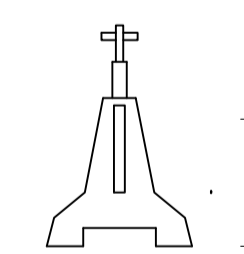


TEMPORARY LANE CLOSURES



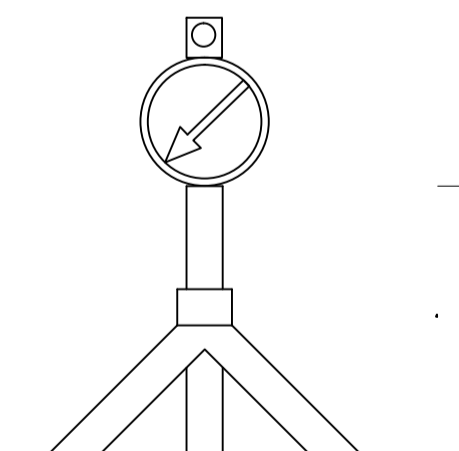
TRAFFIC CONE

WARNING ROPE
(BETWEEN SAFETY POSTS)



CONCRETE SIGN BASE

Reflector 700mm²
or
Reflective film 15000mm²



SIGN ON TRIPOD

TYPES OF BARRIERS

NOTES:

1. All temporary signs must be retro-reflective
2. Numbers, lettering and colours to be in accordance with the Manual of Traffic Signs in Kenya Part II (JUNE 1975)
3. Marker posts to be unbreakable plastic or glass fibre vergemaster or similar
4. All signs must be kept clean and visible at all times.
5. Sketches shown on this drawing are the minimum requirements, signs may be varied or adjusted as directed by the Resident Engineer to suit each particular site
6. Fences and barriers shall be provided as directed by the Resident Engineer to separate pedestrians and traffic where they will need to use road or deviation for access
7. All works and temporary signs are to comply with the requirements of Section 9 of the Standard Specification

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT



Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.**

Drawing Title: **DETAILED SIGNING FOR DEVIATION.**

Drg. No. WMCL/CR214/SD/08 Sheet No. 8 of 14

Scale: 1:10 Date: DECEMBER:2023

Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK

CHECKED BY: ENG. PNG DRAWN BY: SM

REVISIONS

No.	Date	AMMENDMENTS

	W.1 Sharp left-hand bend ahead		W.18 Children crossing ahead		W.33 Distance indicators
	W.2 Sharp right-hand bend ahead		W.19 Section of road ahead frequented by cyclists		W.34 Location of rail crossing without barrier
	W.3 Sharp bends ahead, first one to the left		W.20 Cattle crossing ahead		W.35 Location of rail crossing with at least two tracks
	W.4 Sharp bends ahead, first one to the right		W.21 Section of road ahead frequented by wild animals		W.36 Arrow direction marking showing extremely dangerous change of direction
	W.5 Steep descent ahead		W.22 Road works in progress ahead		W.37 Exit from main road
	W.6 Steep ascent ahead		W.23 Traffic light signals ahead		W.38 Hazard demarcation
	W.7 Road narrows ahead		W.24 Low-flying aircraft crossing ahead		
	W.8 Road narrows (front) ahead		W.25 Two-way traffic ahead		
	W.9 Road narrows (from) ahead		W.26 Hazard ahead		
	W.10 River bank or quayside (without barrier) ahead		W.27 Road junction ahead		
	W.11 Uneven road surface ahead		W.28a Junction ahead, stop or give way		
	W.12 Severe bump ahead		W.28b Junction ahead with acceleration lane of road from the right		
	W.13 Severe dip ahead		W.28c Junction ahead with acceleration lane of road from the left		
	W.14 River-bend crossing (drift) ahead		W.29a Junction ahead with acceleration lane of road from the left		
	W.15 Slippery road surface ahead		W.29b Junction ahead with acceleration lane of road from the right		
	W.16 Road surface of loose stones ahead		W.30 Roundabout ahead		
	W.17 Danger of falling or falling rocks ahead		W.31 Railway crossing with barrier		
	W.18 Crossing for pedestrians ahead		W.32 Railway crossing without barrier		

WARNING SIGNS

	R.1 STOP and do not proceed into the junction until it is possible to proceed without causing danger or inconvenience to any vehicle		R.2 GIVE WAY and if traffic is approaching from the right, stop unless it is possible to proceed without causing danger or inconvenience to such traffic
--	--	--	--

PRIORITY SIGNS

	M.1 Requires all vehicles to turn to the left (The direction of travel may be reversed)		M.5b Requires all vehicles to pass to the right of the sign
	M.2 Requires all vehicles to travel straight ahead		M.6 Requires all vehicles to traverse roundabout in direction indicated by arrows
	M.3a Requires all vehicles to turn to the right at the next junction		M.7 Compulsory cycle track
	M.4a Requires all vehicles either to travel straight or to turn to the right at the next junction		M.10 Compulsory minimum speed
	M.4b Requires all vehicles either to travel straight or to turn to the left at the next junction		M.11 End of compulsory minimum speed
	M.5a Requires all vehicles to pass to the left of the sign		

MANDATORY SIGNS

	P.1 NO ENTRY, Entry forbidden to all vehicles		P.15 No entry for vehicles exceeding width shown		P.21 No right turn		P.27b Stop : Children crossing
	P.2 ROAD CLOSED, forbidden to all vehicles		P.16 No entry for vehicles exceeding height shown		P.22 No U-turn		P.28 Priority for on-coming traffic
	P.3 Entry forbidden to all bicycles		P.17 No entry for vehicles exceeding weight on one axle		P.23 Overtaking of four-wheeled vehicles prohibited		P.29 End of all prohibitions
	P.4 No entry for pedestrians		P.18 No entry for vehicles exceeding length shown		P.24 Overtaking of goods vehicles prohibited		P.30 End of speed limit
	P.5 No entry for rickshaws		P.19 Driving vehicle less than 10m apart prohibited		P.25 Speed limit		P.32 Parking prohibited
	P.6 No entry for heavy commercial vehicles		P.20 No left turn		P.26 Sounding of horns or sirens prohibited		P.33 Parking or waiting prohibited
	P.7 No entry for heavy commercial vehicles		P.27a Stop at control post		P.39 Controlled parking zone		

PROHIBITORY SIGNS

	I.25 Toilets		I.34 No through road		I.43 Pass either side
	I.26 Parking place		I.35 In		I.44 First Aid Station
	I.30 Pedestrian crossing		I.37 Out		I.5B Ferry
	I.31 One way traffic		I.38 No entry		S.2 Lifesaver
	I.32 One way traffic		I.39 No exit		S.3 Chevrons
	I.33 One way traffic		I.40 Taxi		

STANDARD INFORMATORY SIGNS

KEY

BLUE	
BLACK	
RED	
WHITE	
YELLOW	
GREEN	

EMPLOYER

 The Chief Officer,
 Lands, Physical Planning, Urban Development,
 Housing & Municipalities,
 County Government of Kiambu,
 P.O Box 2344-00900, Kiambu

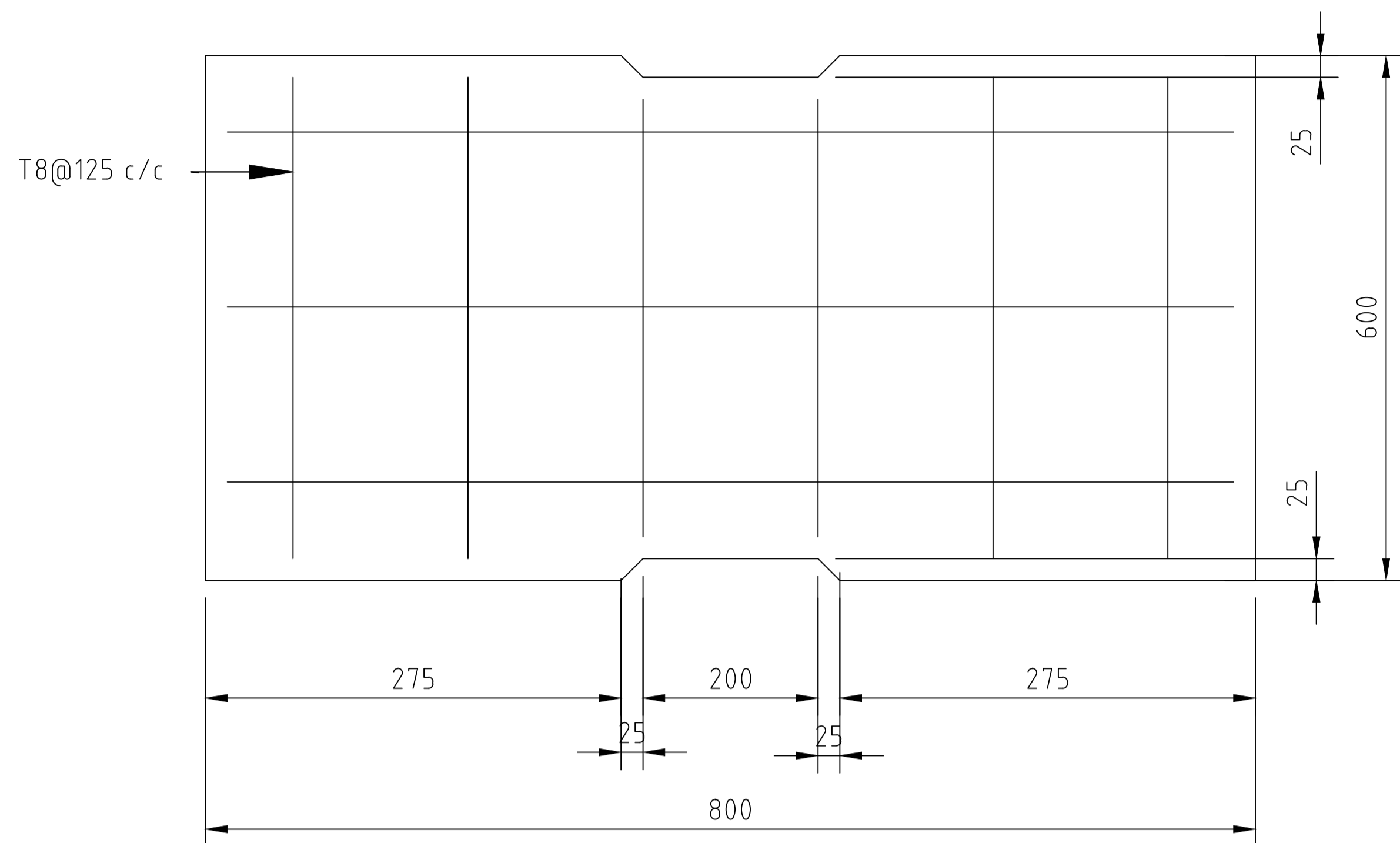
FINANCIER
 INTERNATIONAL DEVELOPMENT
 AGENCY (IDA) & AGENCE
 FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT

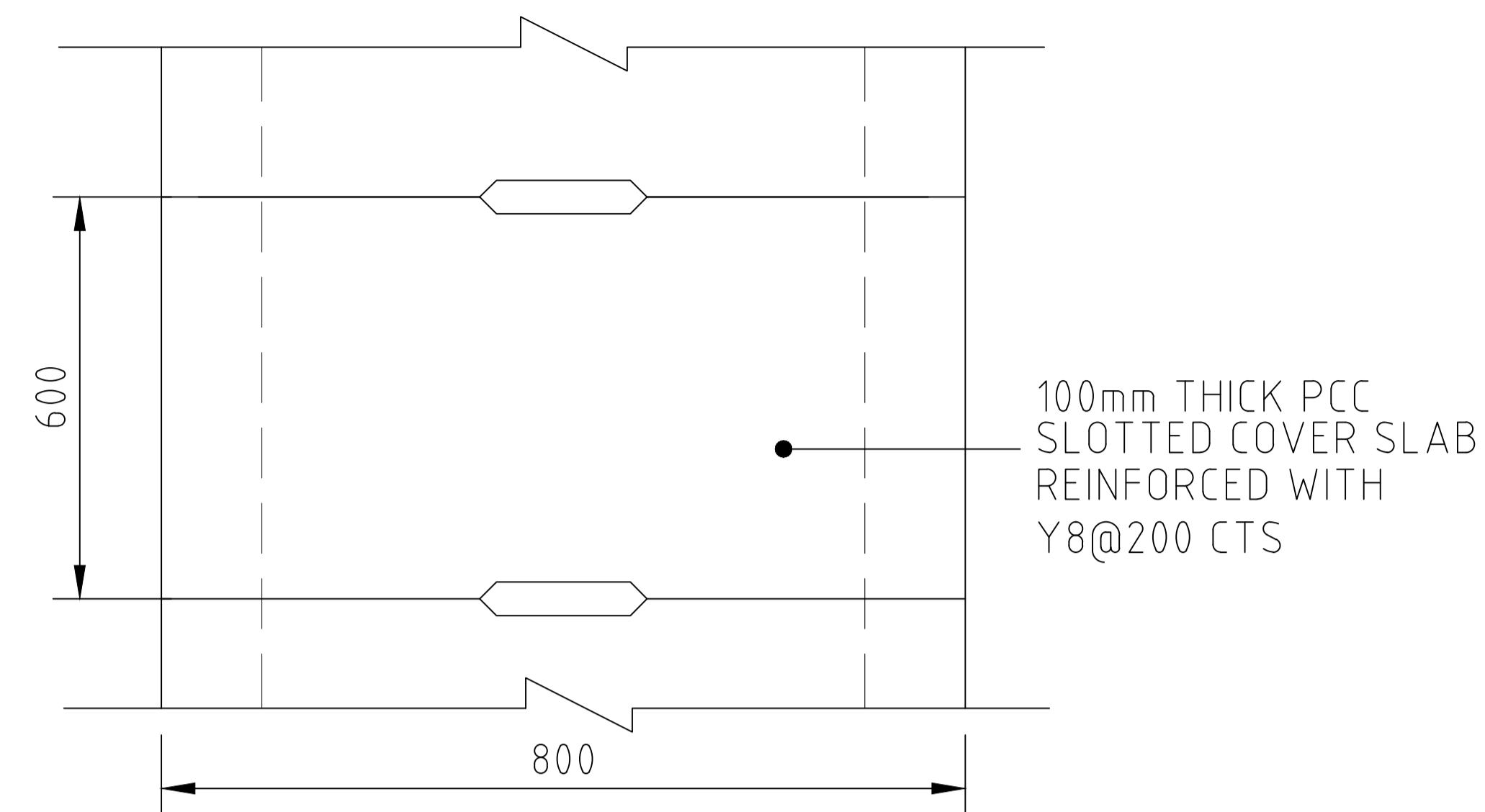
 Wanjohi
 Mutonyi
 Consult Ltd.
 Engineers, Environmentalists . Project Managers
 Corner Ngong/Ndemi Road,
 P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
 SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
 PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
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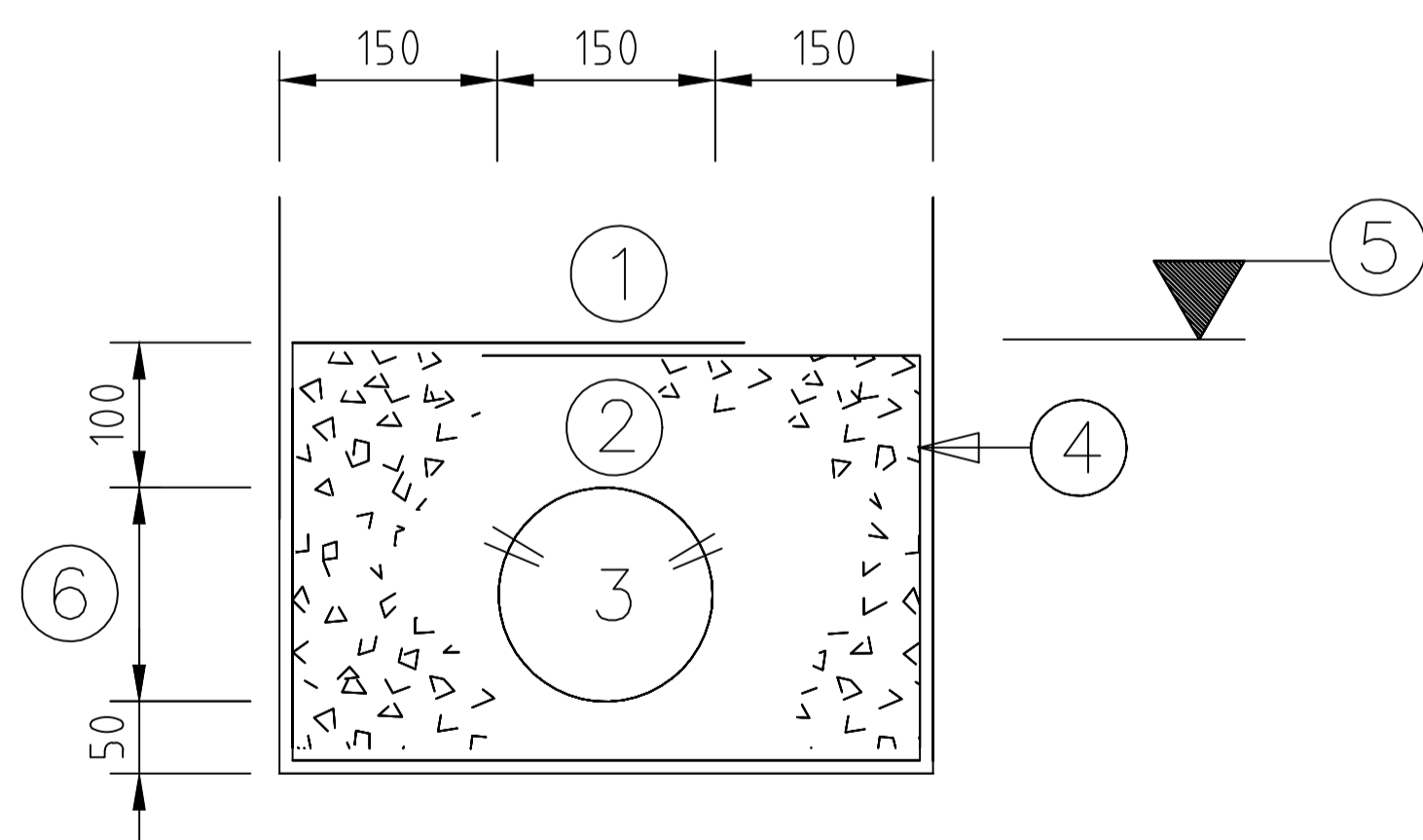
Drawing Title: DETAILED ROAD SIGNS.				REVISIONS	
Drg. No. WMCL/CR214/SD/09	Scale: 1:3	Sheet No. 9 of 14	Date: DECEMBER:2023		
APPROVED BY			ENG.IKWM	DESIGNED BY	LWK
CHECKED BY			ENG.PNG	DRAWN BY	SM
No.	Date	AMMENDMENTS			



SECTION THROUGH COVER SLAB
SCALE 1:10



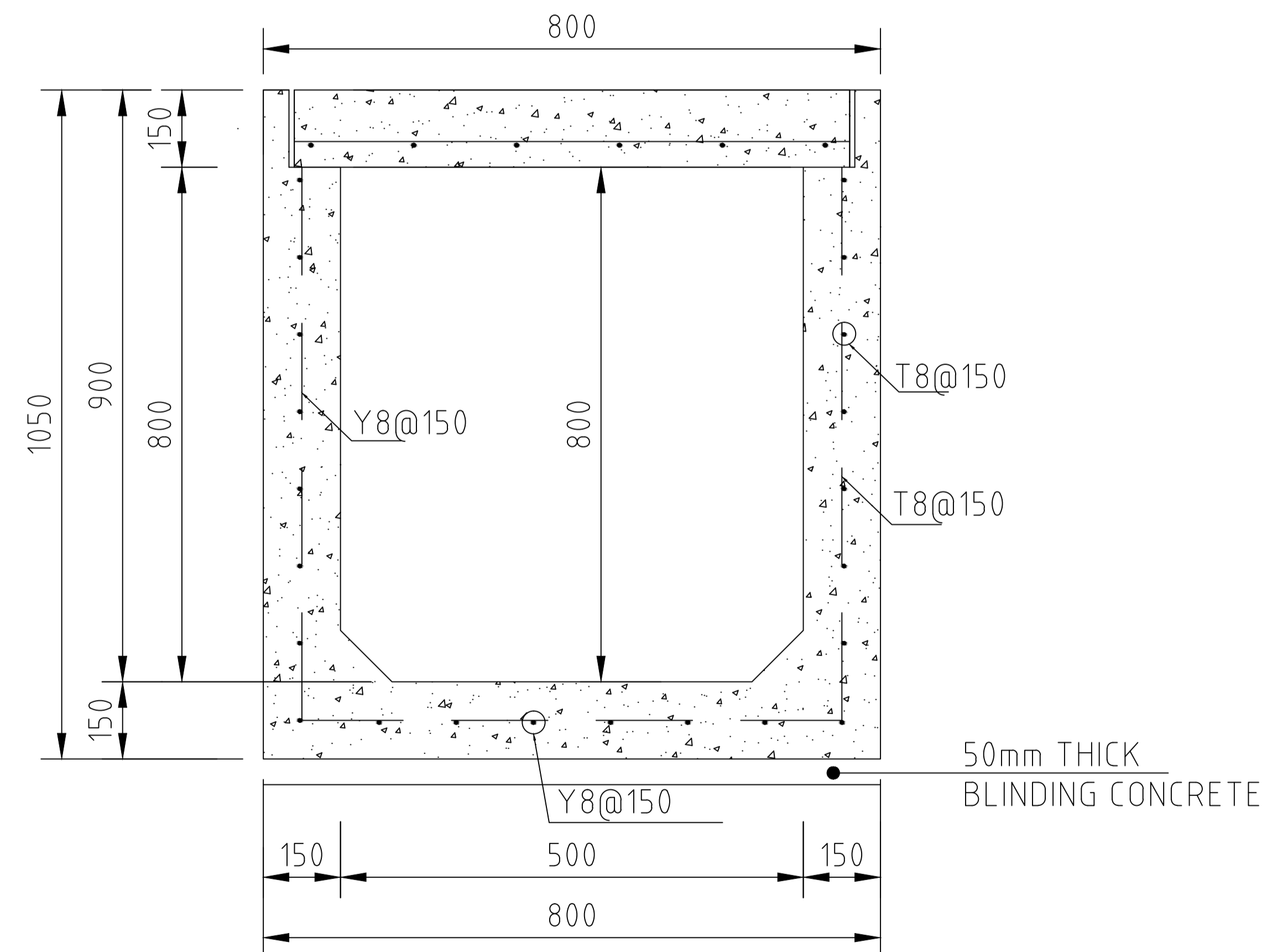
PLAN - SLOTTED INLET DRAIN
SCALE 1:10



SUBSOIL DRAIN WITH
SYNTHETIC FIBRE FILTER FABRIC
DETAILS
SCALE 1:10

No	DESCRIPTION
①	APPROVED COHESIVE SOIL BACK FILL
②	FILTER STONE : FINE OR COARSE GRADE AS REQUIRED.
③	PERFORATED SUBSOIL DRAINAGE PIPES.
④	SYNTHETIC FIBRE FILTER FABRIC
⑤	LEVEL TO WHICH SURROUNDING AREA IS TO BE DRAINED (WATER TABLE).
⑥	INTERNAL PIPE DIAMETER: 150mm.

NOTE:
LOCATION TO BE CONFIRMED ON SITE



SECTION THROUGH SLOTTED DRAIN
SCALE 1:10



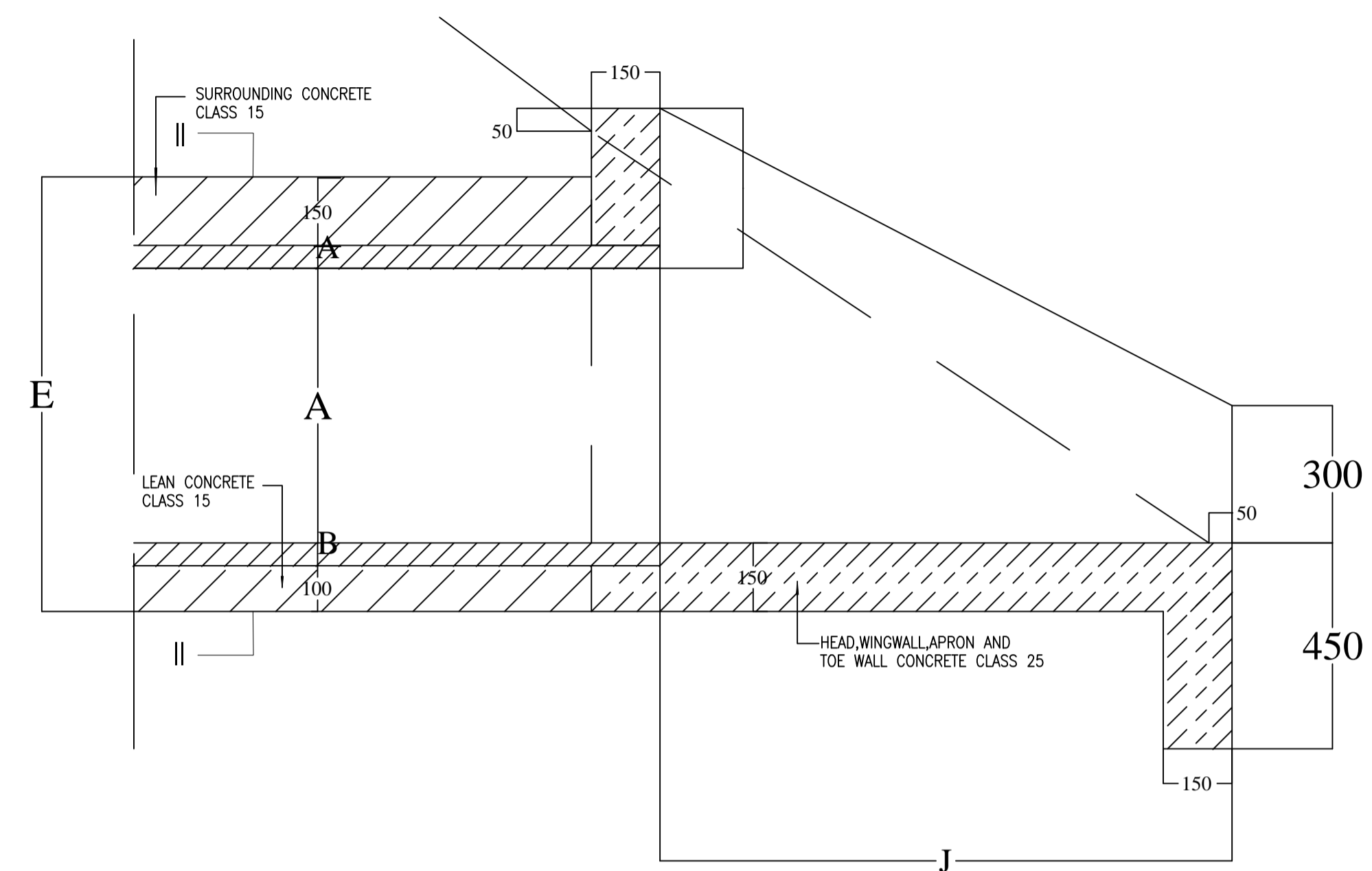
EMPLOYER
The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
THE WORLD BANK
AFD

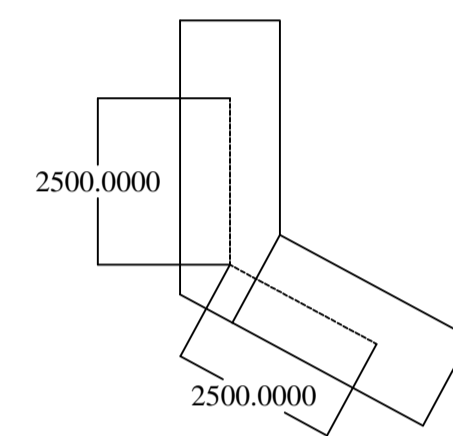
CONSULTANT
Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

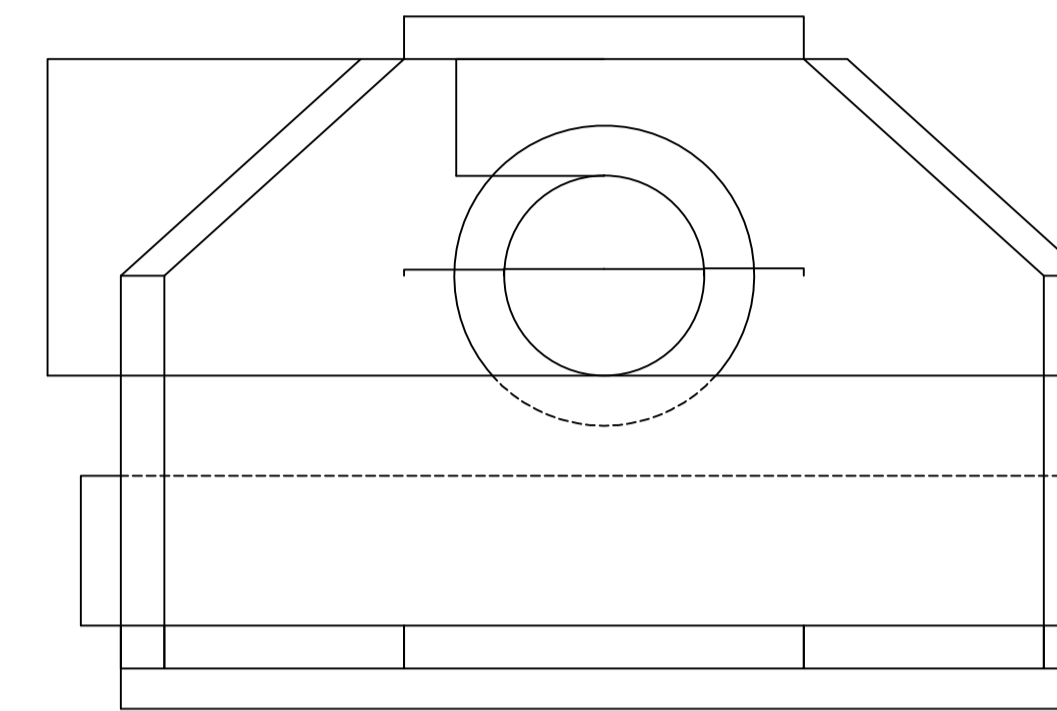
Drawing Title: DETAILED SLOTTED DRAIN AND SUBSOIL DRAIN DETAILS.				REVISIONS	
Drg. No.	WMCL/CR214/SD/10	Sheet No.	10 of 14		
Scale:	1:10	Date:	DECEMBER:2023		
		Stage:	TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK	No.	Date
CHECKED BY	ENG.PNG	DRAWN BY	SM		AMMENDMENTS



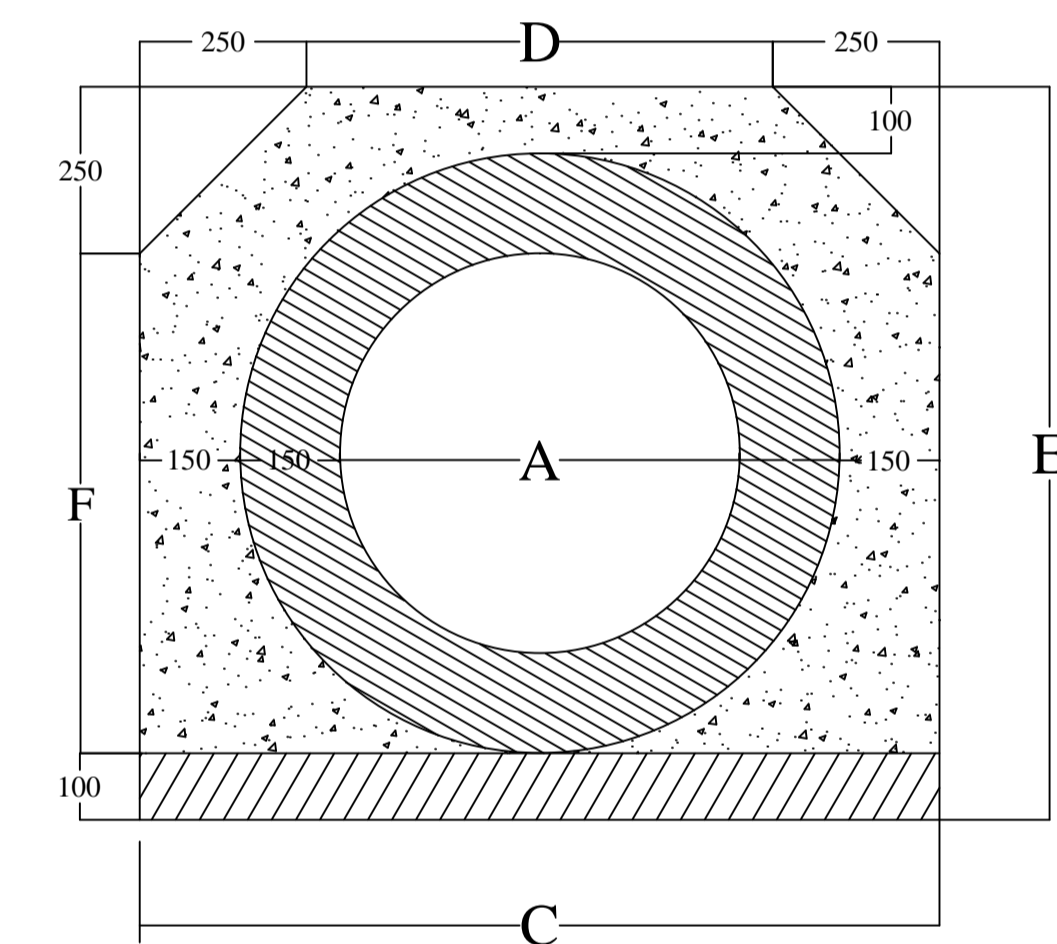
SECTION I-I



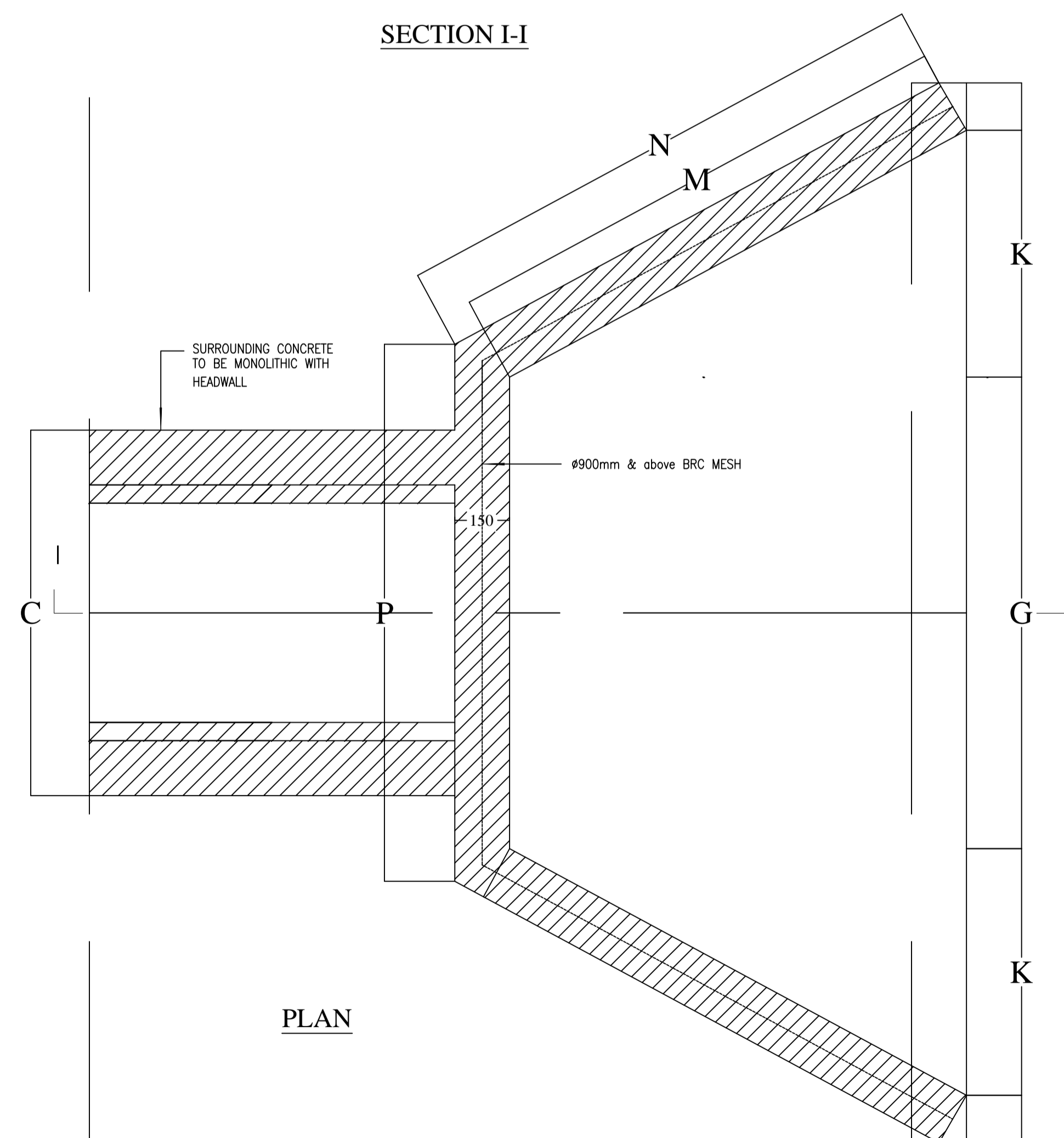
DOWELL BARS



FRONT ELEVATION



SECTION II-II



PLAN

CULVERT	A m	B m	C m	D m	E m	F m	G m	H m	J m	K m	L m	M m	N m	P m	CONCRETE CLASS 25 INLET & OUTLET	CONCRETE CLASS 15 SURROUND & BEAM PER RUNNING M
0.60m ϕ	0.60	0.05	1.00	0.50	0.95	0.60	1.20	0.95	1.25	0.72	2.90	1.44m	1.53	1.29	1.97m	0.50m
0.90m ϕ	0.90	0.07	1.34	0.84	1.29	0.94	1.50	1.25	1.70	0.98	3.72	1.96m	2.05	1.59	3.12m	0.82m

NOTES

1. INLET AND OUTLET ARE ONLY REINFORCED WITH DOWELL BARS
2. DOWELL BARS OF Y12 BARS TO BE POSITIONED AT \approx 0.20m SPACING
3. THE SLOPE OF PIPE SHALL BE AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE

EMPLOYER



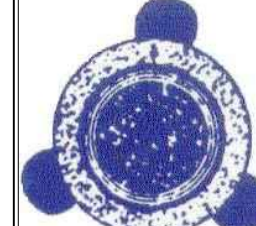
The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

FINANCIER

INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)



CONSULTANT



**Wanjohi
Mutonyi
Consult Ltd.**
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:

**SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.**

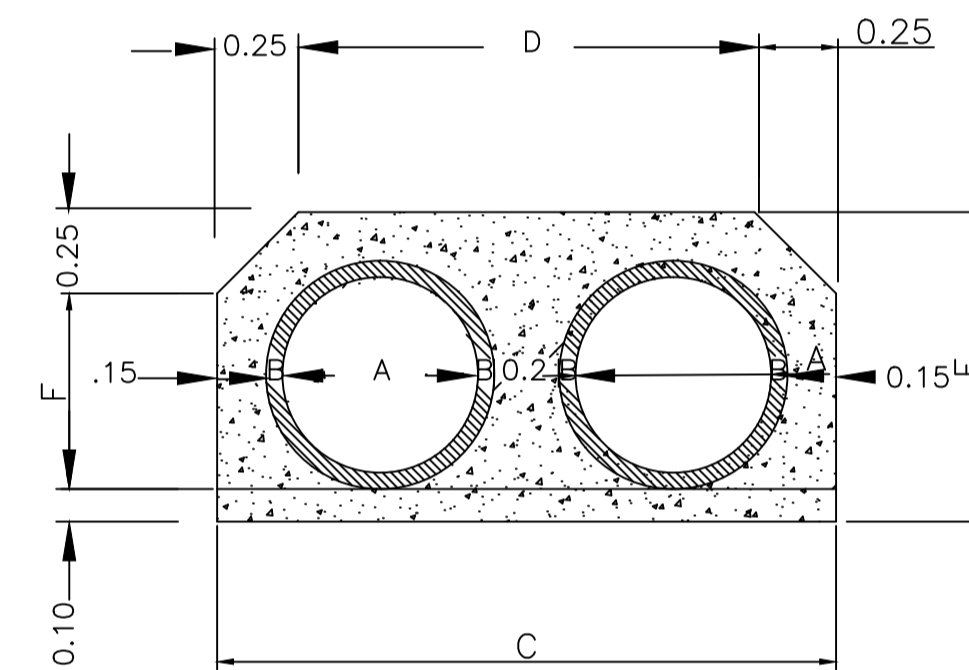
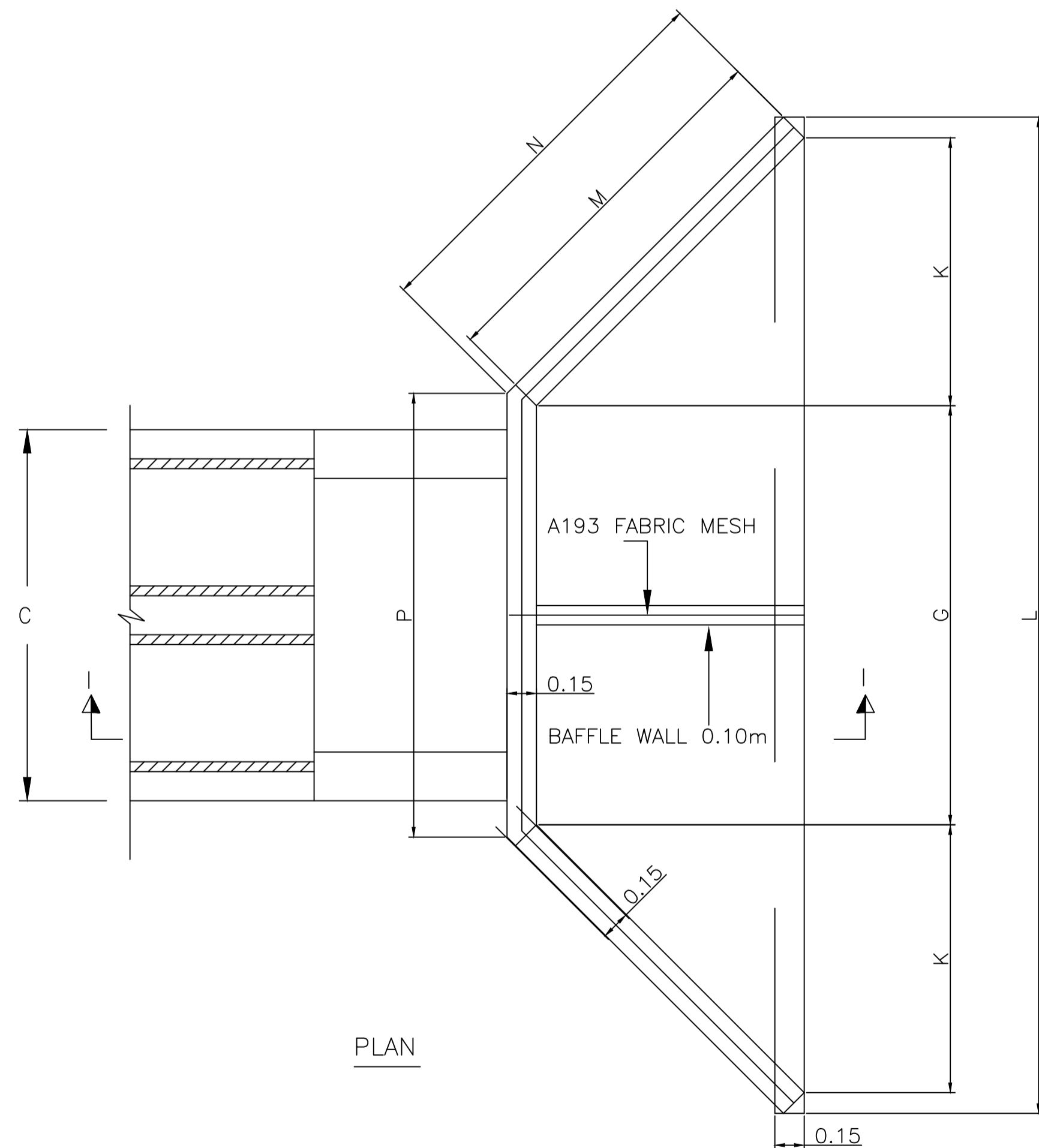
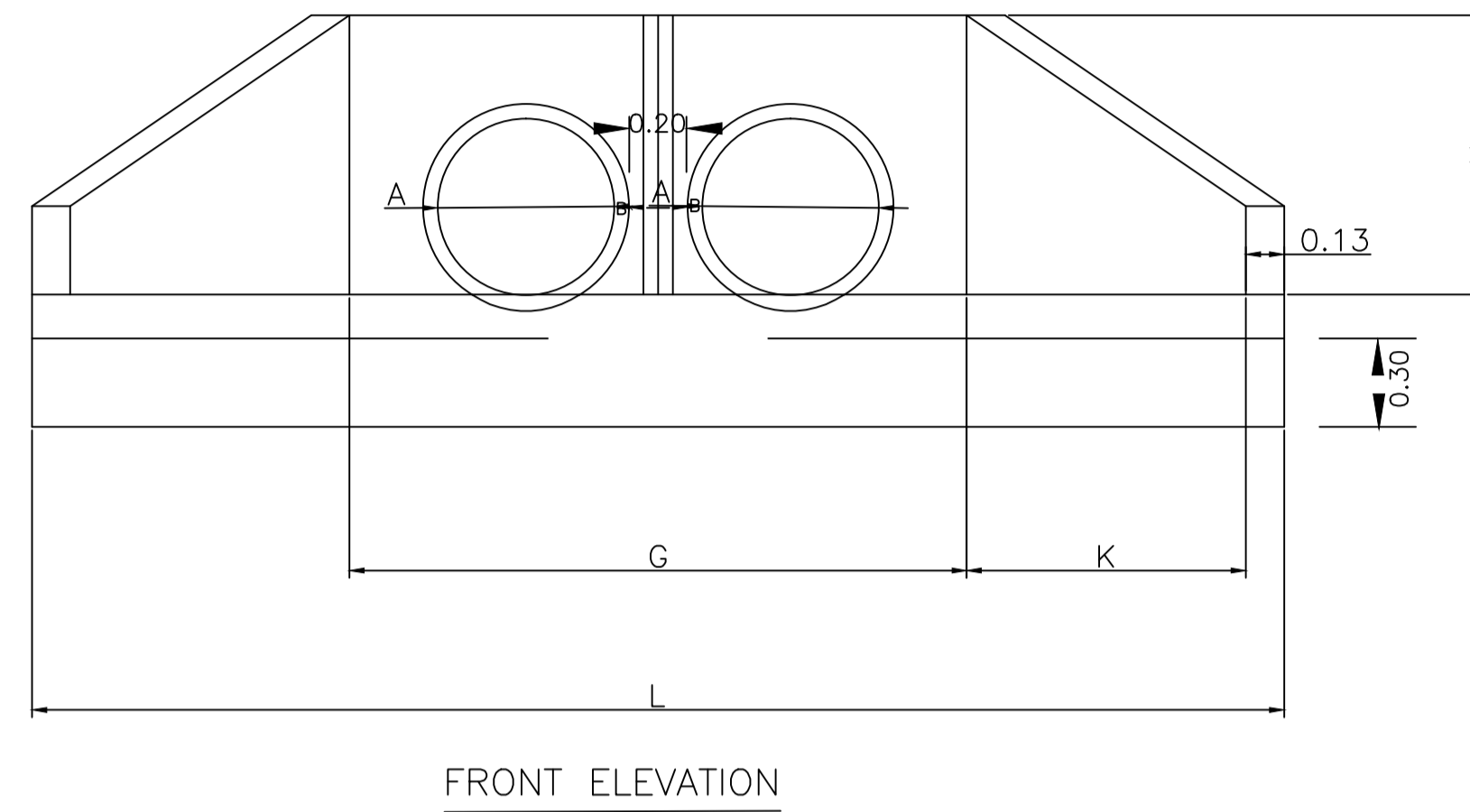
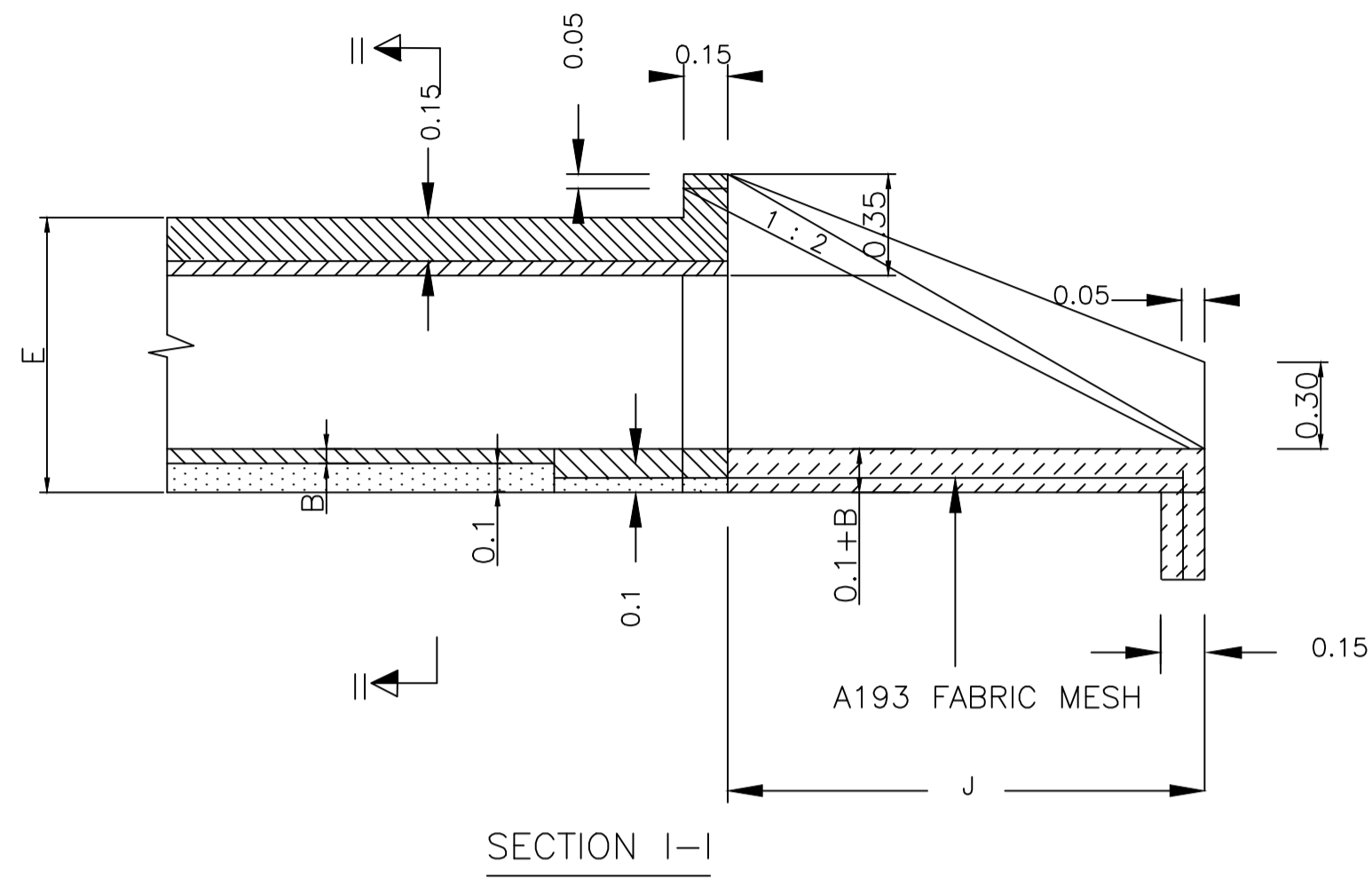
Drawing Title: **DETAILED SINGLE PIPE
CULVERT DETAILS.**

Drg. No. WMCL/CR214/SD/11 Sheet No. 11 of 14
Scale: 1:10 Date: DECEMBER 2023
Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK
CHECKED BY: ENG. PNG DRAWN BY: SM

REVISIONS

No. Date AMMENDMENTS



NOTES

1. ALL FABRIC MESH REINFORCEMENT TO BE PLACED AS SHOWN
2. THE SLOPE OF THE PIPE SHALL BE DIRECTED BY THE ENGINEER'S REPRESENTATIVE
3. ALL DIMENSIONS ARE IN METRES
4. BAFFLE WALL TO BE CONSTRUCTED ONLY ON THE INLET SIDE
5. CONCRETE FOR HEADWALL, APRON, TOEWALL, BAFFLEWALL TO BE CLASS 25/20
6. CONCRETE FOR BLINDING AND SURROUND TO BE CLASS 15/20
7. CONCRETE SURROUND FOR 1.20m DIAMETER PIPE IS 0.20m AND NOT 0.15m
8. TABLE A SHOWS INCREMENTS IN DIMENSIONS AND QUANTITIES FOR EACH ADDITIONAL MULTIPLE PIPE
9. TABLE B SHOWS DIMENSIONS AND QUANTITIES FOR STANDARD TWIN CULVERTS
10. CONCRETE SURROUND SHALL AT ALL TIMES BE BELOW THE ROAD SUBGRADE UNLESS INSTRUCTED OTHERWISE BY THE ENGINEER.
11. THE LENGTH OF THE PIPE TO BE LAID SHALL AT ALL TIMES PROVIDE FOR ENTIRE ROAD CROSS SECTION.

TABLE A

CULVERT	ΔC m	ΔD m	ΔG m	ΔL m	ΔP m	ADDITIONAL CONCRETE CLASS 25/20 INLET & OUTLET	ADDITIONAL CONCRETE CLASS 15/40 SURROUND & BED per running m
0.60m DIAM.	0.90	0.90	0.90	0.30	0.90	0.80m ³	0.47m ³
0.90m DIAM.	1.28	1.28	1.28	1.28	1.28	2.13m ³	0.73m ³
1.20m DIAM.	1.60	1.60	1.60	1.60	1.60	3.38m ³	1.18m ³


TABLE B

CULVERT	A m	B m	C m	D m	E m	F m	G m	H m	J m	K m	L m	M m	N m	P m	ADDITIONAL CONCRETE CLASS 25/20 INLET & OUTLET	ADDITIONAL CONCRETE CLASS 15/40 SURROUND & BED per running m
0.60m DIAM.	0.60	0.05	1.90	1.40	0.95	0.60	2.10	0.95	1.65	0.95	4.26	1.91	2.00	2.27	3.26m ³	0.97m ³
0.90m DIAM.	0.90	0.09	2.66	2.16	1.33	0.98	2.74	1.25	2.25	1.30	5.60	2.60	2.69	2.91	6.10m ³	1.59m ³
1.20m DIAM.	1.20	0.10	3.40	2.90	1.70	1.35	3.36	1.55	2.85	1.65	6.92	3.29	3.38	3.55	9.24m ³	2.64m ³

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O. Box 2344-00900, Kiambu

FINANCIER
INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)
 

CONSULTANT



Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists, Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT
PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS /
FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING
INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: **DETAILED MULTIPLE PIPE CULVERT DETAILS.**

Drg. No. WMCL/CR214/SD/12 Sheet No. 12 of 14

Scale: 1:1 Date: DECEMBER:2023

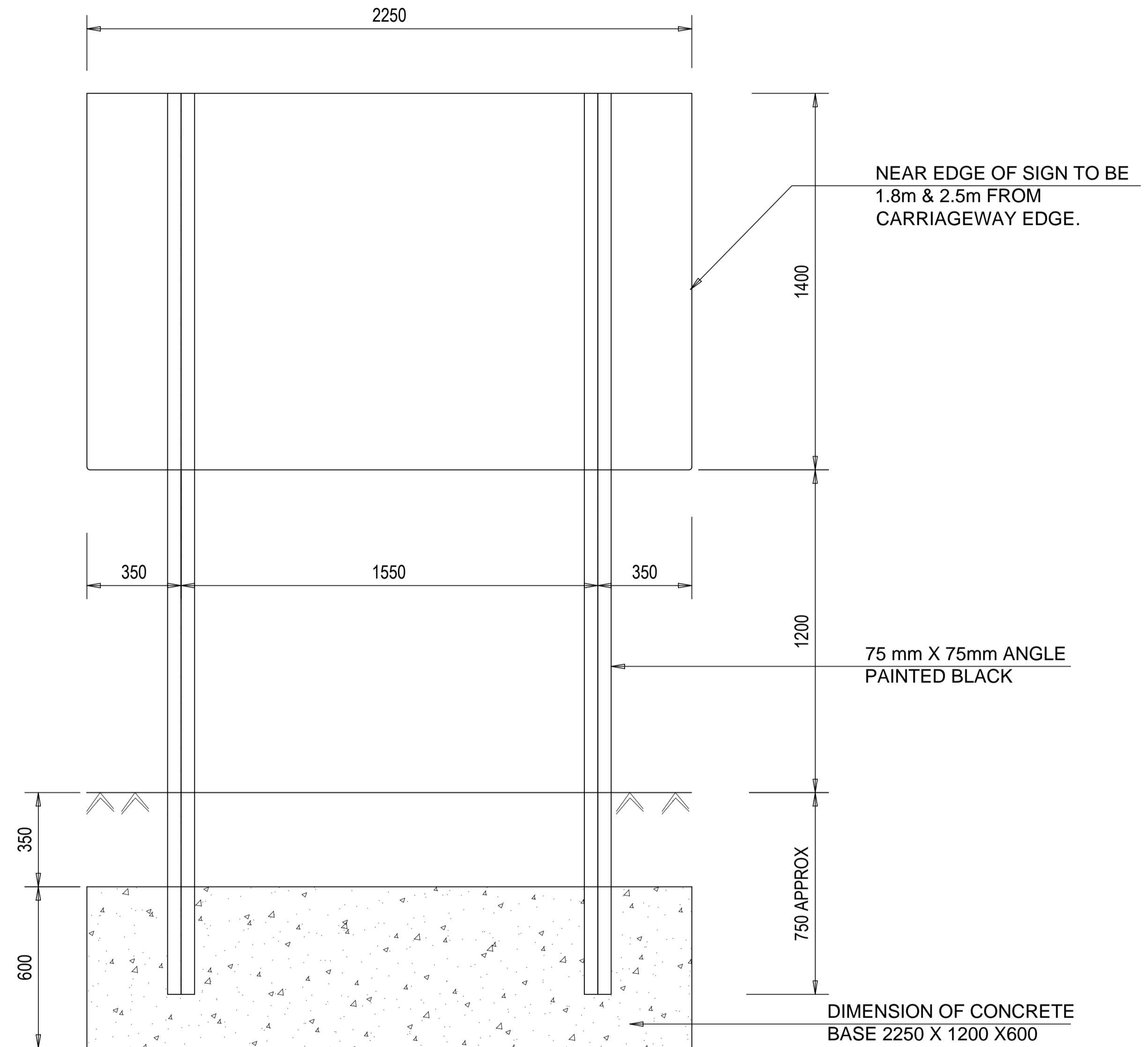
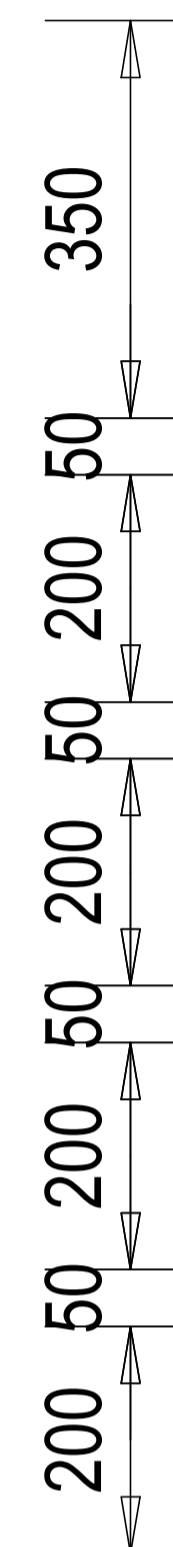
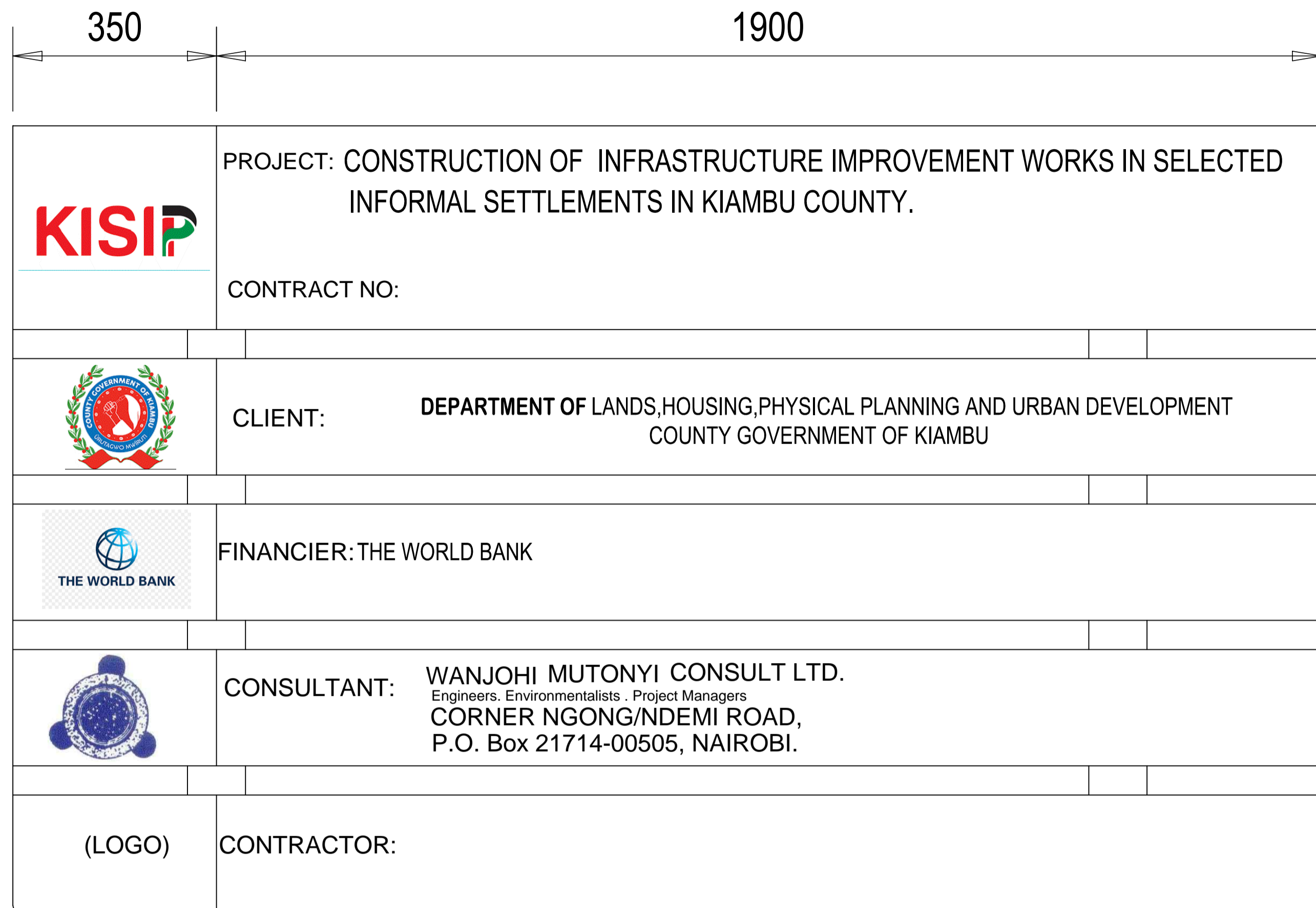
Stage: TENDER DRAWINGS

APPROVED BY: ENG. IKWM DESIGNED BY: LWK

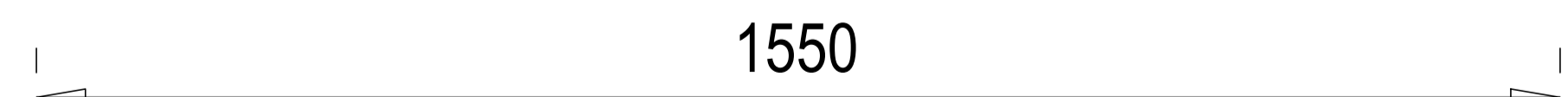
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REVISIONS

No.	Date	AMMENDMENTS

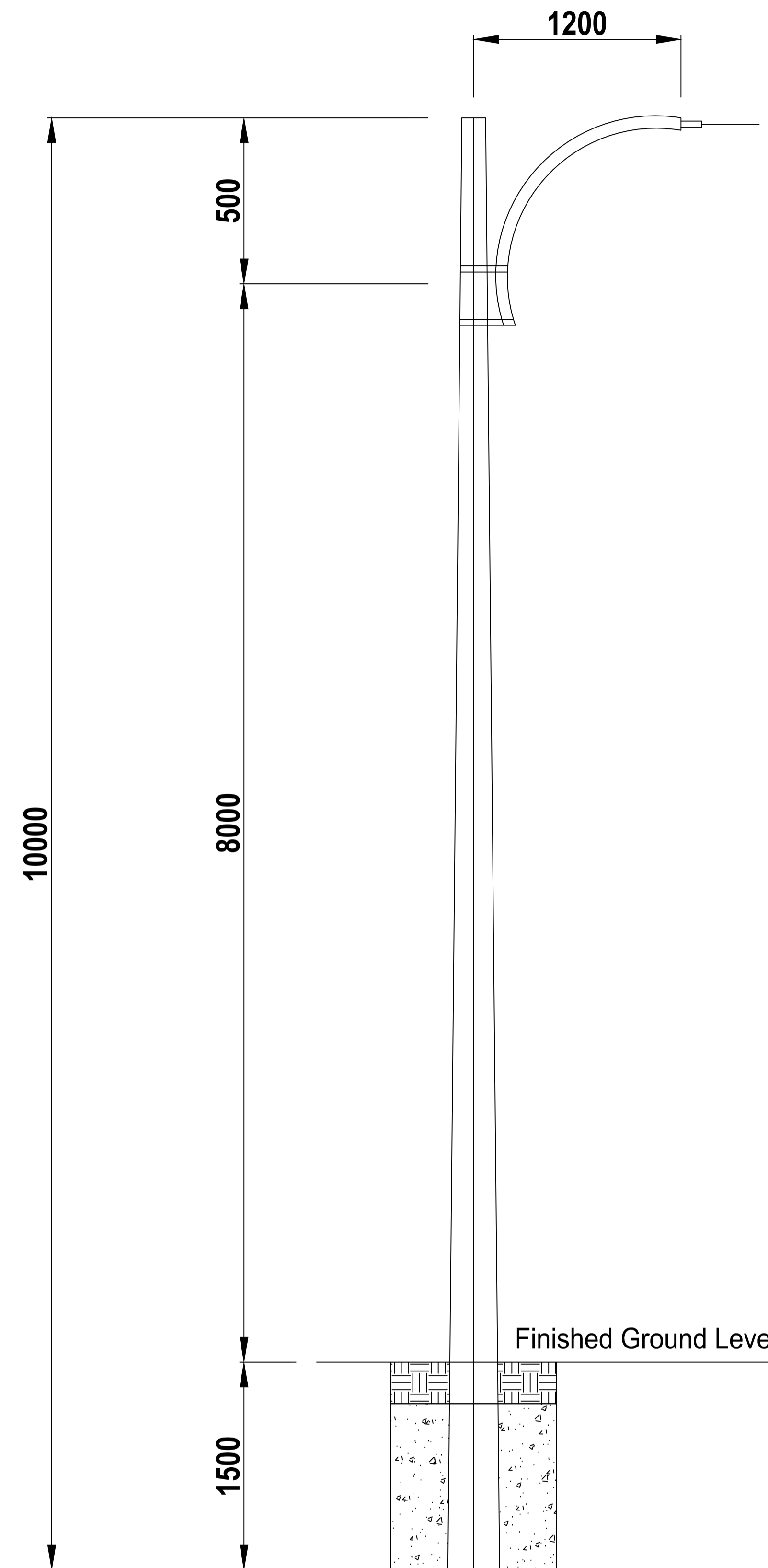


PROJECT SIGN BOARD
SCALE:100



SIGN BOARD
INSTALLATION DETAILS
SCALE:100

EMPLOYER  The Chief Officer, Lands, Physical Planning, Urban Development, Housing & Municipalities, County Government of Kiambu, P.O Box 2344-00900, Kiambu	FINANCIER INTERNATIONAL DEVELOPMENT AGENCY (IDA) & AGENCE FRANÇAISE DE DÉVELOPPEMENT (AFD)  	CONSULTANT  Wanjohi Mutonyi Consult Ltd. Engineers, Environmentalists, Project Managers Corner Ngong/Ndemi Road, P.O. Box 21714-00505, Nairobi.	PROJECT TITLE: SECOND KENYA INFORMAL SETTLEMENTS IMPROVEMENT PROJECT (KISIP 2): CONSTRUCTION WORKS OF ROADS / FOOTPATHS, DRAINAGE SYSTEMS & PUBLIC LIGHTING INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL SETTLEMENTS IN KIAMBU COUNTY.	Drawing Title: PROJECT SIGN BOARD.		REVISIONS	
				Drg. No. WMCL/CR214/SD/13 Scale: 1:100	Sheet No. 13 of 14 Date: DECEMBER:2023 Stage: TENDER DRAWINGS	APPROVED BY: ENG. IKWM DESIGNED BY: LWK	CHECKED BY: ENG. PNG DRAWN BY: SM



**10m high Tapering Concrete Lighting Pole with 1200 long bracket and arm,
0-deg tilt angle**

EMPLOYER



The Chief Officer,
Lands, Physical Planning, Urban Development,
Housing & Municipalities,
County Government of Kiambu,
P.O Box 2344-00900, Kiambu

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INTERNATIONAL DEVELOPMENT
AGENCY (IDA) & AGENCE
FRANÇAISE DE DÉVELOPPEMENT (AFD)

CONSULTANT

Wanjohi
Mutonyi
Consult Ltd.
Engineers, Environmentalists . Project Managers
Corner Ngong/Ndemi Road,
P.O. Box 21714-00505, Nairobi.

PROJECT TITLE:
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INFRASTRUCTURE IMPROVEMENT WORKS IN SELECTED INFORMAL
SETTLEMENTS IN KIAMBU COUNTY.

Drawing Title: **STREET LITHTING POLE DETAILS.**

Drg. No. WMCL/CR214/SD/13	Sheet No. 14 of 14	REVISIONS	
Scale: 1:100	Date: DECEMBER:2023		
	Stage: TENDER DRAWINGS		
APPROVED BY	ENG.IKWM	DESIGNED BY	LWK
CHECKED BY	ENG.PNG	DRAWN BY	SM
No.	Date	AMMENDMENTS	